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National Confederation of Industry
Brazil

CNI. THE STRENGTH OF THE BRAZILIAN INDUSTRY

2018•2022
STRATEGY MAP
FOR INDUSTRY

2018•2022
STRATEGY MAP
FOR INDUSTRY

March 2018

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INTRODUCTION

This new version of the Strategy Map for Industry identifies the biggest challenges to be addressed by industry by 2022 as a result of changes in the global and domestic economic environment over the past five years.

The year 2022 is a milestone for ambitions. It is the last year of the next presidential term and that of the 200th anniversary of Brazil's independence. It is imperative that we do more and in better ways in the next four years.

Brazil has been doing less than it can and needs to do. The recent economic and institutional crisis widened the gap between Brazil and competitors and compromised the country's economic and social development. Further measures need to be taken to better correct this path both in relation to the economy and to the quality of institutions.

The country's strategy must be strengthened to reverse a path of loss of competitiveness and growth potential. Brazil cannot run the risk of generating less income and employment than it can for its citizens and of widening the gap with its international partners. Doing more of the same is not enough to reverse the path trodden in recent years. By carrying on with economic and institutional reforms continually and persistently, we will be able to recover and achieve higher levels of productivity and competitiveness.

Brazil needs a competitive, innovative, global and sustainable industry. Two agendas are essential for the country to achieve a new level of competitiveness on a sustainable basis. Quickly overcoming the current bottlenecks stemming from long-standing shortcomings, the 20th century agenda, and building the basis for the industry of the future, the 21st century agenda.

The leading role of entrepreneurs in changing Brazil is the key element of this strategy. Industrial companies and entrepreneurs must play an active role both in mobilizing stakeholders to advance the reforms and proposals contained in this Map and in actions to improve the internal operations of companies.

The National Confederation of Industry reiterates the call for entrepreneurs, society and the branches of the Republic to **mobilize around the imperative of building a dynamic, competitive and fair economy.**

Robson Braga de Andrade

President

THE FUTURE OF BRAZILIAN INDUSTRY

FOR A COMPETITIVE, INNOVATIVE, GLOBAL AND SUSTAINABLE INDUSTRY

Brazil has many challenges to address. Overcoming the problems caused by the so-called "Brazil Cost" is crucial, but not sufficient to meet all the country's needs. Setting an agenda designed to develop new skills and structural changes to be implemented within government and companies is essential for building an innovative, globally competitive and sustainable industry.

The global industry is experiencing a fast process of changes in technology and business models. Digitization, the Internet of Things, sharing, the circular and low-carbon economy are some of the changes under way. Incorporating these new technologies will pave the way for significant gains in productivity.

At the domestic level, Brazil began to take measures to overcome a deep economic recession and political crisis. Its impact on the country's competitiveness was enormous. Industrial production fell back to 2004 levels and the country has lost almost a decade.

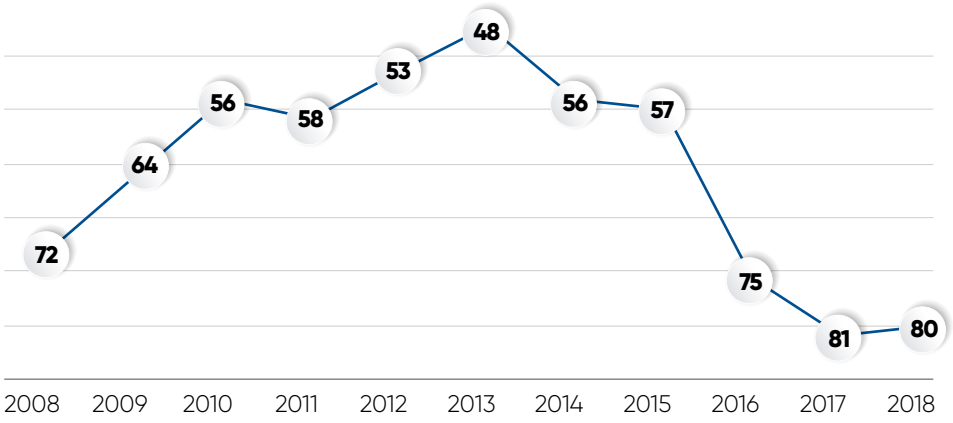
Despite this environment, Brazil is a place of opportunity. The Brazilian market is one of the most promising in the world and it attracts investors.

For these opportunities to materialize and stimulate Brazil's growth, there are many challenges to be addressed. But there is evidence that the country has not been making progress at the pace it should.

Promoting a more competitive, internationally integrated and sustainable industry is the challenge for 2022

Brazil has been consistently losing positions in the global competitiveness ranking of the World Economic Forum. It dropped to its lowest position in 10 years in 2017. Brazil's loss of competitiveness jeopardizes its economic growth and capacity to generate jobs and income.

FIGURE 1 – BRAZIL'S POSITION IN THE GLOBAL COMPETITIVENESS RANKING



Source: WEF (2017).

Productivity is a major determinant of competitiveness. Over the past ten years (2006-2016), Brazil recorded the worst evolution in productivity among its 10 main trading partners. According to CNI (2017a), during this period labor productivity in Brazilian industry increased by 5.5%, while in the US it grew by 16.2% and in Argentina by 11.2%. This causes the Brazilian industry to lose competitiveness both in the international and in the domestic market, where imports from its competitors have been on the rise.

Brazil cannot wait. It is vital to renew strategies and redouble efforts to reverse the process of fast deindustrialization it is experiencing.

It is not possible to imagine that Brazil will resume growth and prosper without a significant increase in productivity.

To reach a new level of productivity, industry and the country need to work on a broad agenda designed to address challenges and seize available opportunities.

Brazilian industry must coordinate efforts to be competitive, conquer markets, generate jobs and income and boost Brazil's economic growth and development.

BOX 1 – FROM DEFINING A STRATEGY TO COLLECTIVE ENTREPRENEURIAL ACTION

The 2018-2022 Strategy Map for Industry defines the path to be followed by industry and the country at large. However, entrepreneurs and their representative organizations must act in a coordinated, effective and transparent manner to consolidate it.

Consolidating an Entrepreneurial Network for Political Action is a key requirement. This Network should be capable of raising the awareness of government and society about necessary changes, as well as of identifying and supporting new proposals that can contribute to improving the business environment.

Strengthening entrepreneurial associations - business unions, state-level federations, sectoral associations and CNI - and their capacity to take political action is key.

The Strategy Map for Industry is an agenda designed to enable Brazilian industry and Brazil to reach a new level of competitiveness

BOX 2 – GLOBAL TRENDS WITH AN IMPACT ON INDUSTRY

Industry 4.0
The widespread use of digital technologies and their application to industry have an impact on the entire value chain of products from their development to consumption and disposal or recycling, as well as on business models and patterns of trade integration.

Knowledge and innovation as engines of the economy
Currently, the largest source of wealth for the economy as a whole is also the foundation on which competitiveness gains for companies and countries are based.

Climate change and low-carbon economy
A technological race between countries is under way for developing renewable energy sources and new opportunities for action in the so-called low-carbon economy. In addition, changes are taking place in consumption patterns at an ever-faster pace as consumers become more concerned with the environmental impacts of products and of their production processes.

Lower growth in international trade and rearrangements in the geography of global production
Uncertainties about the future of trade agreements and protectionist pressures threaten the recovery of international trade, whose performance has declined since the global financial crisis broke out. Despite this uncertain scenario, there are forces pressing for the identification of global markets that generate opportunities.

Growth in emerging countries, especially in Asia
The growth seen in Asian economies and their exports suggests that the Pacific has become a major engine of the global economy.

Source: CNI (2018a).

BOX 3 – DOMESTIC TRENDS WITH AN IMPACT ON INDUSTRY

Emergence of a new cycle of economic and institutional reforms

Political and economic crises have revealed the "swelling" of the Brazilian state, the exhaustion of its capacity to grow and the need to review the relationship between the private sector and the state, with impacts on the design of industrial policies. Reforming and reinventing the state is a necessary condition for overcoming the economic, demographic and social challenges facing us in the present and future.

Fast demographic transition

The Brazilian demographic transition is taking place at a faster pace than in developed countries, and by 2025 Brazil will have left behind the so-called demographic bonus period, in which the percentage of people of working age is high as compared to that of dependent people. In the future, stepping up productivity will become even more important for economic growth, given the slower rate of increase in the working-age population.

Pressure to go beyond the domestic market

The size of the Brazilian consumer market continues to be one of the great assets of Brazil and an investment-attracting factor. Nevertheless, the country cannot ignore the external market and must increase its operations worldwide.

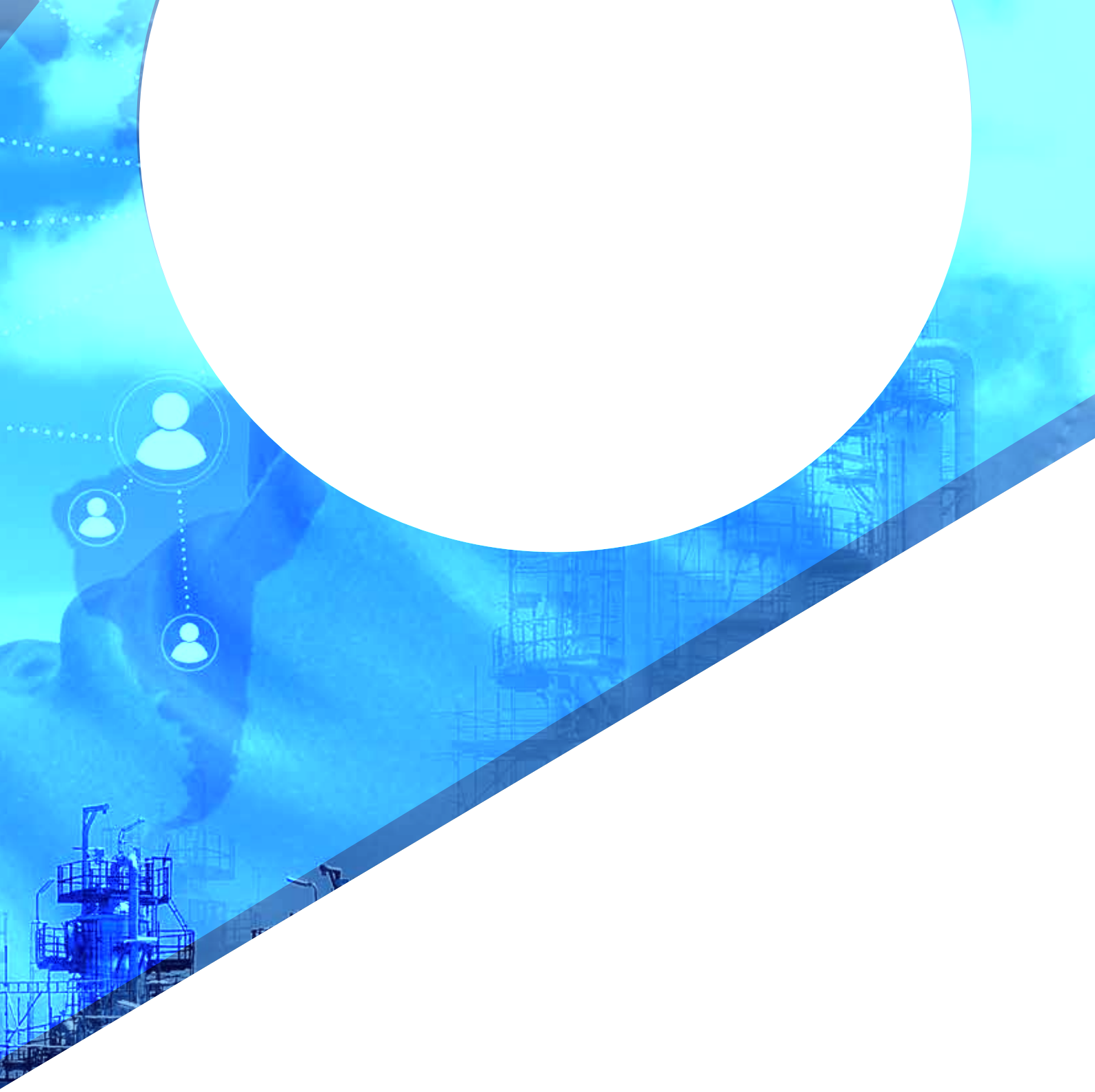
Spatial reconfiguration of economic activity and growth of medium-sized cities

Brazil has been experiencing a slight regional deconcentration in favor of the development of medium-sized cities, which have been attracting companies looking to reduce costs associated with large agglomerations.

Increased demand for quality public policies and services

A more educated population, greater access to information and more professional institutions tend to put pressure on the state to adopt more transparent management arrangements. This leads to the adoption of more effective, judicious, evidence-based and results-focused public policies.

Source: CNI (2018a).



2018–2022 STRATEGY MAP FOR INDUSTRY

TWO AGENDAS IN ONE: OVERCOMING OBSTACLES AND TAKING ADVANTAGE OF OPPORTUNITIES FOR THE FUTURE

The Strategy Map for Industry consolidates an agenda of challenges that takes into account global and national trends.

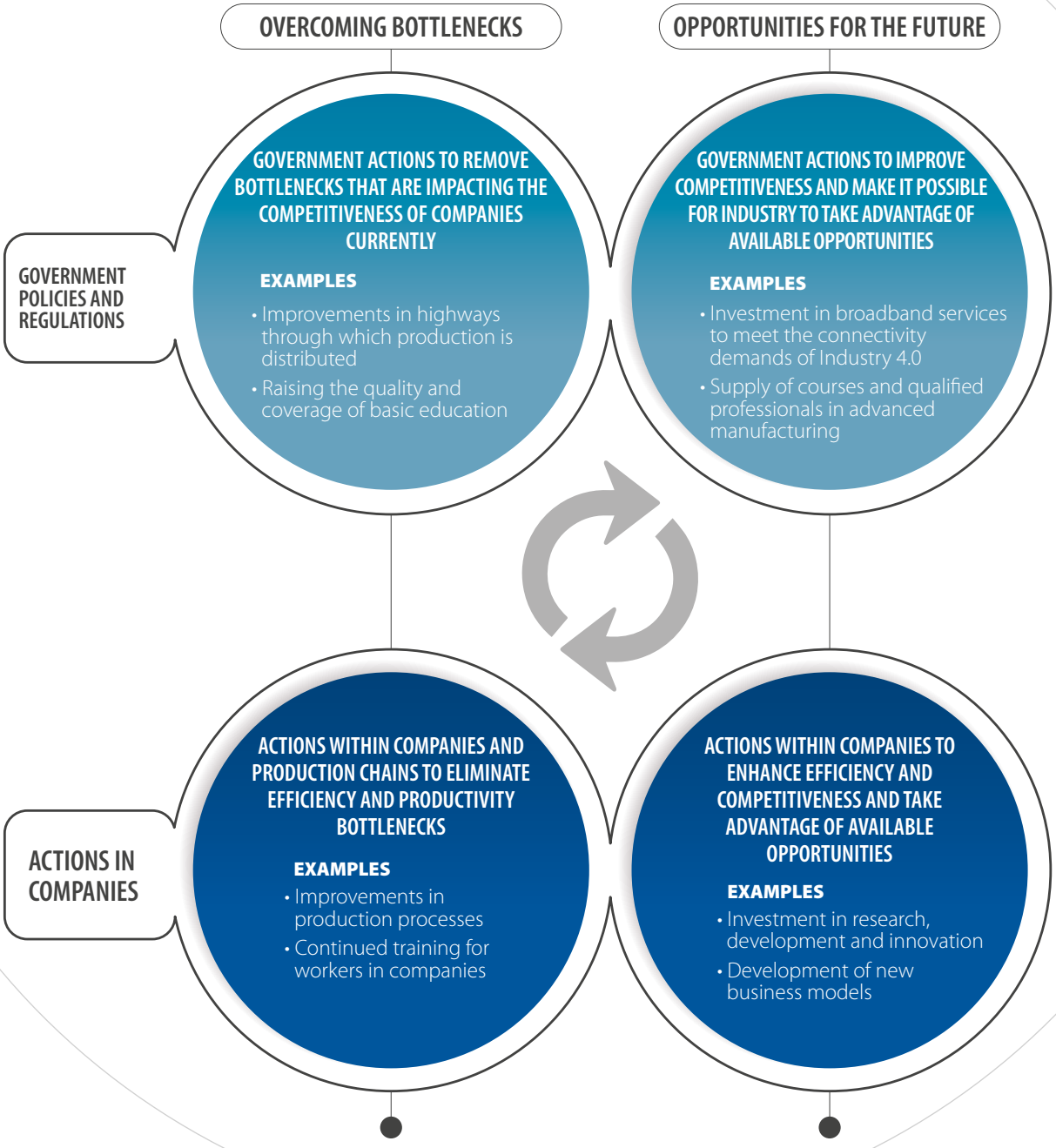
The agenda proposed in the Map is of a dual nature. It involves both old bottlenecks yet to be overcome and challenges to be faced for building the industry of the future.

Brazil needs to overcome bottlenecks that still represent barriers to the competitiveness of Brazilian industry. These include improving the quality of education and infrastructure and a complex and costly tax system, the traditional agenda of the so-called "Brazil Cost."

However, overcoming these bottlenecks is insufficient to make the Brazilian industry globally competitive. For this reason, the Map also proposes strategies to make Brazilian industry more dynamic and to increase its innovation capacity.

Building the future entails integrating Brazilian industry into global markets, intensifying innovation activity, inclusion into Industry 4.0, increasing participation in the low-carbon economy and taking advantage of other opportunities that connect Brazilian industry to major transformations in the global industry and to its trends.

BOX 4 – FOUR DIMENSIONS TO BE CONSIDERED FOR BUILDING A GLOBAL, COMPETITIVE AND SUSTAINABLE INDUSTRY



Source: Prepared by CNI.

NEW TOPICS, NEW FOCI

The 2018-2022 Map presents new topics and new foci. As compared with the previous Map, the following topics are the ones that deserve more attention:

- **Legal Certainty** – problems arising from uncertainty in laws and regulations in the business environment have escalated. These problems, coupled with the overlapping and sometimes conflicting relationship between branches/control agencies, have created a second generation of the so-called "Brazil Cost," with significant impacts on productivity. This agenda plays a prominent role in the 2018-2022 Map.

- **Industry 4.0 and the digital economy** – a major shift in emphasis in relation to the previous Map. The speed at which changes are brought about by new technologies require well-structured strategies and responses on the part of companies and government. They have many repercussions on the agenda and an impact on industrial policy, on public policies and on the generation of new businesses, such as the so-called fintechs.

- **Natural Resources and the Environment** – this is a key factor in the Map. The declining availability of natural resources and consequent increase in costs make it imperative for efficiency to be focused on as a priority. In addition, there is growing concern about the repercussions of economic activities on the environment and on climate change. As a result, the demand for new business models and resource management systems (circular economy) is intensifying and new opportunities for value generation are emerging.

- **Industrial, Innovation and Foreign Trade Policy** – this topic is more explicitly addressed in the Map. The focus on horizontal policies needs to be complemented by coherent Industrial Policy strategies. Industry 4.0, the circular economy and the results of WTO disputes require new and coherent policies. We should not repeat the mistakes of the past and, for this purpose, policies need to be redesigned with a focus on productivity, innovation and integration.

- **Productivity and Innovation in Companies** – the challenges of productivity and innovation are present within companies. This new Map stresses that companies must have strategies and take action to address these challenges in parallel with government action on systemic costs.

- **Education** – productivity growth depends on the quality of education. This is an old topic that is being resumed with greater emphasis on ensuring appropriate links between secondary education and vocational training; and with greater emphasis on a reform agenda for higher education.

- **Health care** – he current situation of the Brazilian health care system has a negative impact on the competitiveness of industry due to declining labor productivity and rising costs.

- **Public safety** – high rates of crime and violence mean losses for both society and the economy of a country. Improving public safety has become crucial to improving the quality of life of the population and increasing competitiveness.

- **Social protection and productivity mechanisms** – social protection policies are important, but they should minimize the incentives against increasing productivity. Such side effects must be identified and policies improved with the aim of making them more efficient and also promoting increased productivity.

- **Corruption** – corruption problems have led to significant impacts on the Brazilian economy and democracy. Policies must be developed and incentives created to put an end to such practices and improve the quality of private and public governance. Anti-corruption policies should be designed to ensure that harmful practices are controlled with the least possible detriment to efficiency and productivity.

THE MAP DIAGRAM

The 2018-2022 Strategy Map for Industry is made up of 11 key factors divided into six groups.

BUSINESS ENVIRONMENT

LEGAL CERTAINTY	MACROECONOMIC ENVIRONMENT	EFFICIENCY OF THE STATE, GOVERNANCE AND RED TAPE REDUCTION

The first group refers to the **business environment** and is composed of three key factors: Legal Certainty, Macroeconomic Environment, and Efficiency of the State, Governance and Red Tape Reduction. A business-friendly environment, with legal certainty, low bureaucracy, predictability and effective and efficient State performance, is a necessary condition for the country's sustained growth. These issues are external to companies and are related to the state, but they have an impact on business decisions.

PRODUCTION FACTORS

EDUCATION	FINANCING	NATURAL RESOURCES AND THE ENVIRONMENT

A second set of key factors is related to the **production factors** of a company: human capital (skilled labor), capital and natural resources. These factors are directly linked to the production of goods and services. They are also heavily influenced by the performance of government in providing and regulating the supply and use of resources. The availability, cost and quality of these factors have a direct bearing on the competitiveness of companies. Education, Financing and Natural Resources and the Environment are the key factors of this group.

BUSINESS ENVIRONMENT AND PRODUCTION COSTS

TAXATION	LABOR RELATIONS

The third group - Taxation and Labor Relations- affects the **business environment, but it also impacts on production costs directly**. The tax system and the labor law have a bearing on the allocation of productive resources, on how production is organized and on investment decisions.

OFFERED AND/OR REGULATED ACTIVITIES

INFRASTRUCTURE

Infrastructure, the ninth key factor, refers to **activities traditionally offered and/or regulated by government** (natural monopoly). These are factors that affect production costs - as in the case of energy - or the transaction and logistics cost - as in the case of the transportation and telecommunications infrastructure.

SPECIFIC POLICIES FOR INDUSTRY

INDUSTRIAL, INNOVATION AND FOREIGN TRADE POLICY

Industry is fundamental to the country's economic growth due to its strong multiplier effect, among other factors. A strategy must therefore be devised to develop it through a new and more effective industrial policy aligned with innovation and foreign trade policies. In addition, it is important to take into account transformations in recent years that had an impact on industry around the world. **Specific policies for industry** are grouped in the tenth key factor: Industrial, Innovation and Foreign Trade Policy.

ACTIONS TO BE TAKEN BY THE COMPANIES THEMSELVES

PRODUCTIVITY AND INNOVATION WITHIN COMPANIES

Last but not least, we have the Productivity and Innovation in Companies key factor, which is essential for improving quality and productivity aspects within a company. This key factor **involves actions that must be taken by the companies themselves**, as well as actions that the Industry System will be taking to support companies in their quest for increased productivity. The various challenges proposed here cannot be overcome without the active participation of industrial companies and entrepreneurs.

FIGURE 2 – DIAGRAM OF THE 2018-2022 STRATEGY MAP FOR INDUSTRY

Source: Prepared by CNI.

BOX 5 – WHAT CAN BE DONE TO IMPROVE THE COMPETITIVENESS OF INDUSTRY IN BRAZIL?

SUMMARY OF THE 11 KEY FACTORS

1

Ensuring greater legal certainty in the business environment.
Laws need to be clear and stable and enforced unambiguously. Lack of confidence in institutions raises doubts about the stability of legal relationships and insecurity about contract performance.

2

Consolidating stability and predictability in the macroeconomic environment to favor investment.
The confidence that the Brazilian economy will remain solid, without interferences that can put its stability at risk, is essential for investment decisions. The importance of promoting balanced public spending to make this possible is recognized.

3

Improving the efficiency of the State.
Cost control combined with the provision of quality public services will only be possible with a more efficient and effective State. Management, governance, red tape reduction, transparency and the fight against corruption are fundamental elements for this purpose.

4

Improving the quality of education at all levels.
Absolute priority should be given to education for the country to rank among the best worldwide in this area. Quality education is a fundamental condition for the development of industry and of the country.

5

Expanding the access of companies to finance.
The availability and cost of finance for investment are key determinants of competitiveness. It is necessary to develop the capital market, improve the collateral system and increase access to financial resources.

6

Increasing efficiency in the use of natural resources and preserving the environment.
Making efficient use of natural resources is a fundamental condition to ensure economic and environmental sustainability. The low-carbon economy is affording many new possibilities. Brazilian industry has the opportunity to play a leading role in this new economy.

7

Simplifying and improving the quality of taxation.
The Brazilian tax system is complex, marked by excessive taxes and red tape, burdening and hindering investments and exports. It is necessary to simplify the tax law and eliminate distortions that generate cumulative taxation. It is also necessary to ensure alignment with global taxation standards.

8

Modernizing labor relations.
More flexible labor relations lead to greater efficiency in the allocation of labor, favor investment in training and contribute to increased productivity.

9

Expanding and improving Brazil's infrastructure.
Brazil needs to eliminate historical shortcomings in its infrastructure. Poor infrastructure translates into high costs and loss of competitiveness. Infrastructure can be more quickly recovered with regulatory quality and by expanding the participation of the private sector in investment and service delivery.

10

Establishing a consistent industrial, innovation and foreign trade policy.
Industrial policy needs to be reviewed to be capable of boosting the competitiveness of industry. A well-founded, integrated and coordinated industrial strategy is required to promote the development of industry and of the country at large. Innovation and international integration are key elements of this strategy.

11

Increasing productivity and innovation in companies.
Increasing the productivity of companies is a prerequisite for increasing the competitiveness of industry as a whole. Productivity gains can be achieved through improved business management, more intense innovation activities and greater integration into external markets.


18%
23%
32%
80
70
60
50
40
30
20
10
0
14
5
38
68

FRAMEWORK AND ELEMENTS OF THE STRATEGY MAP FOR INDUSTRY

This new version of the Strategy Map for Industry is structured around 11 key factors for the competitiveness of industry.

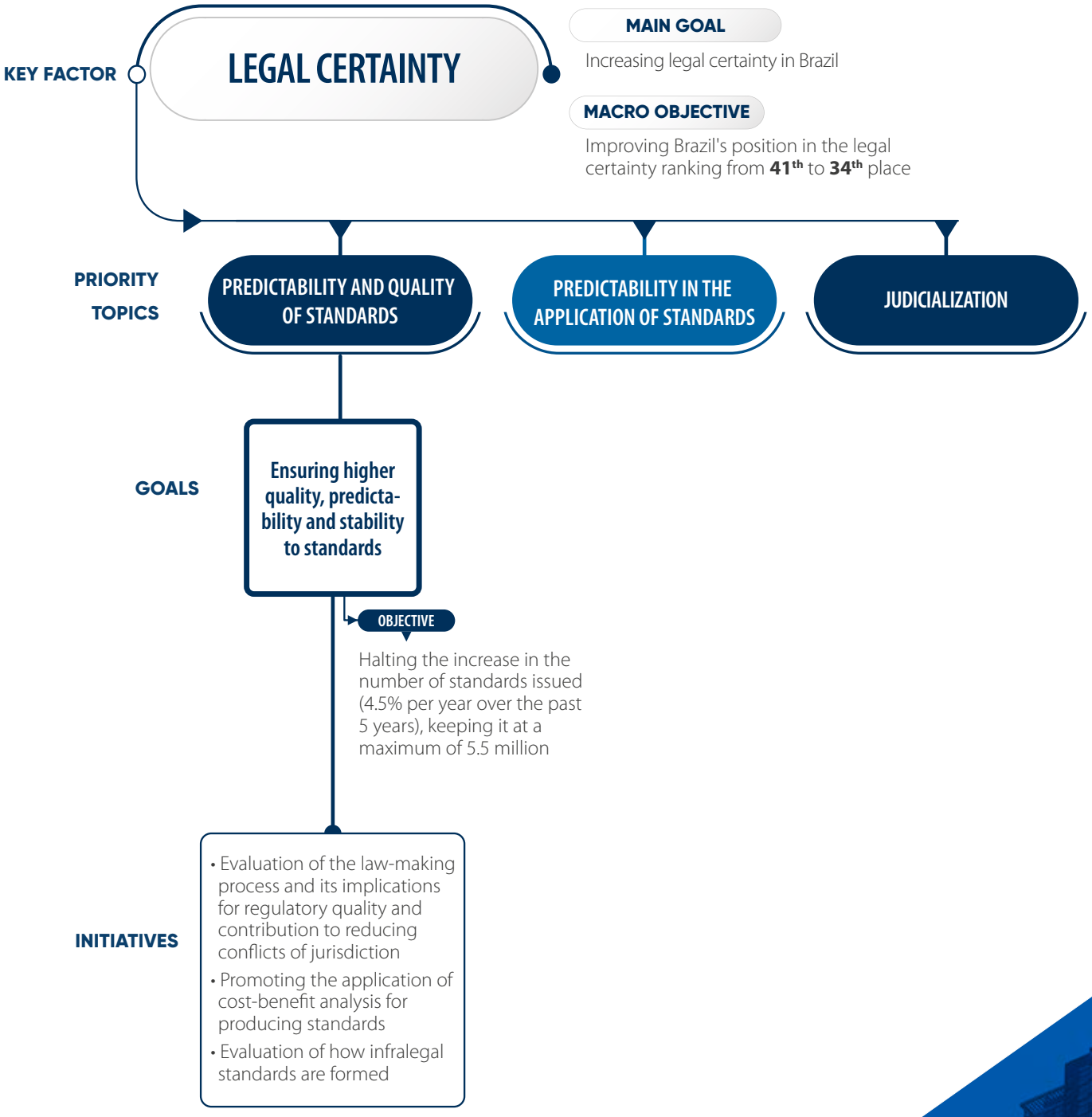
For each key factor, a **main goal** and a **macro objective** were set which summarize the main outcome to be achieved, linking the challenge to the best efforts around which the actors involved should be mobilized.

The key factors are divided into **priority topics** and their respective **goals**, which translate the responses to the main challenges identified in each factor. For each goal, an indicator with objectives for 2022 was defined. These indicators will be monitored over the next five years to check whether they are converging to the objectives.

For these goals to be achieved, the Map defines **initiatives** on which the actions of the entities of the Industry System should be focused over the next five years. These initiatives, which were previously referred to as "Transforming Actions," are intended to guide the activities and projects carried out by those entities.

Figure 3 exemplifies the framework of the key factors described.

FIGURE 3 – FRAMEWORK OF THE KEY FACTORS



Source: Prepared by CNI.

KEY FACTORS FOR IMPROVING THE COMPETITIVENESS OF INDUSTRY

LEGAL CERTAINTY

VISION FOR 2022

In 2022, the legislature produces more relevant, clear and stable standards. There is less overlapping between the activities of the branches of the Republic and of states and municipalities, reducing conflicts of competence. The judiciary branch becomes more efficient by reducing the number of new lawsuits and procedural deadlines and relying more on out-of-court dispute resolutions and on stricter observance of court precedents.

Why **Legal Certainty**?

This is a topic of increasing concern for companies. The lack of clarity about rights and duties and increasing amendments to laws and regulatory frameworks are detrimental to competitiveness. The lack of confidence that institutions will uphold existing laws raises doubts about the stability of legal relations and uncertainties about the consequences of acts based on legal standards in force, i.e. it creates legal uncertainty.

Standards with imprecise wording make room for diverging interpretations by law enforcers. New standards developed in conflict with existing ones, without an explicit definition of revocation, raise doubts about which legislation is in force. These are examples of poor-quality regulations that increase the judicialization of disputes.

A large amount of lawsuits, coupled with the sluggishness of the judiciary, leads to legal uncertainty. The lack of a clear definition for the competencies of the branches of the Republic as well as of those of the Union and of states and municipalities is an additional factor contributing to this problem.

Legal uncertainty forces companies to incur more litigation costs and to make provisions to defend themselves against the lack of clear standards. Rising costs and uncertainty discourage investment and, consequently, undermine economic growth.

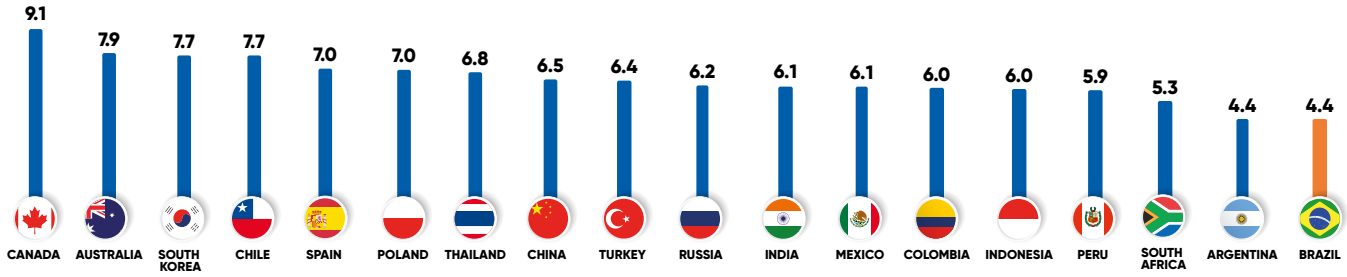
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law 13,140/2015, which provides for mediation between individuals as a means of settling disputes and for self-settlement of disputes within the public administration
- Issuing of administrative ruling RFB nº 35/2015, which provides for the disclosure of draft normative acts for public contributions

How are we doing?

Brazil ranks last **among 18 countries** in relation to the Legal Certainty, Red Tape and Labor Relations sub-factor, according to the report ***Competitividade Brasil 2017-2018: comparação com países selecionados.***

FIGURE 4 – LEGAL CERTAINTY, RED TAPE AND LABOR RELATIONS RANKING

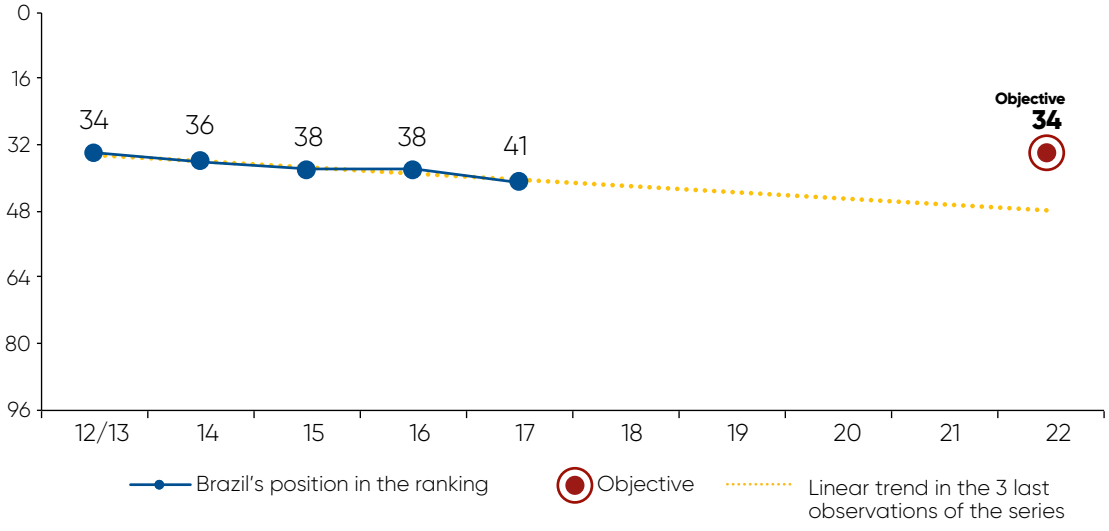


Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance).

Where do we want to get to?

Main goal: Increasing legal certainty in Brazil
Macro objective: Improving Brazil's position in the legal certainty ranking from 41th to 34th place

FIGURE 5 – BRAZIL'S POSITION IN THE LEGAL CERTAINTY RANKING



Source: CNI, based on WJP data (2016).
Description of the indicator: Brazil's position in a legal certainty ranking created based on the average rating of 96 countries in relation to the factors Limited Government Powers/Constraints on Government Powers, Regulatory Enforcement and Civil Justice of the Rule of Law Index survey conducted by the World Justice Project.

PRIORITY TOPIC 1

PREDICTABILITY AND QUALITY OF STANDARDS

Stable, good quality standards generate lower risks and operational costs for companies and greater incentives for productive investment

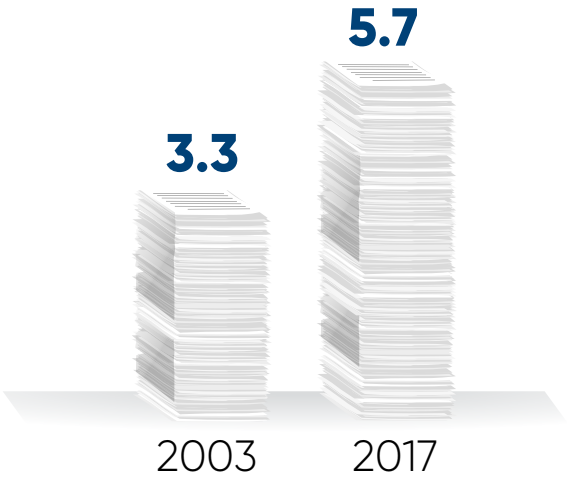
Clear, well-known and stable laws and regulations with predictable interpretations increase the ability of companies to plan investments and measure the consequences of their actions, reducing the risk and cost of doing business. Predictability and lower costs result in more investment, greater competitiveness and more intense growth.

In order to be predictable, standards must first of all be known. Knowledge of standards in Brazil is made difficult by the excessive number of laws, fragmentation, multiple sources and complex and specialized language.

The number of standards issued every year in Brazil must be reduced, including of infralegal ones. Standards must be objective and the decision to issue them should be based on a cost-benefit analysis.

The lack of a clear definition of the responsibilities of the branches of the Republic as well as of the Union, states and municipalities creates conflicts of competence and contribute to increasing legal uncertainty. The result is always higher costs and lower investment, with negative impacts on the competitiveness of industry.

FIGURE 6 – NUMBER OF STANDARDS ISSUED IN BRAZIL, IN MILLIONS



Source: Brazilian Institute for Tax Planning - IBPT (2017).

GOAL

1 Ensuring higher quality, predictability and stability to standards

Objective ▸ Halting the increase in the number of standards issued (4.5% per year over the past 5 years), keeping it at a maximum of 5.5 million

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- Evaluation of the law-making process and its implications for regulatory quality and contribution to reducing conflicts of jurisdiction
- Promoting the application of cost-benefit analysis for producing rules
- Evaluation of how infralegal standards are formed

PRIORITY TOPIC 2

PREDICTABILITY IN THE APPLICATION OF STANDARDS

The right of individuals and companies must be respected by enforcing laws in a predictable and consistent way over time

Diverging court decisions on similar cases are one of the main sources of legal uncertainty. The sluggishness of the judiciary further aggravates this problem. Using precedents and binding precedents constitutes an advance both in preventing divergences in the application of standards and in speeding up court decisions.

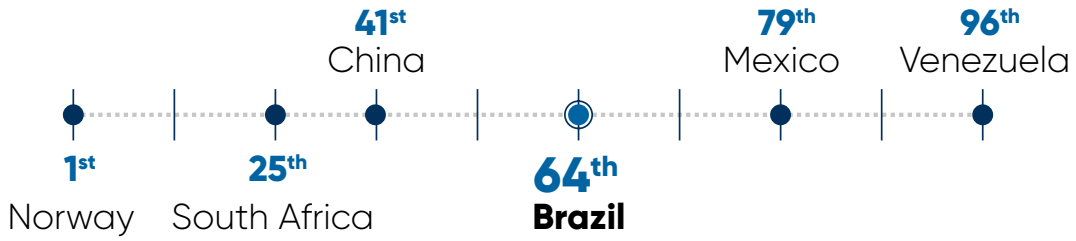
In court decisions, the interests of the public sector often override the rights of individuals and companies. Contract breaches occur especially in areas such as the environment, consumer law, regulation of public services and labor, social security and tax-related issues.

Control and inspection cannot be additional sources of legal uncertainty, or else they can do more harm than good.

Piercing of the corporate veil for reasons incompatible with the spirit of the law is a frequent phenomenon. This phenomenon causes legal uncertainty and discourages entrepreneurship, as entrepreneurs develop doubts as to whether they will be able to keep their private assets in case of business failure and of the need to pay off the debts of their company.

FIGURE 7 – RANKING OF QUALITY APPLICATION OF STANDARDS (2017/2018)

Brazil and selected countries



Source: CNI, based on WJP data (2017).

Note: Brazil's position in a ranking of 96 countries - simple average of scores in sub-factors 1.2 "Government powers are effectively limited by the legislature/by the judiciary", 6.3 "Administrative proceedings are conducted without unreasonable delay", 7.4 "Civil justice is free of improper government influence ", 7.5 "Civil justice is effectively enforced" and 7.6 "Civil justice is effectively enforced".

GOAL

1 Ensuring predictability in the application of standards

Objective ▸ Improving Brazil's position in the ranking of quality application of standards from 64th to 55th place

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Evaluation of the current role of jurisprudence
- » Evaluation of the economic impacts of court decisions
- » Increased speed of court decisions
- » Modernization of control instruments and of the inspection process

PRIORITY TOPIC 3

JUDICIALIZATION

Excessive reliance on courts for settling disputes undermines the performance of the judiciary system and business competitiveness

Excessive judicialization of disputes increases costs for companies and for the state and contributes to the sluggishness of the Brazilian judiciary system. The result is that entrepreneurship is discouraged and, consequently, economic growth is undermined.

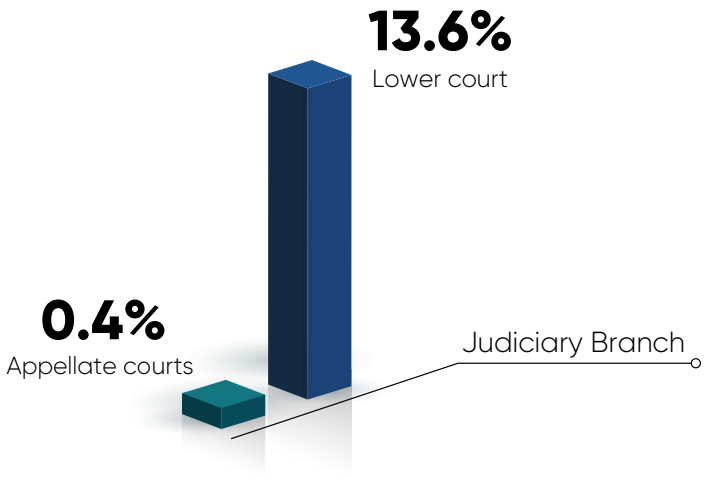
Because of cultural issues and of incentives provided for in the standards themselves, most disputes are referred to the judiciary without any prior attempts at friendly settlement between the parties.

Stakeholders should seek alternative solutions such as mediation and conciliation. Using arbitration is also an example of seeking a solution for out-of-court dispute resolution.

Conciliation rates are still low. The willingness of the parties to settle a dispute out of court decreases as their case progresses through the court system, since the winning party in a lower court reinforces its expectation of also obtaining a favorable decision from appellate courts and the losing party chooses to exhaust all opportunities and postpone the final decision before engaging in negotiations.

For these instruments to be used for settling disputes they must be accessible, impartial and effective. For this purpose, it is imperative to provide specialized training to all legal professionals and strengthen mediation and arbitration institutions.

FIGURE 8 – INDEX OF CONCILIATION IN THE JUDICIARY (2016)



Source: National Council of Justice - CNJ (2017).

GOAL

1 Reducing the judicialization of disputes

Objective ▸ Improving Brazil's position in the ranking of effectiveness of alternative dispute resolution mechanisms from 72nd to 45th place

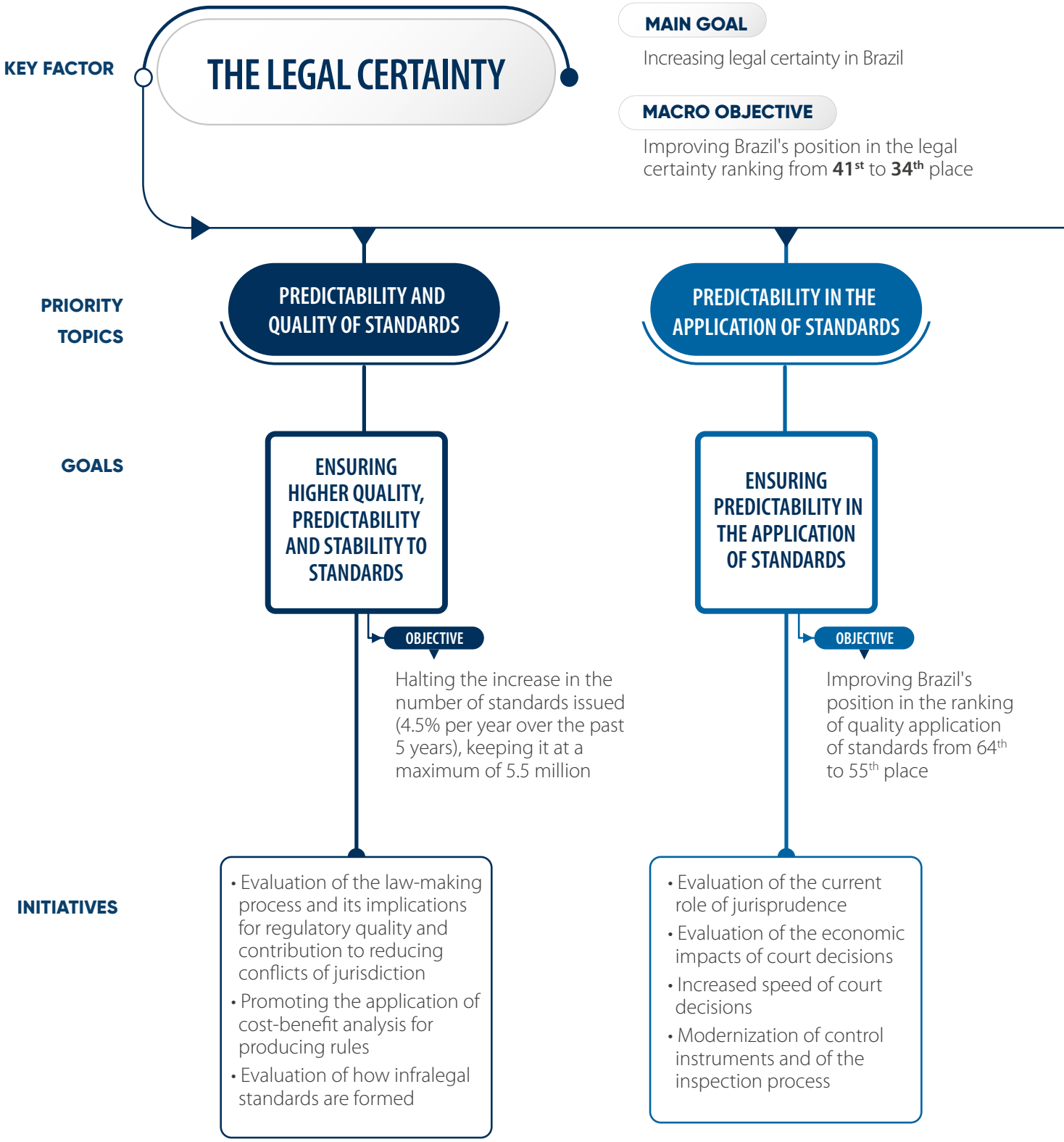
See the description and evolution of the indicatorsin Appendix A.

INITIATIVES

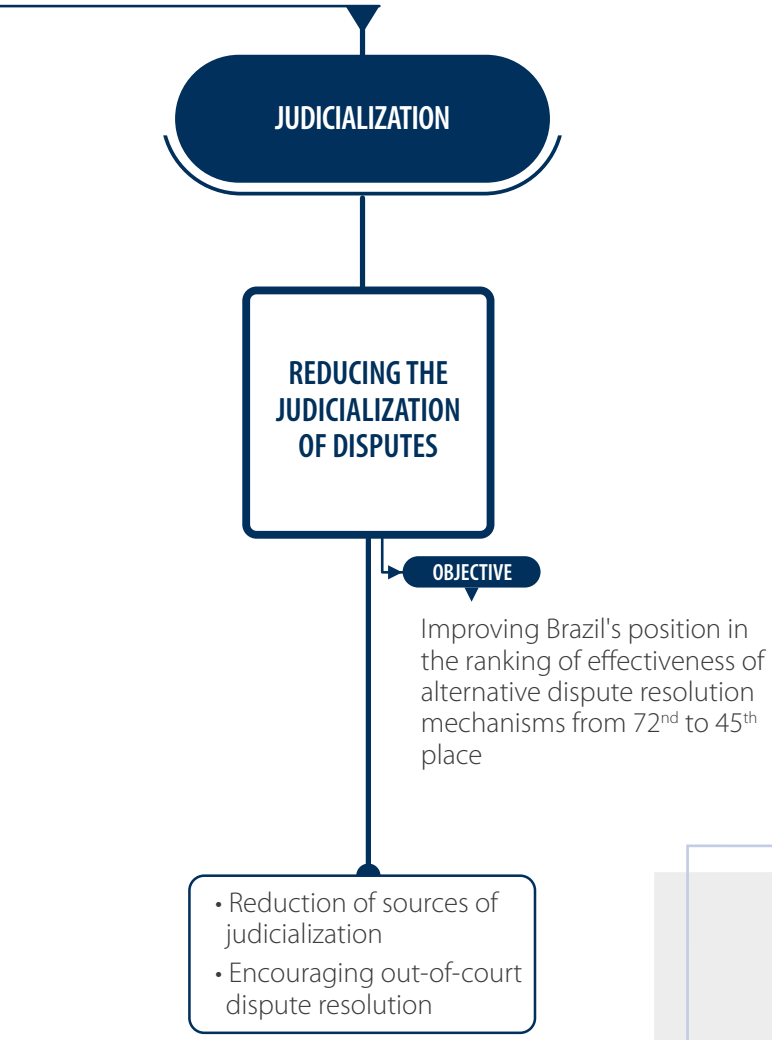
» Reduction of sources of judicialization

» Encouraging out-of-court dispute resolution

BOX 6 – SUMMARY OF THE LEGAL CERTAINTY KEY FACTOR



Source: Prepared by CNI.


JUDICIALIZATION
REDUCING THE JUDICIALIZATION OF DISPUTES
OBJECTIVE
Improving Brazil's position in the ranking of effectiveness of alternative dispute resolution mechanisms from 72nd to 45th place
• Reduction of sources of judicialization
• Encouraging out-of-court dispute resolution

MACROECONOMIC ENVIRONMENT

VISION FOR 2022

Brazil's growth is underpinned by a consistently rising investment rate financed by increases in public and private savings. Competitive exchange and interest rates, with inflation under control, stimulate productive activity. Fiscal balance is achieved by containing public spending, which becomes gradually more efficient, contributing to a better provision of public goods and services.

Why **Macroeconomic Environment**?

Solid macroeconomic fundamentals reduce uncertainties about the future and increase investor confidence.

Price stability is a fundamental condition for sustainable growth processes. It must be accompanied by actions to remove institutional obstacles hindering increased public and private investment.

Controlling the path of the Brazilian public debt is fundamental to ensure economic stability in the medium and long term. The first steps in this direction were taken with the passage of the spending ceiling bill. However, without a pension reform and without better management of public spending, the spending ceiling will not be met and will become innocuous.

In order to improve Brazil's competitiveness, it is important to promote favorable conditions for a significant increase in the investment rate, which remains lower than that recorded in other emerging countries, including in Latin American countries.

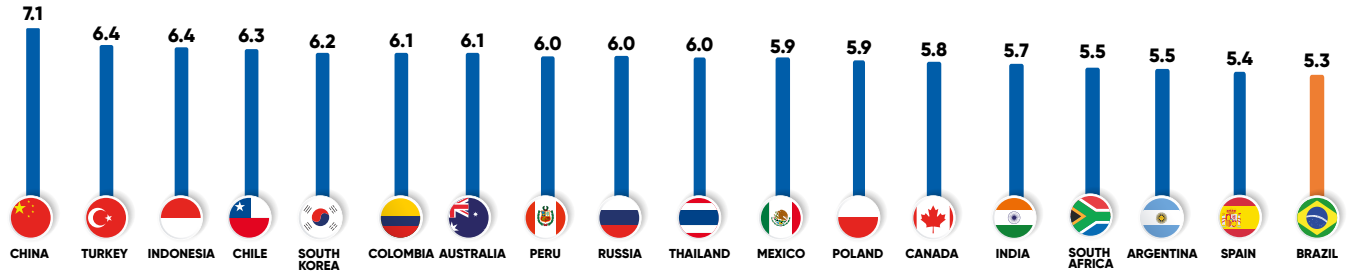
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- Sustained reduction of inflation in recent years and the Selic rate at a minimum historical level
- Constitutional Amendment No. 95/2016, which sets a ceiling for public spending

How are we doing?

Brazil's poor performance is reflected in the report **Competitividade Brasil 2017-2018: comparação com países selecionados: Brazil was ranked last among 18 countries in the Macroeconomic Environment factor.**

FIGURE 9 – RANKING OF THE MACROECONOMIC ENVIRONMENT FACTOR

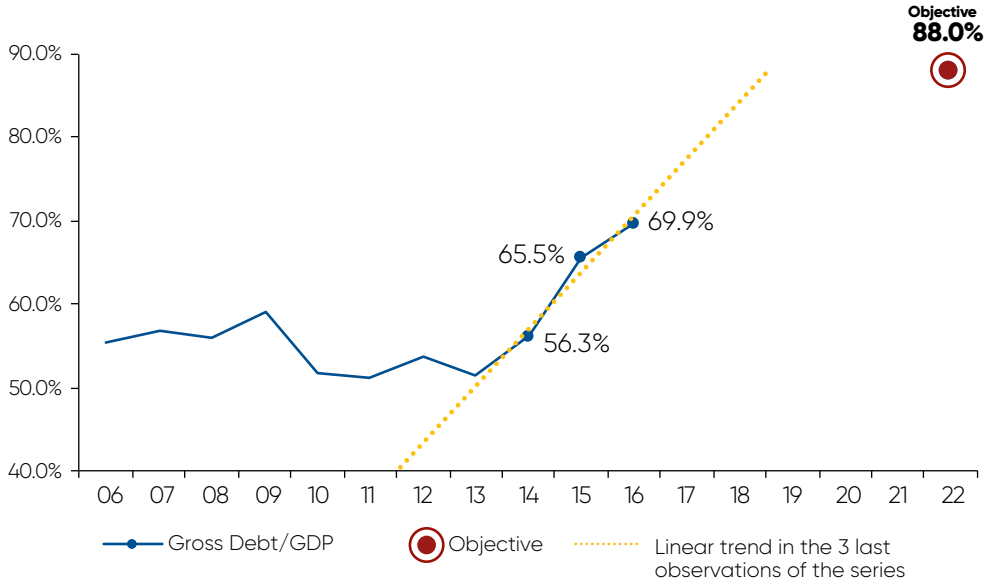


Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance)

Where do we want to get to?

Main goal: Ensuring Brazil's economic stability
Macro objective: Keeping the debt-to-GDP ratio below 88%

FIGURE 10 – DEBT-TO-GDP RATIO (BRAZILIAN GROSS DEBT AS A PROPORTION OF GDP)



Source: CNI, based on data from the Central Bank of Brazil - BCB (2017).

PRIORITY TOPIC 1

STABILITY AND PREDICTABILITY

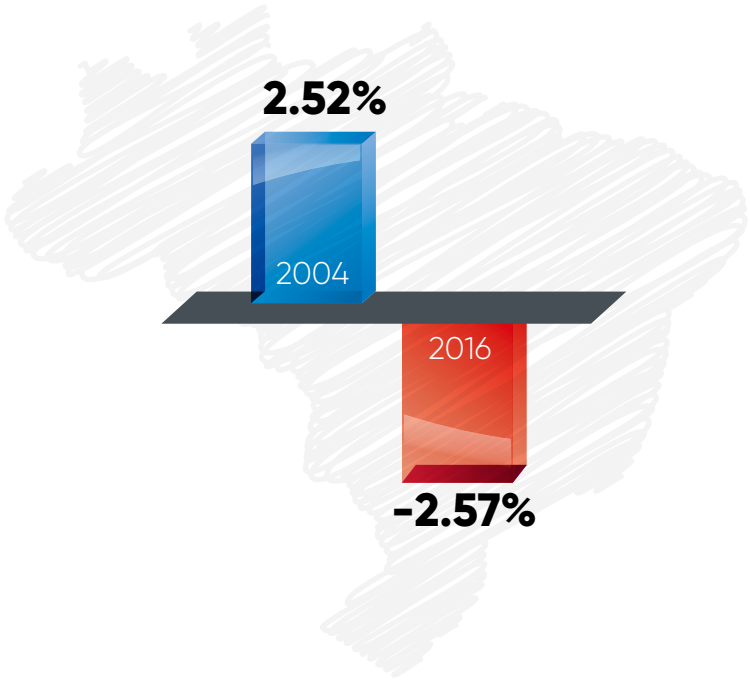
Balanced fiscal accounts are a key factor for ensuring stability and predictability in the macroeconomic environment and for improving the business environment

A predictable macroeconomic policy contributes to fostering private investment and to boosting the country's competitiveness and growth rates. Macroeconomic instability discourages investment because it leads to uncertainties and hinders economic growth. The fiscal deficit limits the ability of the state to invest and stimulate demand. Inflation reduces real income and household consumption.

In the first half of this decade, inflation and interest rates evolved unfavorably and contributed to the recessive scenario faced by the Brazilian economy. This situation has been reversed, but the loss of macroeconomic stability has led to fiscal deterioration. Recovering balance in fiscal accounts is the main challenge to be faced to ensure lasting macroeconomic stability.

Keeping public sector spending within the set limit is essential. However, without a pension reform to ensure long-term sustainability, it will not be possible to achieve fiscal balance.

FIGURE 11 – PRIMARY RESULT OF THE CENTRAL GOVERNMENT
(% do GDP)



Source: CNI, based on data from the National Treasury (2017).

GOALS

1. Ensuring stability and predictability in macroeconomic policy

   Objective ▸ Keeping the inflation rate below 3.5% per year

2. Recovering and ensuring fiscal balance

   Objective ▸ Increasing the primary result of the public sector from -2.6% to 0.3%

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Keeping the public debt under control
- Keeping inflation within the target
- Reducing interest rates to international standards
- Keeping public spending within its set limit
- Passage of the pension reform bill

PRIORITY TOPIC 2

INVESTMENT

Brazil has one of the lowest investment rates among emerging countries and improving this rate depends on the country's ability to increase its domestic savings

Investment is a major determinant of the competitiveness of industry and of the country at large. High investment rates translate into improvements in infrastructure, technologically up-to-date machinery and equipment and more intense knowledge generation in companies.

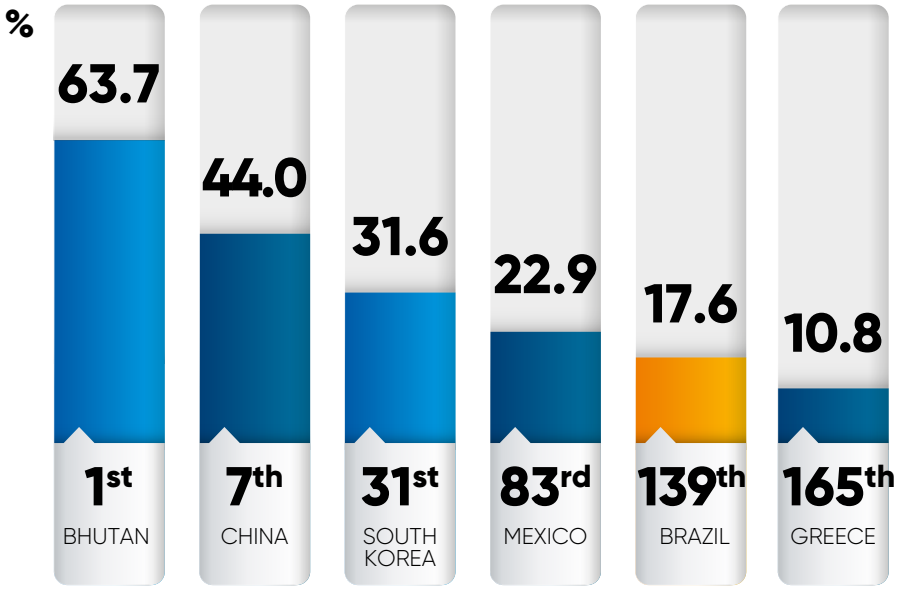
Brazil's average investment rate is lower than the average rate recorded in other major emerging economies such as China, Mexico and Chile (IMF, 2017).

In order to grow, Brazil needs to increase its investment rate, but facing this challenge is difficult due to the country's low savings rate. The alternative of financing investment by raising external savings is limited by the accumulation of external liabilities. Therefore, measures must be taken to increase domestic savings by reducing current government spending and stimulating household savings.

It is also necessary to reduce the cost of investment by eliminating the tax burden on fixed assets and reducing the cost of capital.

FIGURE 12 – INVESTMENT RATE (2017 – IMF ESTIMATES)

(% of GDP) Brazil and selected countries



Source: IMF (2017).

GOAL

1 Increasing the investment rate

Objective ▸ Increasing the investment rate from 16.4% to 21%

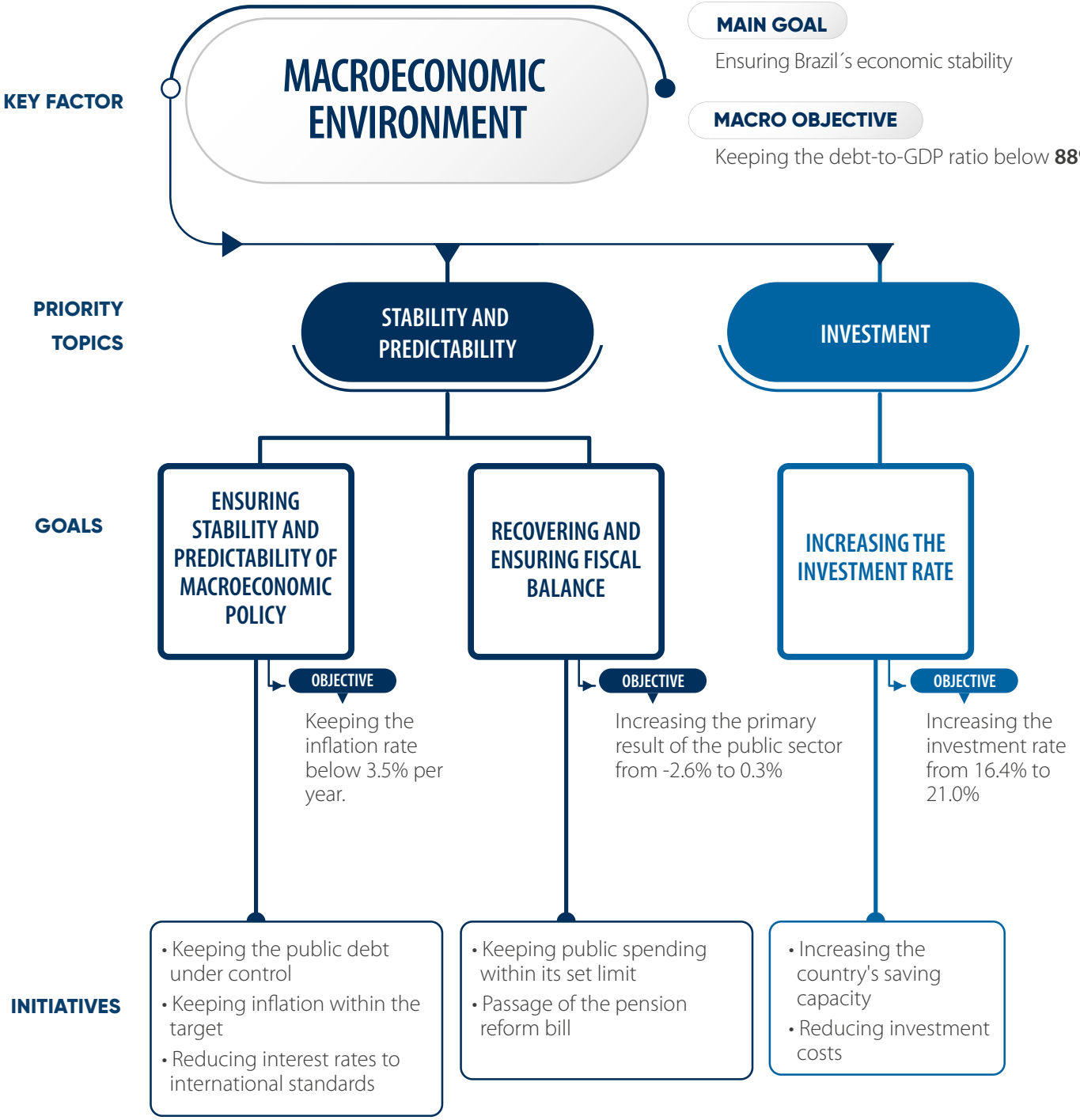
See the description and evolution of the indicator in Appendix A.

INITIATIVES

» Increasing the country's saving capacity

» Reducing investment costs

BOX 7 – SUMMARY OF THE MACROECONOMIC ENVIRONMENT KEY FACTOR



Source: Prepared by CNI.

EFFICIENCY OF THE STATE, GOVERNANCE AND RED TAPE REDUCTION

VISION FOR 2022

The Brazilian State improves its management efficiency and effectiveness and carries out a comprehensive red tape reduction program. Public policies are evaluated with greater transparency and management is professionalized based on the adoption of criteria to fill most public positions. Governance and the fight against corruption are improved on an ongoing basis. The capacity and agility to invest and to open and license businesses are significantly expanded.

Why **Efficiency of the State, Governance and Red Tape Reduction**?

State inefficiency translates into substandard, low-quality public goods and services. As a result, resources that could be invested in production are diverted both due a high taxation and to the need for the private sector to take on responsibilities that belong to the state. Both impose costs on society.

The Brazilian State spends a lot on cost financing. Increasing the efficiency of the state entails allocating more funds for investment, systematically evaluating government projects and programs and implementing mechanisms to prevent and fight corruption.

For this purpose, it is necessary to reduce red tape, improve the capacity of the state to plan and implement its policies and investments and increase transparency in the public sector.

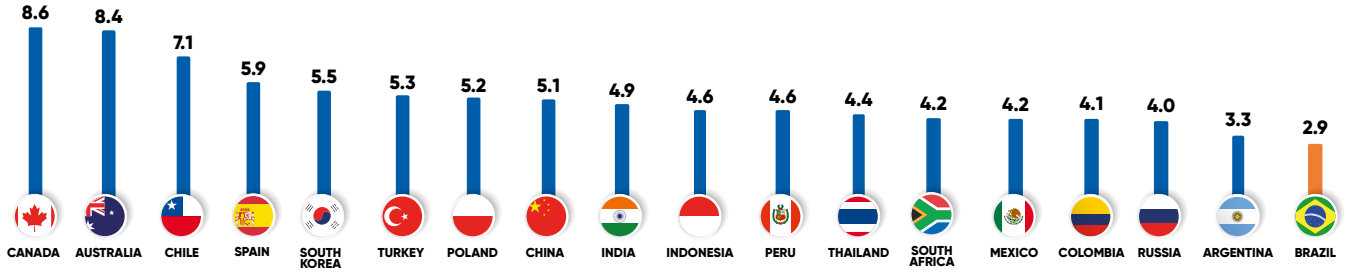
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law No. 12,846/2013, which provides for measures to fight corruption
- The passage of Law No. 13,303/2016, which sets out new rules for state-owned enterprises
- The issuance of Decree No. 9.203 / 2017, which provides for the governance policy to be adopted by the federal public administration, quasi-governmental agencies and public foundations

How are we doing?

Brazil ranks **last among 18 countries** in the Efficiency of the State indicator in the report **Competitividade Brasil 2017-2018: comparação com países selecionados.**

FIGURE 13 – EFFICIENCY OF THE STATE RANKING

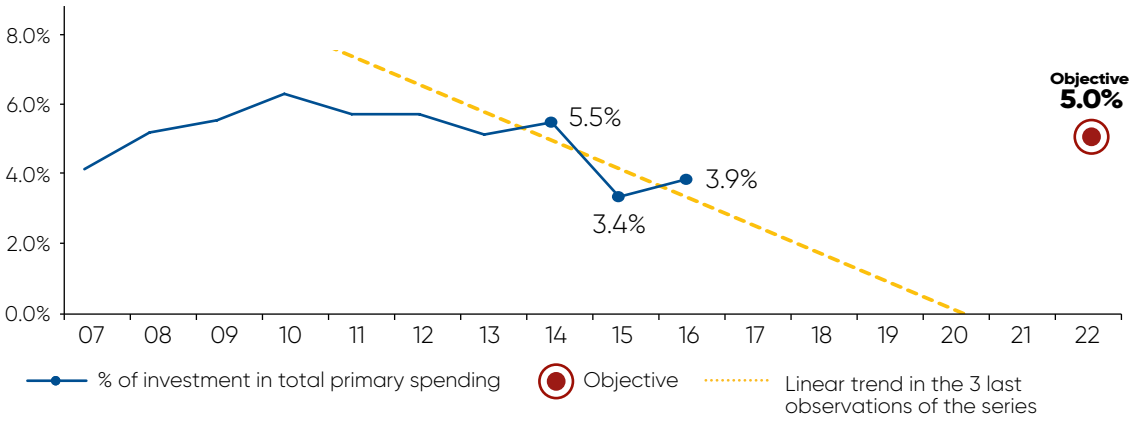


Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance)

Where do we want to get to?

Main goal: Improving the efficiency of public spending by increasing public investment
Macro objective: Increasing the share of investment in government spending from 3.9% to 5.0%

FIGURE 14 – CENTRAL GOVERNMENT SPENDING WITH INVESTMENTS IN RELATION TO TOTAL CENTRAL GOVERNMENT PRIMARY SPENDING



Source: CNI, based on data from the National Treasury.

PRIORITY TOPIC 1

PUBLIC MANAGEMENT

Improving the quality of public services translates into greater efficiency in resource allocation and in the management of policies

The Brazilian State has not been providing basic services to the population appropriately. Insufficient and low-quality public goods and services make economic activities more expensive and discourage investment.

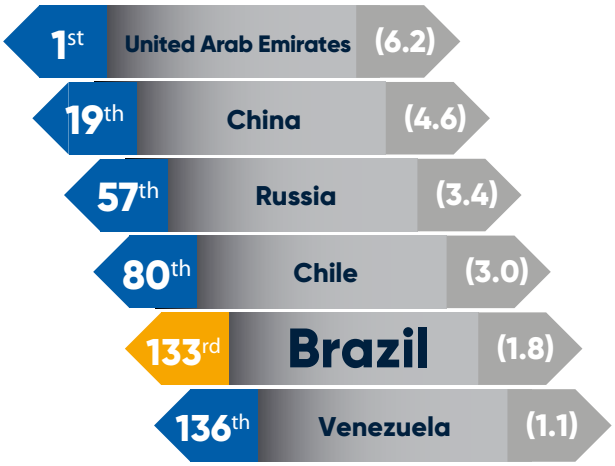
The inadequacy of public services is mainly due to the poor quality of public management. It is possible to improve the quality of the services provided without increasing costs.

Evaluating public policies and improving the management of processes, results and human resources are key requirements for improving service delivery without putting pressure on public spending. Policies must have goals and metrics defined before they are implemented and it is necessary to evaluate them periodically to check whether they are achieving their goals. This way, programs can be expanded with positive results and other programs that are not yielding the expected results can be discontinued.

Sustained economic growth, at a high level, requires structural adjustments in the public sector. Accurate evaluations of the costs and benefits of programs and policies with the aim of ensuring more productive spending and balanced public accounts is even more essential in a scenario of increasing fiscal constraints.

The public management modernization agenda must be designed to promote a more efficient state, one that acts with transparency and in partnership with the private sector, so as to increase its capacity to produce benefits for society.

FIGURE 15 – PUBLIC SPENDING QUALITY RANKING



Source: WEF (2017).

GOALS

1. Increasing the efficiency of public spending

   Objective ▸ Improving Brazil's score on efficiency in the management of public finances from 1.63 to 5.00

2. Increasing transparency in the public sector

   Objective ▸ Improving Brazil's score on transparency of government policy from 1.95 to 4.50

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Encouraging cost-benefit analysis of government actions with a high impact on competitiveness
- Evaluating resource allocation in the federal budget and its impact on competitiveness
- Modernization of public administration
- Improving the tender law
- Implementing mandatory consultation mechanisms in the process of regulating laws
- Regulation of lobbying

PRIORITY TOPIC 2

GOVERNANCE

Advancing the competitiveness agenda depends critically on improving links between public policies

The management of the competitiveness agenda in Brazil is fragmented between several programs carried out by different agencies and bodies, making it difficult to align objectives and measure results and leading to repeated and even conflicting efforts. Ensuring effective links between public policies is a key measure for Brazilian industry to become a global, competitive and sustainable industry.

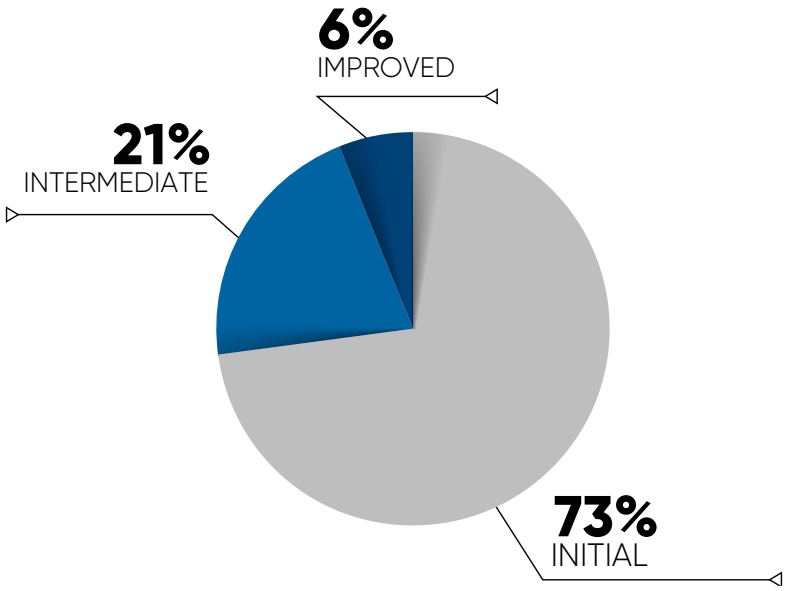
The model currently adopted for the management and governance of the state is not leading to the transformations required to improve competitiveness. It is necessary to improve institutional frameworks and focus on the competitiveness agenda.

The state needs appropriate mechanisms to coordinate and align medium- and long-term strategies and objectives on an ongoing basis. Clear priorities and responsibilities need to be set to make it possible for the agendas under the responsibility of different government agencies and bodies to be managed with a view to delivering results.

New links and cooperation arrangements should be established among governmental, entrepreneurial and political actors and these interactions should be regulated and coordinated in such a way as to make it possible for bottlenecks hindering competitiveness in the country to be eliminated.

The performance of regulatory agencies needs to be improved. It is necessary to evaluate impacts for companies and consumers before, during and after the implementation of regulatory decisions. Adopting technical criteria to fill public positions is one way of furthering this process. Disseminating best practices in regulatory quality, such as public consultations, regulatory impact assessments, and public policy evaluation, is another way.

FIGURE 16 – CAPACITY OF THE FEDERAL ADMINISTRATION TO PROMOTE A RESULTS-ORIENTED CULTURE



Source: Nardes, Altounian and Vieira (2014, apud Brazilian Federal Court of Audit [TCU], 2013).
Note: Agencies in which less than 40% of the good practices and governance are implemented were classified as initial. Agencies in which good practices are partially implemented (between 40% and 70%) were classified as intermediary. Agencies in which more than 70% of the good practices are implemented were classified as improved.

GOAL

1 Increasing governance effectiveness

Objective ▸ Improving Brazil's score on effectiveness in implementing government decisions from 2.68 to 5.00

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Ensuring sound governance as part of the competitiveness agenda
- » Improving the federal regulatory system
- » Improving regulatory quality

PRIORITY TOPIC 3

PUBLIC SAFETY

Improved public safety should translate into better quality of life and into a more favorable environment for economic activity

High levels of crime and violence mean losses for both society and the economy of a country.

Poor public safety forces people to pay twice for their security, first in taxes and second in private security solutions. Funds that could have been allocated to production are diverted for purchasing safety equipment and hiring private security and insurance, reducing the productivity of the economy as a whole.

Investment decisions are also affected by violence. According to CNI (2017b), one in every three industrial entrepreneurs considers that lack of security affects investment decisions in terms of company location. More efficient locations - close to the source of raw materials or to consumers - are disregarded for insecurity reasons, increasing production costs.

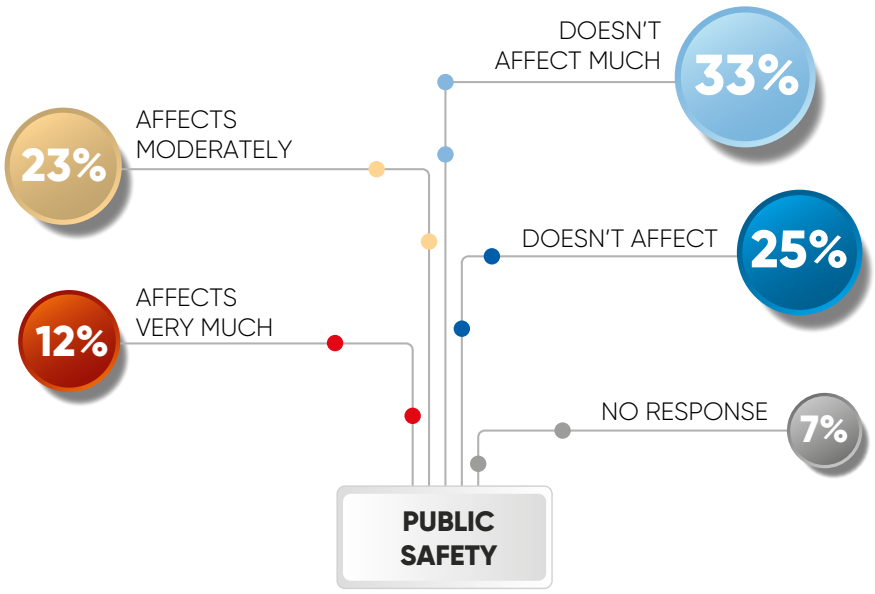
Another indirect impact of the lack of safety lies in the fact that it reduces labor productivity. Anxiety about one's own safety and that of one's family affects the learning and concentration of workers, in addition to generating delays and even absence from work.

Outside urban centers, insecurity problems such as weak surveillance of borders - routes for smuggling goods, weapons and drugs - and a high rate of cargo theft in highways are evident.

In order to address the problem of lack of security, Brazil needs to modernize and integrate national security systems, increase border control and fight cargo theft. Consumption of drugs, pirated goods and stolen goods also contribute to increased violence and should be discouraged.

FIGURE 17 – IMPACT OF LACK OF SECURITY ON INVESTMENT DECISIONS IN TERMS OF COMPANY LOCATION

(percentage of responses)



Source: CNI (2017b).

GOAL

1 Improving public safety

Objective ▸ Improving Brazil's score on crime costs for business from 2.68 to 4.00

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Encouraging the creation of a national public security plan
- » Encouraging the creation of a national security information system, with standardized data available to society
- » Promoting the fight against piracy and the sale of stolen goods

PRIORITY TOPIC 4

HEALTH CARE SYSTEM

Improved health care services translate into better quality of life and higher labor productivity

The success of a country depends on the quality of its human capital, which in turn depends on ensuring its population access to a health care system in charge of promoting, preventing, protecting and recovering the health of citizens according to their needs.

The Brazilian health care system (both public and private) has not been doing this appropriately, resulting in early deaths and chronic illnesses. In the context of workers' health, the effects on companies can be felt in the form of lower productivity, recurrent and prolonged absences from work and higher costs with employee replacement and related insurance.

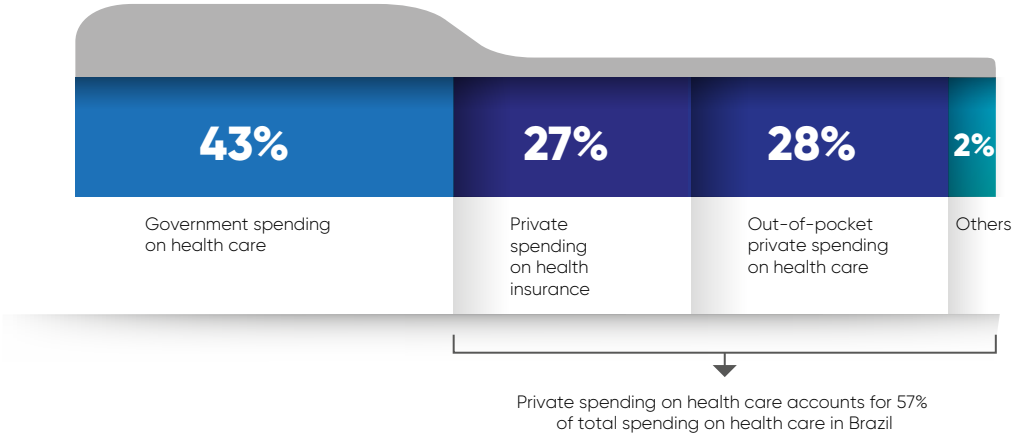
The Brazilian health care system is expensive and ineffective because it is not focused on prevention, elimination of risk factors and continuous control of chronic noncommunicable diseases, such as diabetes and high blood pressure, among others. When such diseases are not controlled at a low cost through primary care and drugs, patients with these diseases are treated for complications in the emergency wards of hospitals.

Private spending on health care accounts for 57% of all funds earmarked for the Brazilian care health system (WTO, 2018), about half of which refers to health insurance plans in the supplementary health care system. Collective health insurance plans account for 80% of the coverage of health insurance (National Health Agency - ANS, 2017) and coexist with above-inflation increases in their costs.

Increases in the costs of health insurance plans are due to three main factors: lack of moderation in their use by users; judicialization for accessing technologies without due confirmation of benefit for patients in relation to the costs of the care involved; and wastage of human and material resources in excessive patient examinations and procedures.

The management of workers' recovery and return to work also needs to be improved, since the care provided to workers on sick leave has not been promoting their effective recovery, causing them to relapse into sickness and to go on sick leave up to 10 times a year.

FIGURE 18 – SPENDING ON HEALTH CARE BY SOURCE OF FUNDING (2015)



Source: CNI, based on data from WHO.

GOAL

1 Improving the performance of the health care system

Objective ▸ Improving Brazil's score on appropriateness of the health care infrastructure from 1.82 to 3.50

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- Strengthening health promotion and prevention programs and services
- Improving the regulation of the supplementary health care system
- Improving the quality of the care provided and the management of the rehabilitation of workers on leave due to accidents and diseases

PRIORITY TOPIC 5

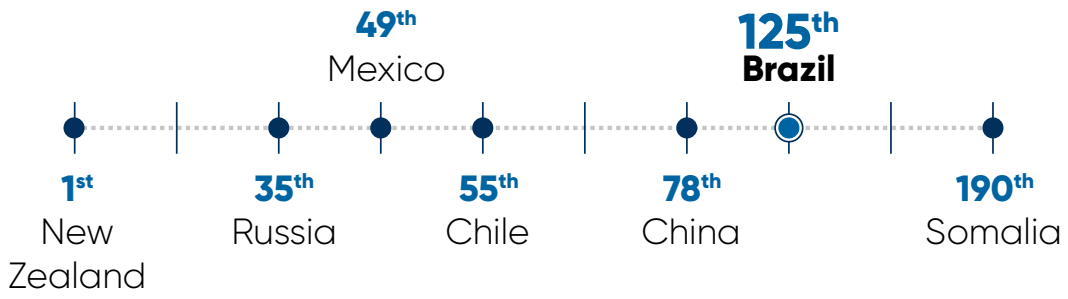
RED TAPE REDUCTION

Excessive red tape reduces productivity in the economy

One of the reasons for the low productivity in the Brazilian economy is the excessive red tape faced by companies, which diverts resources from productive activities to non-productive ones. Instead of concentrating their efforts on their own businesses, companies are forced to spend a large amount of time and resources to start a business, obtain the required licenses and authorizations, handle import and export procedures and pay taxes, i.e. to comply with the legal requirements for their operation.

Regulating economic activity is important to protect society and companies. However, when such regulations are accompanied by excessive red tape, they do more harm than good. Excessive red tape contributes to increasing the size and expenditures of the state and favors corruption and informality.

FIGURE 19 – EASE OF DOING BUSINESS RANKING



Source: World Bank (2018).

GOAL

1 Reducing excessive bureaucratic procedures that affect the business environment

Objective ▸ Improving Brazil's score on business losses caused by red tape from 0.67 to 2.00[1]

See the description and evolution of the indicators in Appendix A.
1 The higher the score, the lower the damage caused to a businesses by red tape.

INITIATIVES

» Simplifying and streamlining procedures for obtaining licenses and authorizations

» Providing incentives to the self-regulation of productive sectors

» Developing strategies and consolidating proposals to reduce red tape in matters related to taxes, the environment, labor relations, and foreign trade policies

PRIORITY TOPIC 6

FIGHTING CORRUPTION

Corruption and embezzlement of public funds promote inefficient allocation of capital, apart from resulting in increased insecurity for investors

There is a long-term negative relationship between a country's development and the degree of corruption in its institutions.

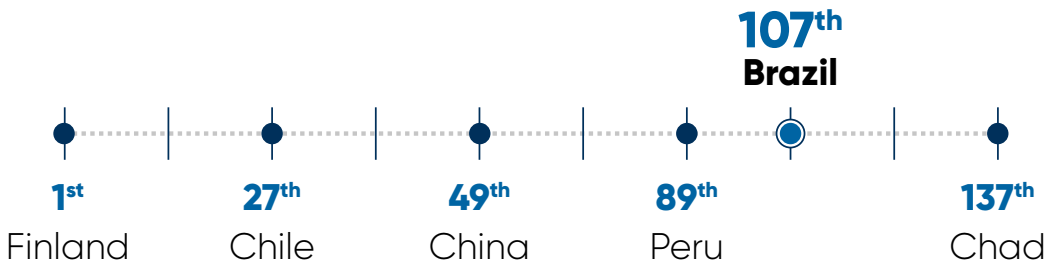
Embezzlement of public funds and the practice of favoring interest groups over others mean that projects actually implemented may not necessarily be the most efficient ones. Inefficient projects and policies generate low productivity. Corruption drives investors away by generating legal uncertainty and increasing Brazil's risk premiums.

In addition, corruption undermines the belief in democracy and politics as a means of social change and enhances political instability.

Brazil is going through a key moment in its fight against corruption. It is essential to strengthen institutions and improve instruments designed to prevent and fight corruption. Likewise, it is also important that companies improve their compliance mechanisms.

FIGURE 20 – IRREGULAR PAYMENTS AND BRIBES

The lower the ranking, the greater the frequency of irregular payments and bribes



Source: WEF (2017).

Note: Variable generated from answers to the following questions: How common is it for companies in your country to make unofficial payments or bribes related to: (a) imports and exports; (b) public utilities; (c) annual tax payments; (d) public contracts; (e) court decisions? (1 = very common; 7 = it never happens).

GOAL

1 Strengthening and improving anti-corruption mechanisms

Objective ▸ Improving Brazil's score on presence of corruption from 0.61 to 2.50[2]

See the description and evolution of the indicator in Appendix A.

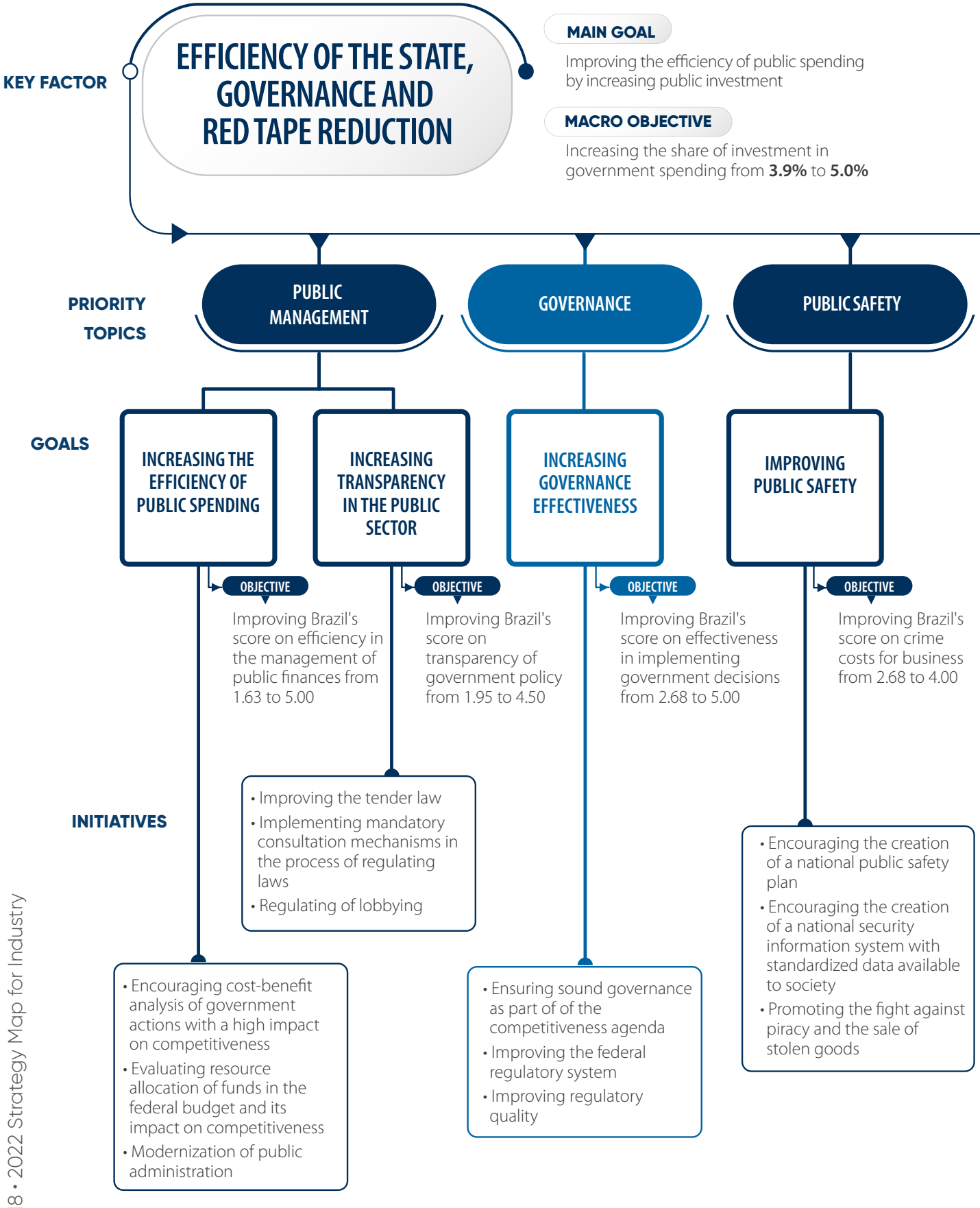
2 The higher the score, the lower the presence of corruption.

INITIATIVES

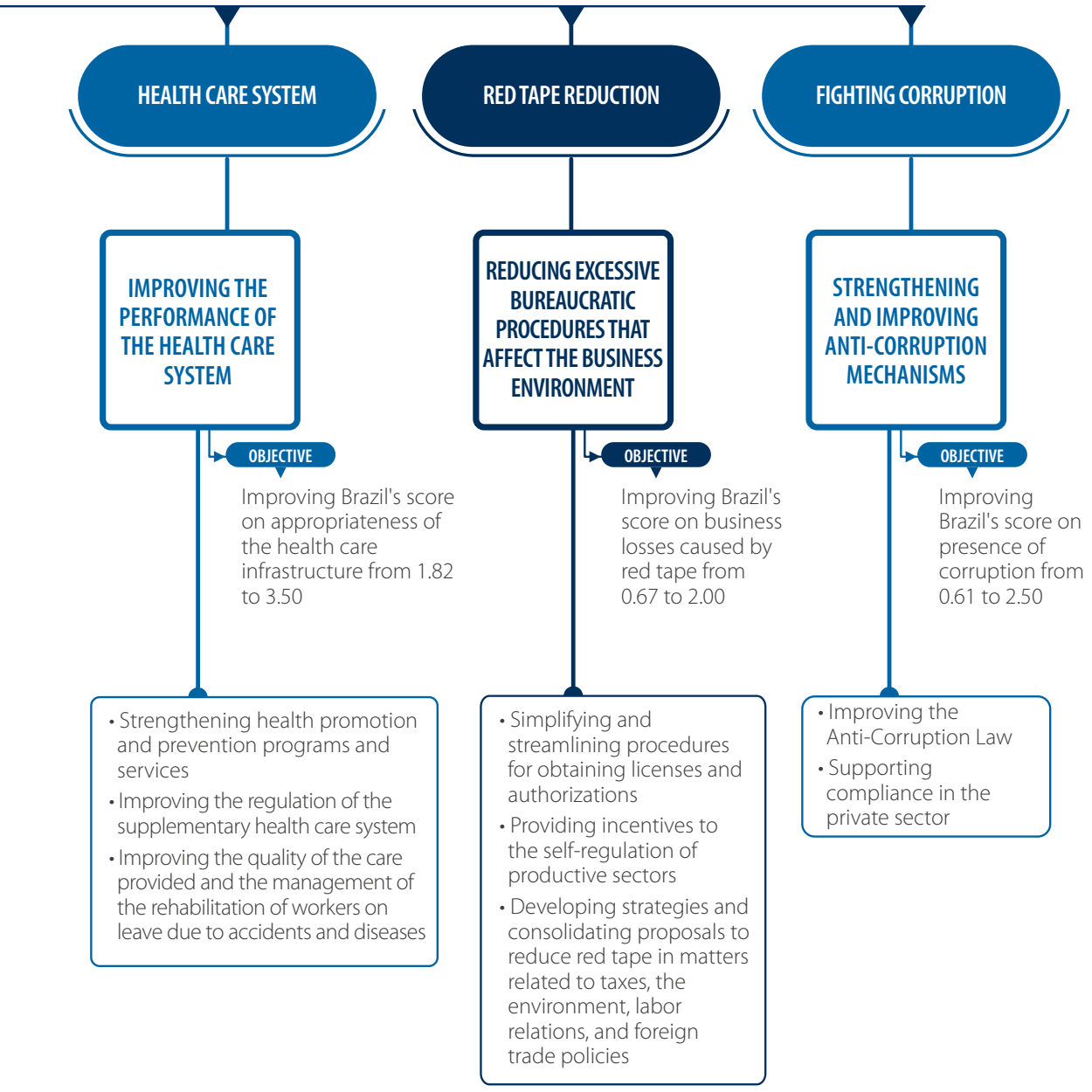
» Improving the Anti-Corruption Law

» Supporting compliance in the private sector

BOX 8 – SUMMARY OF THE EFFICIENCY OF THE STATE, GOVERNANCE AND RED TAPE REDUCTION KEY FACTOR



Source: Prepared by CNI.


HEALTH CARE SYSTEM
RED TAPE REDUCTION
FIGHTING CORRUPTION
IMPROVING THE PERFORMANCE OF THE HEALTH CARE SYSTEM
REDUCING EXCESSIVE BUREAUCRATIC PROCEDURES THAT AFFECT THE BUSINESS ENVIRONMENT
STRENGTHENING AND IMPROVING ANTI-CORRUPTION MECHANISMS
OBJECTIVE
Improving Brazil's score on appropriateness of the health care infrastructure from 1.82 to 3.50
OBJECTIVE
Improving Brazil's score on business losses caused by red tape from 0.67 to 2.00
OBJECTIVE
Improving Brazil's score on presence of corruption from 0.61 to 2.50
• Strengthening health promotion and prevention programs and services
• Improving the regulation of the supplementary health care system
• Improving the quality of the care provided and the management of the rehabilitation of workers on leave due to accidents and diseases
• Simplifying and streamlining procedures for obtaining licenses and authorizations
• Providing incentives to the self-regulation of productive sectors
• Developing strategies and consolidating proposals to reduce red tape in matters related to taxes, the environment, labor relations, and foreign trade policies
• Improving the Anti-Corruption Law
• Supporting compliance in the private sector

EDUCATION

VISION FOR 2022

Improved basic education quality. Greater supply of engineers and technologists and expanded vocational training opportunities in high school and education of youths and adults. Companies increase their investments in labor training. Greater supply of human capital fosters productivity and innovation.

Why **Education**?

Labor productivity is one of the main determinants of industry competitiveness. Highly educated teams and continued training can lead to more effective solutions to everyday problems, to better adapted products and production processes and to the development and implementation of innovations.

In Brazil, the unsatisfactory quality of basic education and the limited supply of technical and vocational training courses constitute barriers to productivity growth and to the competitiveness of companies. Despite the existence of islands of excellence, higher education in Brazil is far from meeting the demands of the productive sector and the highest quality benchmarks in the world, which puts the country at a disadvantage in its ability to innovate and compete.

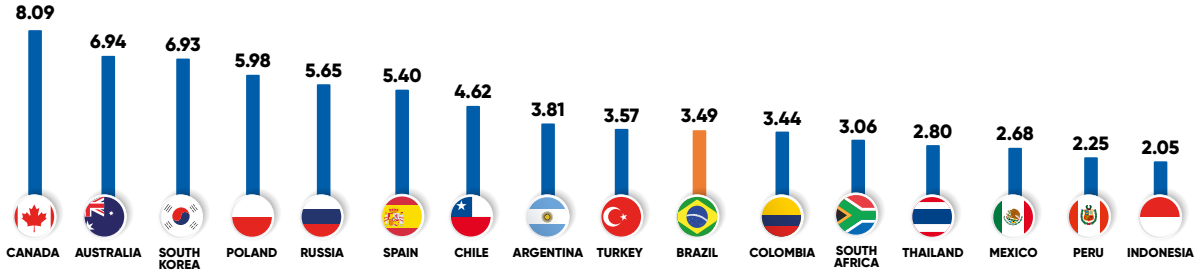
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law No. 13,005/2014, which approved the National Education Plan for 2014-2024
- The passage of Law No. 13,415/2017, which provides for with the Reform of Secondary Education
- The adoption of the National Common Curricular Base for Basic Education, ratified on 12/20/2017

How we are doing?

Brazil ranks **10th among 16 countrie**s in the Education factor of the report **Competitividade Brasil 2017-2018: comparação com países selecionados**. Despite the progress made in Brazil in terms of investment in and coverage of education, its performance in terms of quality of education is poor.

FIGURE 21 – EDUCATION RANKING



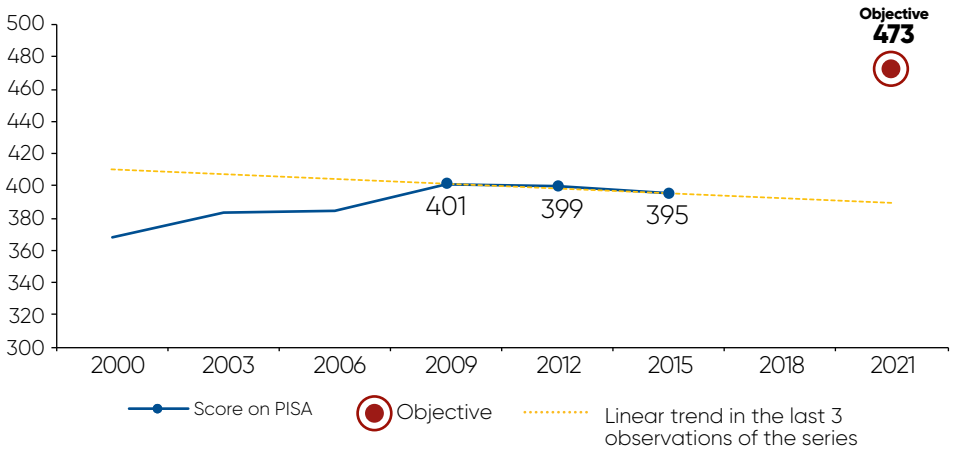
Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance)

Where do we want to get to?

Main Goal: Improving the quality of education in Brazil

Macro objective: Improving Brazil's average score on PISA from 395 to 473

FIGURE 22 – BRAZIL'S AVERAGE SCORE ON READING, SCIENCE AND MATHEMATICS TESTS IN THE INTERNATIONAL PISA ASSESSMENT



Source: CNI, based on data from IDEB (2017a).

PRIORITY TOPIC 1

BASIC EDUCATION

Improving the quality of education is fundamental to increase the productivity of Brazilian workers

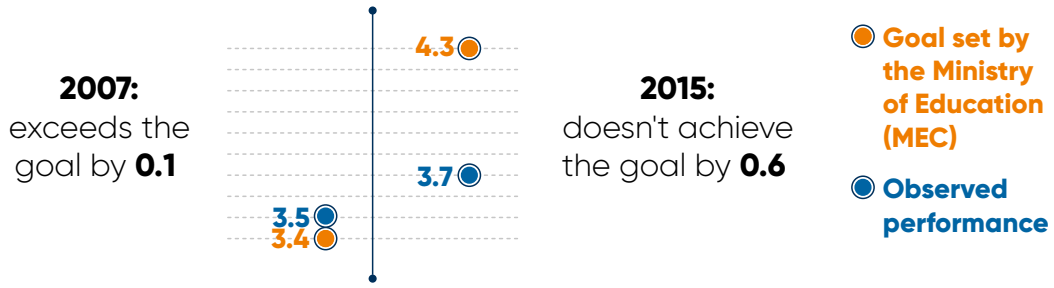
A good learning base is essential for developing skills and acquiring the knowledge necessary for future learning. Despite some advances, such as higher schooling levels and lower illiteracy rates, the quality of basic education in Brazilian is still unsatisfactory.

As a proportion of GDP, Brazil has been investing in education a percentage comparable to that recorded in developed countries, but it has not been achieving the desired results. The country has been consistently raking low in international external evaluations, such as on PISA.

Shortcomings in the quality of education are even more pronounced in secondary education. Only 58.5% of the students complete this stage of basic education in Brazil and most of those who manage to complete it are not prepared to enter the labor market (Todos pela educação apud IBGE, 2017). The supply of secondary education linked to vocational education in Brazil makes it possible to develop skills required by the labor market with a view to improving the quality of this stage of education and ensuring the inclusion of young people in the labor market.

The existence of a high percentage of adults without complete basic education poses an additional challenge. In industry, 38% of the workers have not completed basic education (Ministry of Labor Employment - MTE, 2017), so it is important to increase the supply of youth and adult education (EJA) linked to vocational education. Currently, only 2.8% of enrollments for EJA are linked to professional education (INEP, 2017c). The objective of the National Education Plan is to increase this percentage to 25% by 2022.

FIGURE 23 – BASIC EDUCATION DEVELOPMENT INDEX (IDEB, IN THE BRAZILIAN ACRONYM) FOR SECONDARY EDUCATION



Source: National Institute for Educational Studies and Research - INEP (2017b).

GOALS

1. Improving the quality of basic education

   Objective ▸ Improving the average score on the basic education development index from 4.6 to 5.6

2. Increasing the supply of secondary education integrated into technical and vocational training

   Objective ▸ Increasing the share of integrated secondary education from 5.3% to 11.1%

3. Increasing the supply of youth and adult education linked to vocational education

   Objective ▸ Increasing the share of vocational education in youth and adult education (EJA, in the Brazilian acronym) from 2.8% to 3.1%

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Implementing the National Common Curricular Base
- Promoting continued teacher training
- Implementing school management models
- Disseminating methodologies and technologies with an emphasis on STEAM (Science, Technology, Engineering, Mathematics + Art/design)
- Implementing the new secondary education model with emphasis on links with vocational education
- Establishing partnerships between vocational education and basic education networks
- Increasing the supply of vocational education to high school students
- Proposing a new educational model for youth and adult education
- Promoting continued education for teachers and managers of youth and adult education

PRIORITY TOPIC 2

VOCATIONAL EDUCATION

Vocational education must be aligned with business needs to boost productivity

Vocational Education is a means of qualification focused on the labor market and essential for the formation of a skilled workforce for industry. The quality of vocational training is a direct determinant of workers productivity.

Despite its importance, the supply of vocational education in Brazil is low and it is not always aligned with the needs of companies.

The percentage of students opting for vocational education is still low in Brazil. In 2016, only 9.3% of all high school students opted for secondary education linked to professional education (INEP, 2017c).

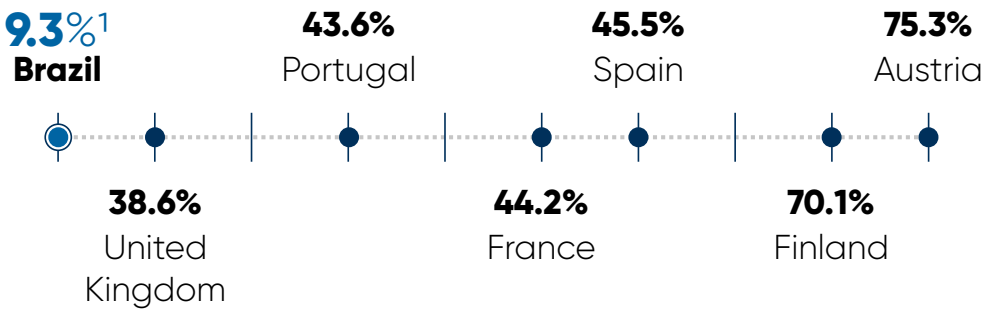
With the reform of secondary education through Law No. 13,415/2017, technical and vocational training became one of the possible options for young people, thus contributing to the possibility providing professional qualification to 83% of Brazilian youths in the 25-34 age bracket who, according to OECD statistics (2017a), will not have access to higher education.

One strategy that should be used is that of promoting synergy between the new secondary education model and learning programs. For this purpose, the law must be updated with a view to strengthening its educational character.

The supply of blended vocational training courses is also an important ally in expanding opportunities for the professionalization of Brazilian youths, because in addition to making it possible to overcome geographical barriers, they can also meet the needs of different students in terms of flexible hours for studying.

Increased supply of vocational education must be supported by a judicious evaluation process designed to ensure its quality through curricula that correspond to the real needs of the productive sector in terms of training.

FIGURE 24 – PERCENTAGE OF HIGH SCHOOL STUDENTS ENROLLED IN A CONCOMITANT OR INTEGRATED TECHNICAL COURSE



Fonte: CNI, based on data from INEP (2017c) and CEDEFOP (2015).

[1] Integrated secondary education and concomitant with vocational education.

GOAL

1 Increasing the supply of a vocational education model aligned with the demands of the productive sector

Objective ▸ Increasing the number of enrollments in vocational education from 1.86 million to 2 million

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Expanding the supply of vocational education in line with the demands of industry
- » Expanding vocational education in the e-learning modality
- » Implementing a national vocational education evaluation system
- » Improving the vocational learning law

PRIORITY TOPIC 3

HIGHER EDUCATION

Brazil lacks professionals with full higher education, especially in areas of exact sciences

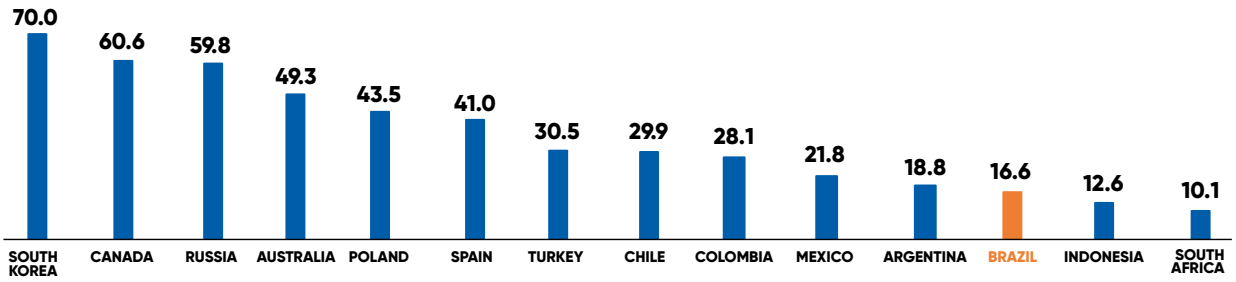
Access to quality higher education is essential for training more skilled professionals, contributing to improve the efficiency of productive sectors.

In order to increase the availability of qualified professionals, it is necessary, as a first step, to increase the supply of higher education. Enrollments in higher education are limited to 34% of all young people in Brazil. In OECD countries, the average is 70% (OECD, 2017a).

The quality of universities is another important dimension of higher education with an impact on competitiveness. There are no Brazilian universities among the 100 best ones in the world in 2018 (QS TOP UNIVERSITIES, 2018). China has six and Russia has one. The best-ranking Brazilian university is the University of São Paulo (USP), which was ranked 121st.

The gaps in education coverage are even greater considering only the training of professionals such as industrial engineers and technologists, who play an important role in promoting innovation in industry. According to INEP (2017d), only 13.1% of all higher education enrollments are for engineering degrees. Of all graduates, only 7.6% are engineers.

FIGURE 25 – RANKING FOR POPULATION WITH FULL HIGHER EDUCATION (2016)



Source: OECD (2017a).
Note: Percentage of the population between 25 and 34 years old with higher education (%).
Note 2: Brazil, Chile, Russia, South Africa and Indonesia (2015); Argentina (2014).

GOALS

1. Improving the quality of higher education

   Objective ▸ Improving the average score of undergraduate courses in Brazil from 2.61 to 3.30

2. Increasing the supply of industrial engineers and technologists

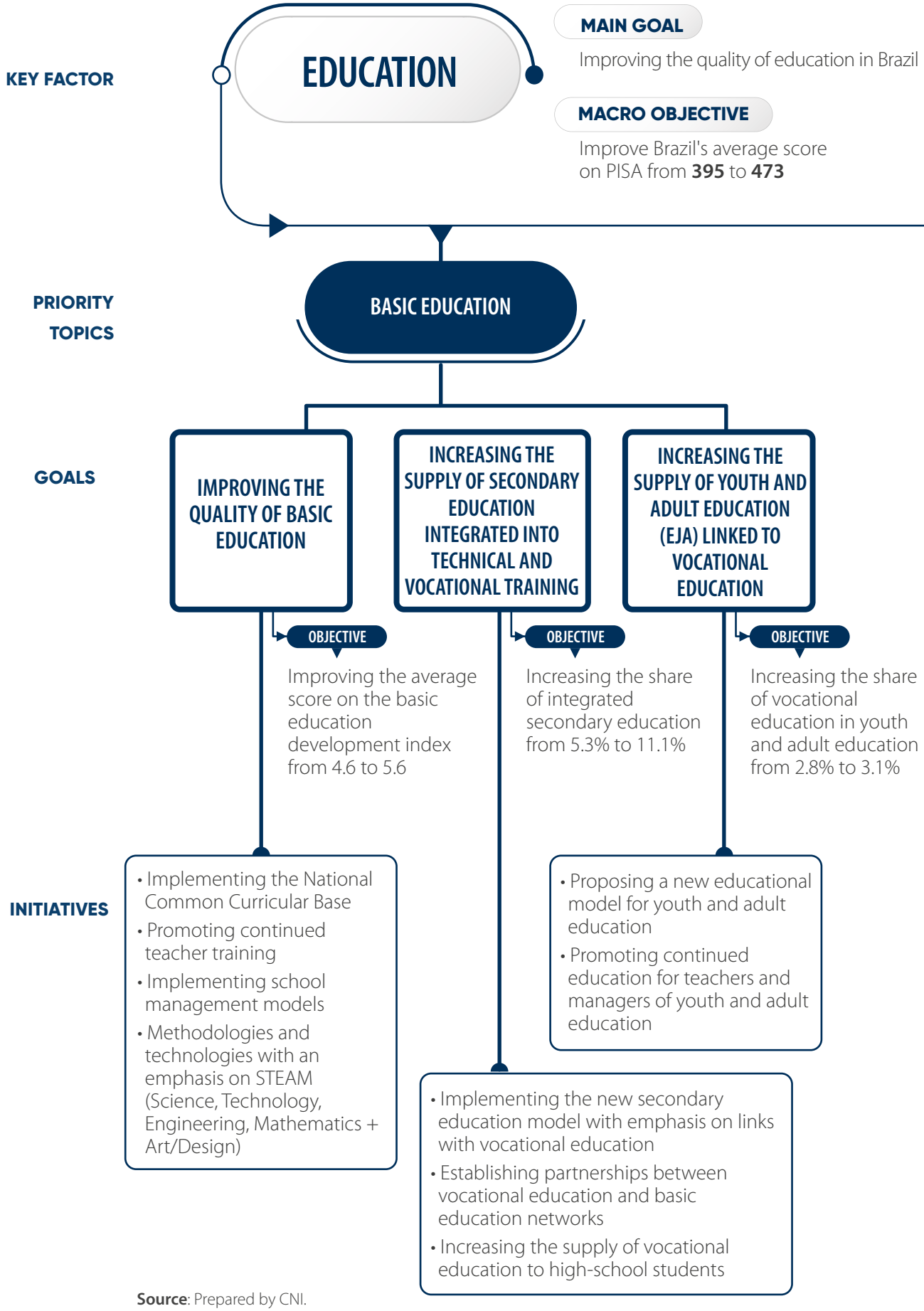
   Objective ▸ Increasing the share of industrial engineering and technology courses in universities from 18.8% to 22.8%

See the description and evolution of the indicators in Appendix A.

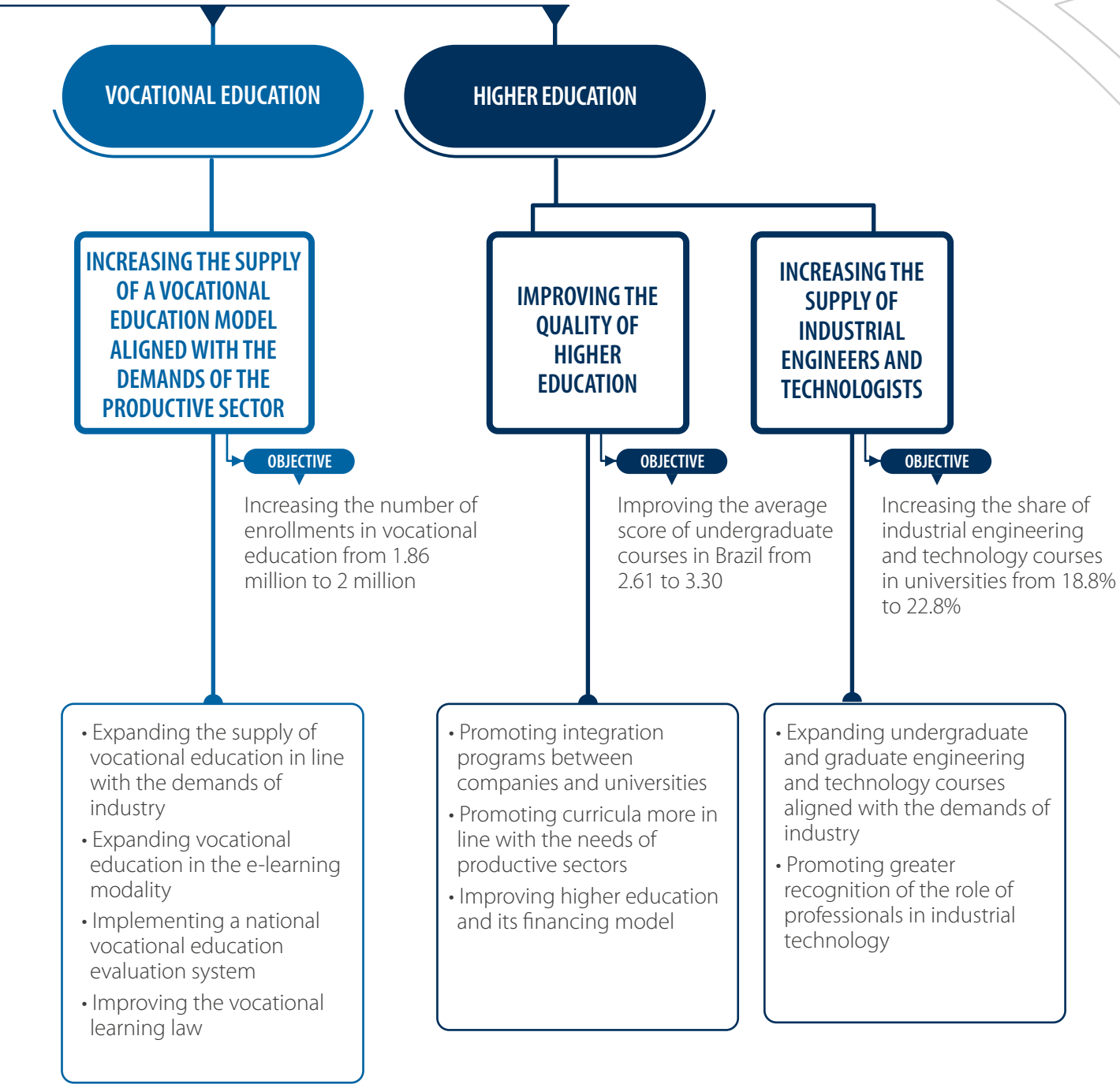
INITIATIVES

- Promoting integration programs between companies and universities
- Promoting curricula more in line with the needs of productive sectors
- Improving higher education and its financing model
- Expanding undergraduate and graduate engineering and technology courses aligned with the demands of industry
- Promoting greater recognition of the role of professionals in industrial technology

BOX 9 – SUMMARY OF THE EDUCATION KEY FACTOR



Source: Prepared by CNI.


VOCATIONAL EDUCATION
HIGHER EDUCATION
INCREASING THE SUPPLY OF A VOCATIONAL EDUCATION MODEL ALIGNED WITH THE DEMANDS OF THE PRODUCTIVE SECTOR
IMPROVING THE QUALITY OF HIGHER EDUCATION
INCREASING THE SUPPLY OF INDUSTRIAL ENGINEERS AND TECHNOLOGISTS
OBJECTIVE
Increasing the number of enrollments in vocational education from 1.86 million to 2 million
OBJECTIVE
Improving the average score of undergraduate courses in Brazil from 2.61 to 3.30
OBJECTIVE
Increasing the share of industrial engineering and technology courses in universities from 18.8% to 22.8%
• Expanding the supply of vocational education in line with the demands of industry
• Expanding vocational education in the e-learning modality
• Implementing a national vocational education evaluation system
• Improving the vocational learning law
• Promoting integration programs between companies and universities
• Promoting curricula more in line with the needs of productive sectors
• Improving higher education and its financing model
• Expanding undergraduate and graduate engineering and technology courses aligned with the demands of industry
• Promoting greater recognition of the role of professionals in industrial technology

FINANCING

VISION FOR 2022

Companies with easier access to credit at lower costs as a result of financial innovations and increased bank competition. Greater participation of third parties in financing investments of industrial companies of all sizes. A more developed capital market characterized by interaction between a large number of diverse institutions. Greater availability of long-term financing in Brazil, as well as of finance for exports, innovation and MSMEs. Companies and individuals less dependent on public banks, operating according to a new definition of business activities and roles.

Why **Financing**?

An efficient financial system is essential for ensuring that capital is efficiently allocated, that is, for capital to be productive and contribute to the country's growth.

Financing plays a fundamental role in promoting the growth of enterprises, as it enables investment in new plants, in machinery and equipment, in research and development, etc.

In addition, it is important for the daily operation of companies, which rely on loans to pay their suppliers and workers when there is any mismatch between production and billing.

Brazilian companies still face difficulties to finance their production activities and their sales and exports. Insufficient finance at high costs and/or inappropriate payment deadlines hinder investment projects and, consequently, economic growth.

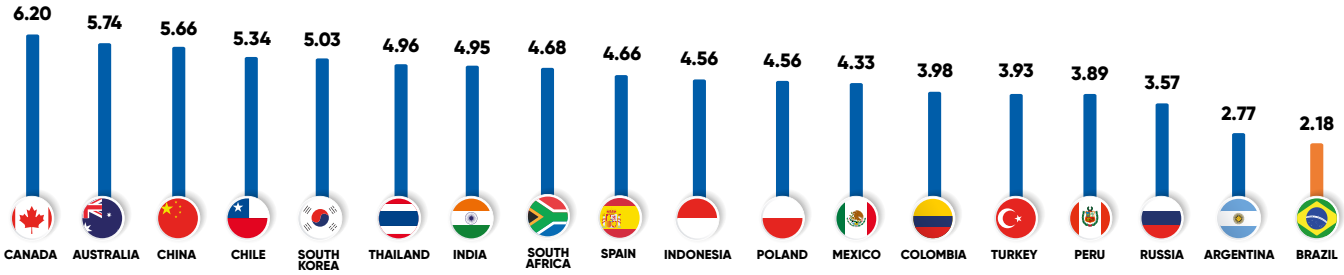
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law No. 13,476/2017, which provides for electronic records of guarantees
- Central Bank Circular Letter No. 3,823/2017, which simplifies the standards applied to compulsory deposits of banks
- Circular Note of the National Economic and Social Development Bank (BNDES) No. 31/2017, which increases working capital financing (BNDES Giro)
- Central Bank Resolution No. 4,553/2017, which provides for segmentation and proportionality criteria for prudential regulation
- Central Bank Resolution No. 4,480/2016, which provides for improvements in contracting operations through electronic means
- The passage of Law No. 13,097/2015 and Central Bank Resolution No. 4,599/2017, which create and regulate the Guaranteed Real Estate Bill

How we are doing?

Brazil was ranked **last among 18 countries** in the Availability and Cost of Capital factor, according to the report **Competitividade Brasil 2017-2018: comparação com países selecionados**.

FIGURE 26 – RANKING OF THE AVAILABILITY AND COST OF CAPITAL



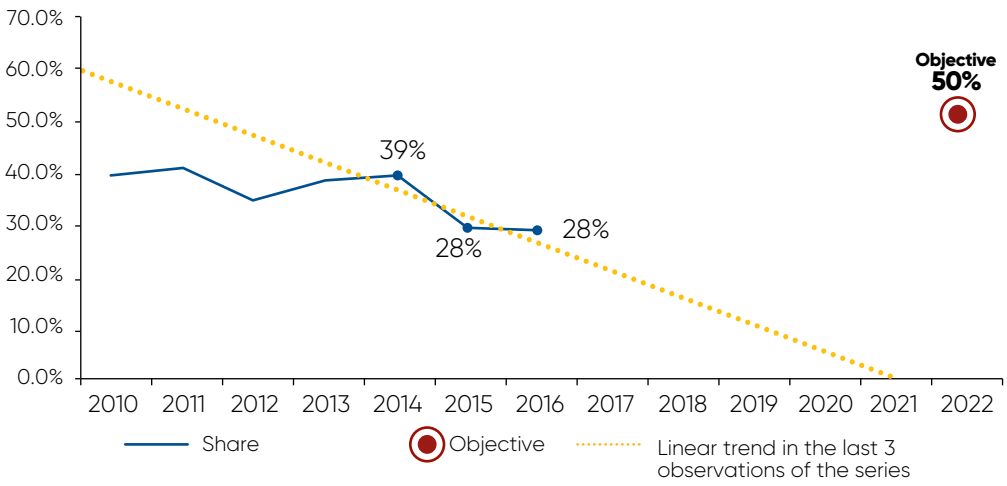
Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance)

Where do we want to get to?

Main Goal: Improving companies' access to investment resources

Macro objective: Increasing the share of third-party funding for investments of industrial companies from 28% to 50%

FIGURE 27 – SHARE OF THIRD-PARTY FUNDING FOR INVESTMENTS OF INDUSTRIAL COMPANIES



Source: CNI, based on data from CNI (2017c).

PRIORITY TOPIC 1

BANK FINANCING

Increasing access to low-cost bank financing is one of the ways to enhance the competitiveness of industry

High real interest rates as compared to international standards (particularly for working capital) and insufficient long-term credit and stable sources of finance are the main factors hampering the financing of industry.

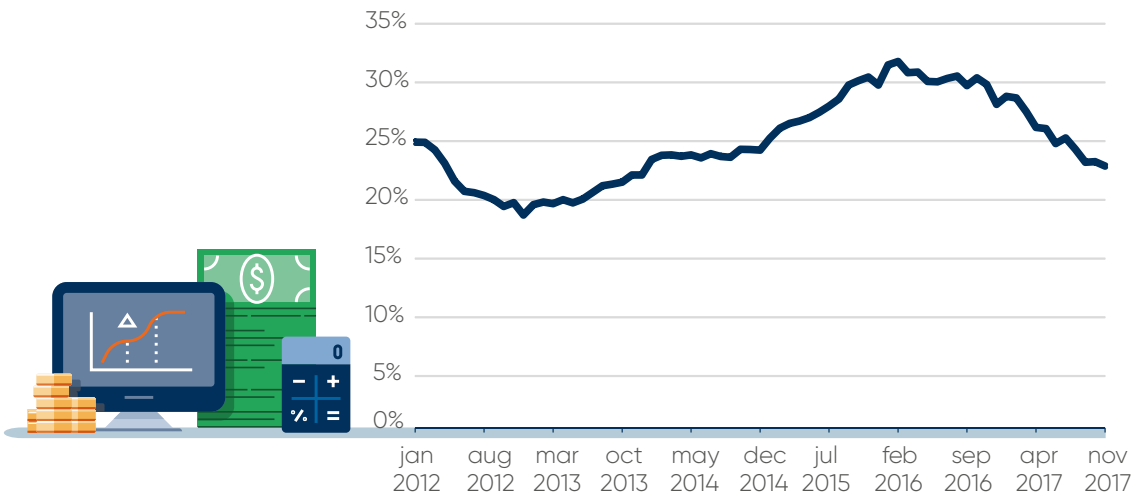
Despite an increase in the credit/GDP ratio in recent years, international comparisons show that there is room for credit to grow in Brazil, as it accounts for 111.2% of GDP currently against 192.1% on average in OECD countries, according to the World Bank.

Despite the recent reduction in the Selic rate, Brazil is still one of the countries with the highest real interest rates in the world.

In addition to high costs, repayment deadlines - which are rather short - also constitute an obstacle to financing for investment in Brazil.

FIGURE 28 – AVERAGE INTEREST RATE ON CREDIT OPERATIONS WITH NON-EARMARKED FUNDS - COMPANIES

(Annual percentage, % p.a .)



Source: Central Bank of Brazil - BCB (2017).

GOALS

1. Increasing the amount of bank financing

   Objective ▸ Increasing the balance of the loan portfolio in relation to GDP from 24.7% to 30.0%

2. Reducing interest rates for companies

   Objective ▸ Reducing interest rates for companies from 27% to 15% per annum.

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Drafting of proposals for developing new alternatives for long-term private financing
- Increased bank financing for industrial companies
- Reducing banking spreads
- Reducing credit costs for companies

PRIORITY TOPIC 2

NON-BANK FINANCING

Non-bank funding sources are alternatives with great potential to ensure greater access to funds by industry

Other financing mechanisms, apart from bank financing, may be lower-cost alternatives for the productive sector.

Accounting data from industrial companies show that the cost of capital for publicly-held companies is lower than for privately-held ones.

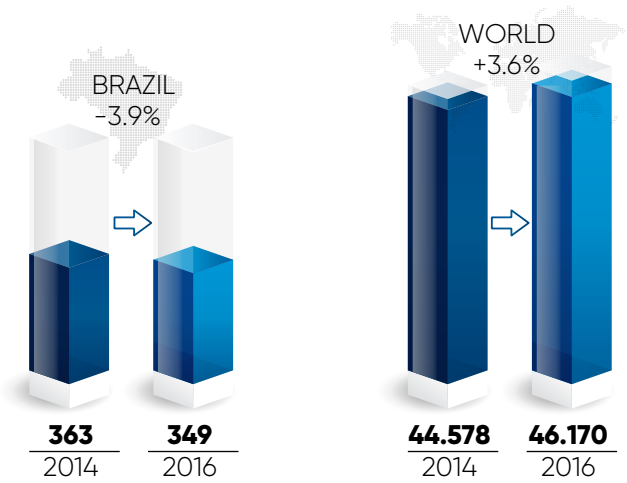
However, the corporate fixed income and stock markets are options that have not been appropriately explored by Brazilian companies for financial leverage so far.

Other funds, such as private equity, venture capital and fintech, are under development in the country and have great potential to grow.

Increased access to non-bank sources of finance for enterprises is hampered by regulation, low investor training and high operational costs.

In addition, it is necessary to make a large part of the public more aware of how these credit alternatives work as a financing instrument.

FIGURE 29 – NUMBER OF COMPANIES LISTED ON THE STOCK MARKET



Source: WFE (2017).

GOALS

1. Expanding the corporate fixed income market

   Objective ▸ Increasing the ratio of total debentures in relation to GDP from 0.67% to 1.50%

2. Developing the stock market

   Objective ▸ Increasing the number of listed companies from 349 to 480

3. Increasing access to new financing mechanisms

   Objective ▸ Increasing the committed capital of the private equity and venture capital industry from 2.3% to 4.0% of GDP

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Promoting the issuance of corporate bonds and increased liquidity in secondary markets
- Drafting proposals to increase the participation of public and development banks as drivers of long-term corporate credit
- Promoting long-term investment funds
- Facilitating access to and reducing IPO costs
- Promoting private equity, venture capital, angel investment and fintech funds
- Regulating corporate collective investment

PRIORITY TOPIC 3

COLLATERAL

High demand for real collateral is one of the factors limiting access to credit by industrial companies

The main difficulties faced by industrial companies applying for credit include the requirements and complexity involved in providing real collateral, submitting the required documents and updating credit ratings.

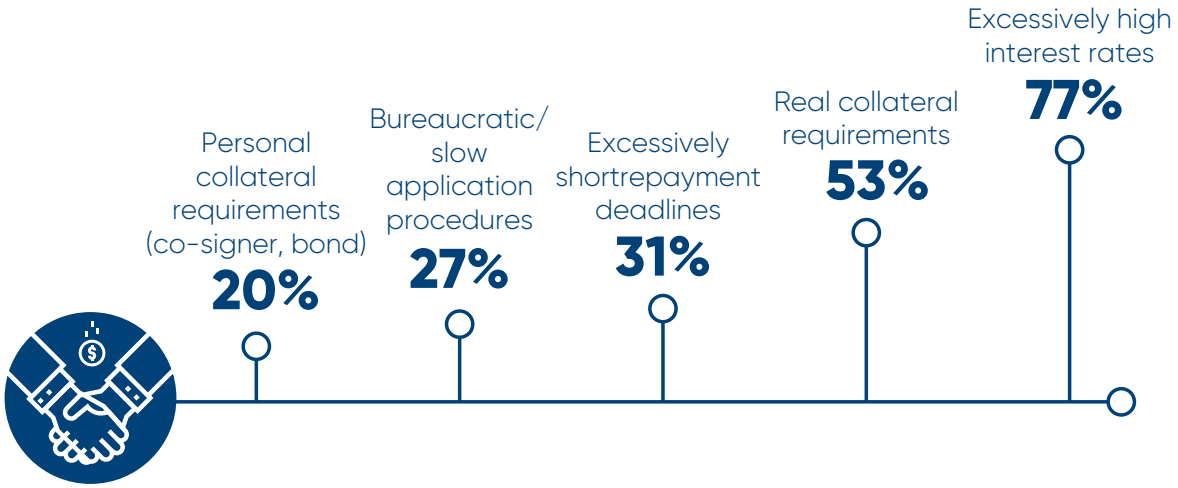
Brazil got a score of 2.0 in the Judicial System Efficiency Index of the 2018 Doing Business survey (WORLD BANK 2017), which measures the extent to which collateral and bankruptcy laws protect the rights of borrowers and lenders, thereby facilitating lending. The score is lower than that of Latin America and Caribbean countries (5.4) and of OECD countries (6.2). This is one of the factors that places Brazil in the 105th position in the ranking for ease of obtaining credit.

Access to specific financing lines, such as for exports and investments abroad, is also hampered by collateral requirements, according to the survey Challenges to the competitiveness of Brazilian exports (CNI, 2016b).

Ensuring easier access to collateral systems is an important step toward increasing investment and exports.

FIGURE 30 – MAIN DIFFICULTIES FACED BY INDUSTRIAL COMPANIES WHEN APPLYING FOR CREDIT

(% of companies that reported difficulties for accessing credit)



Source: CNI (2016a).

Note: The sum of the percentages exceeds 100% due to the possibility of each company marking up to three items.

GOAL

1 Facilitating the access of companies to the credit collateral system

Objective ▸ Improving Brazil's score on ease of access to credit from 3.5 to 5.5

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Improving the national collateral system
- » Reducing requirements for companies with a positive credit record
- » Improving collateral instruments for exports and investments abroad
- » Simplifying procedures for accessing credit for innovation
- » Improving collateral systems for micro, small and medium-sized enterprises

PRIORITY TOPIC 4

FINANCING FOR INNOVATION, EXPORTS AND MSMEs

The development of industry depends on the provision of specific financing instruments for innovation and exports and increased access to such mechanisms by micro, small and medium-sized enterprises

Due to their particularities, some activities and groups of companies need specific credit lines.

Innovation depends on specific financing mechanisms adapted to the risks inherent in innovative activity. Instruments for allocating public funds to innovation must be strengthened and improved and new financing sources for the National Innovation System must be sought. In addition, the allocation of resources from development funds should be fully linked to technological development and innovation.

Export financing requires specific mechanisms that take into account uncertainties related to exchange rate variations, political risks and financial support from foreign governments to their exports. For Brazilian companies to be able to compete in the international market, processes must be simplified and export financing mechanisms must be improved.

Micro, small and medium-sized enterprises (MSMEs) face operational difficulties derived from their low organizational level and low scale of production or from difficulties to access knowledge. MSMEs face greater difficulties to access finance as compared to large companies. The main obstacles they face include high transaction costs for loans, information asymmetries and lack of real collateral.

The availability, consistency and continuity of specific financing mechanisms of this kind must be ensured.

FIGURE 31 – SHARE OF LOANS TO MICRO AND SMALL COMPANIES IN NATIONAL ECONOMIC AND SOCIAL DEVELOPMENT BANK (BNDES) ANNUAL DISBURSEMENTS

Source: National Economic and Social Development Bank (BNDES) (2017).

GOALS

1. Improving mechanisms to facilitate access to financing and incentives for innovation

   Objective ▸ Increasing the share of industrial companies that promoted innovations with public financing in relation to the total of industrial companies that innovated from 33.8% to 50.0%

2. Expanding export financing

   Objective ▸ AIncreasing the percentage of exports relying on specific financing lines from 40% to 50%

3. Increasing credit lines available to micro, small and medium-sized enterprises

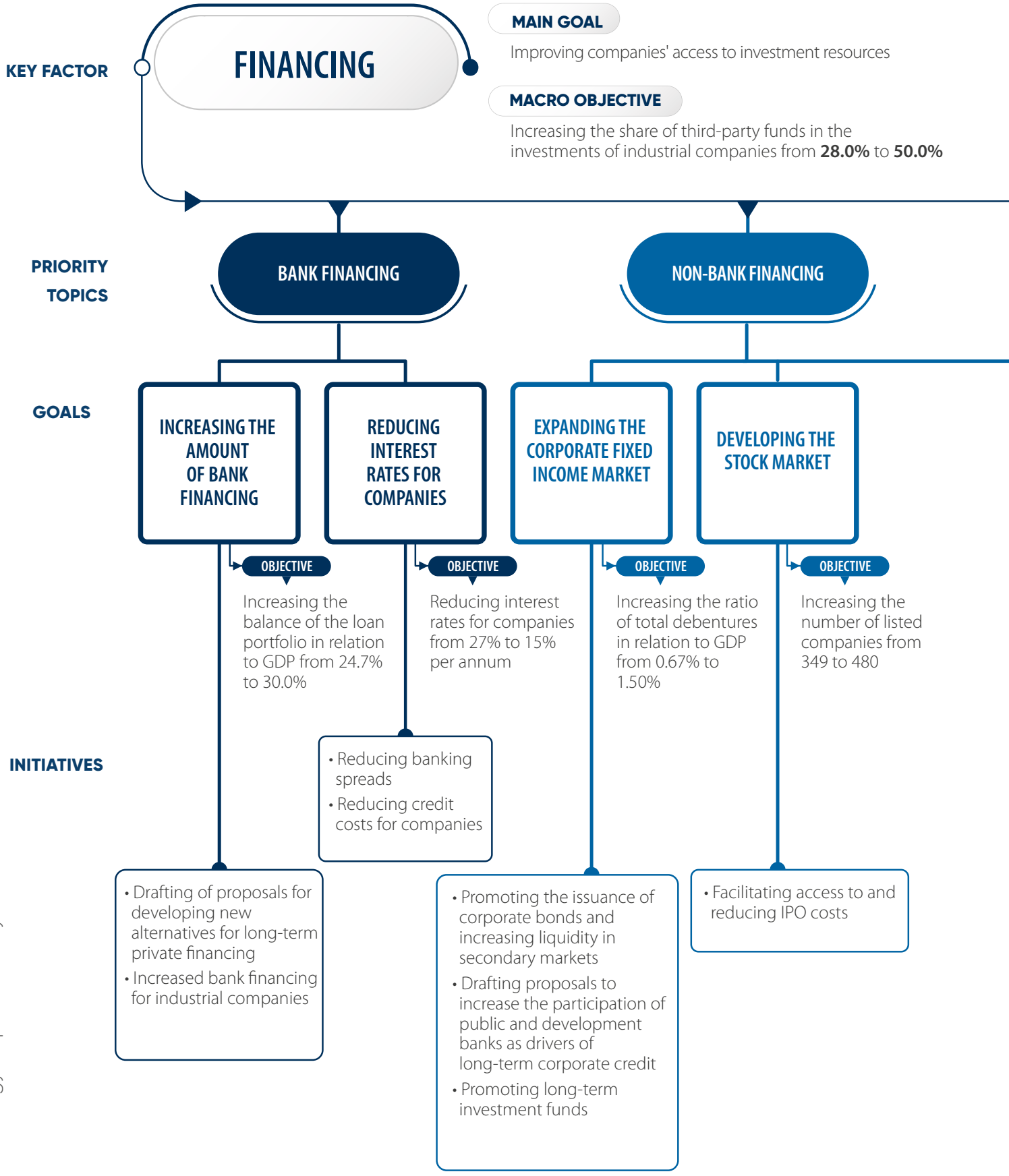
   Objective ▸ Increasing BNDES financing for MSMEs from R$25.2 million to R$40.0 million in constant reals of 2014

See the description and evolution of the indicators in Appendix A.

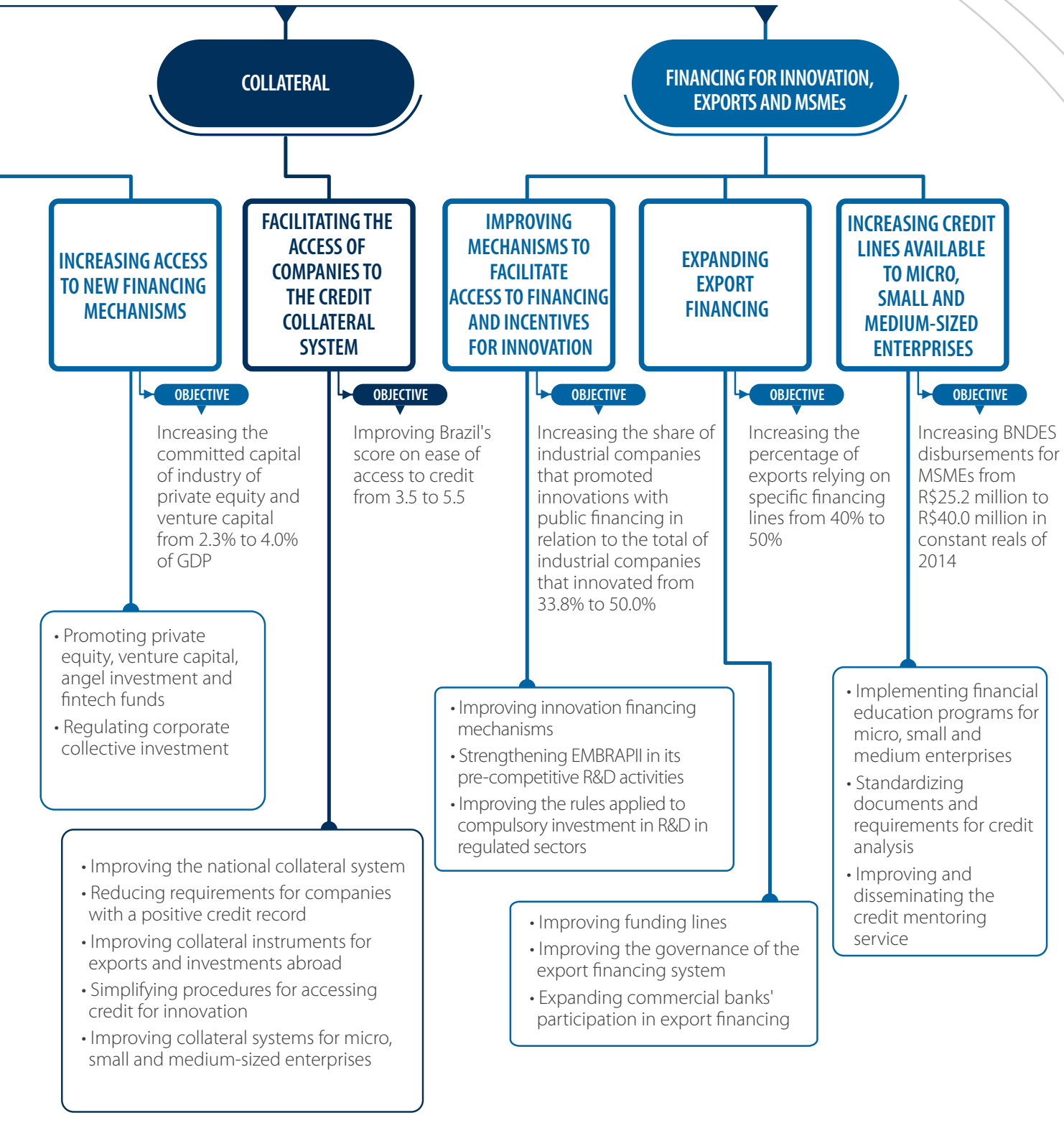
INITIATIVES

- Improving innovation financing mechanisms
- Strengthening the Brazilian Company for Research and Industrial Innovation (EMBRAPII) in its pre-competitive R&D activities
- Improving the rules applied to compulsory investment in R&D in regulated sectors
- Improving funding lines
- Improving the governance of the export financing system
- Expanding commercial banks' share in export financing
- Implementing financial education programs for micro, small and medium enterprises
- Standardizing documents and requirements for credit analysis
- Improving and disseminating the credit mentoring service

BOX 10 – SUMMARY OF THE FINANCING KEY FACTOR



Source: Prepared by CNI.


COLLATERAL
FINANCING FOR INNOVATION, EXPORTS AND MSMEs
INCREASING ACCESS TO NEW FINANCING MECHANISMS
FACILITATING THE ACCESS OF COMPANIES TO THE CREDIT COLLATERAL SYSTEM
IMPROVING MECHANISMS TO FACILITATE ACCESS TO FINANCING AND INCENTIVES FOR INNOVATION
EXPANDING EXPORT FINANCING
INCREASING CREDIT LINES AVAILABLE TO MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES
OBJECTIVE
Increasing the committed capital of industry of private equity and venture capital from 2.3% to 4.0% of GDP
OBJECTIVE
Improving Brazil's score on ease of access to credit from 3.5 to 5.5
OBJECTIVE
Increasing the share of industrial companies that promoted innovations with public financing in relation to the total of industrial companies that innovated from 33.8% to 50.0%
OBJECTIVE
Increasing the percentage of exports relying on specific financing lines from 40% to 50%
OBJECTIVE
Increasing BNDES disbursements for MSMEs from R$25.2 million to R$40.0 million in constant reals of 2014
• Promoting private equity, venture capital, angel investment and fintech funds
• Regulating corporate collective investment
• Improving the national collateral system
• Reducing requirements for companies with a positive credit record
• Improving collateral instruments for exports and investments abroad
• Simplifying procedures for accessing credit for innovation
• Improving collateral systems for micro, small and medium-sized enterprises
• Improving innovation financing mechanisms
• Strengthening EMBRAPII in its pre-competitive R&D activities
• Improving the rules applied to compulsory investment in R&D in regulated sectors
• Improving funding lines
• Improving the governance of the export financing system
• Expanding commercial banks' participation in export financing
• Implementing financial education programs for micro, small and medium enterprises
• Standardizing documents and requirements for credit analysis
• Improving and disseminating the credit mentoring service

NATURAL RESOURCES AND THE ENVIRONMENT

VISION FOR 2022

Brazilian industry becomes a benchmark in the efficient use of natural resources and takes advantage of opportunities associated with the low-carbon economy and with the use of biodiversity assets. Weaknesses in sanitation are substantially reduced and the quality of services is improved. Red tape is eliminated from environmental licensing procedures, thus contributing to promoting investment and ensuring environmental quality.

Why **Natural Resources and the Environment**?

The lower availability of natural resources and consequent increase in their costs have made it imperative to strive for efficiency as a priority. Added to this is an increasing concern about the impacts of economic activities on the environment and on climate change. Consumers are increasingly demanding products and production processes with a lower impact on the environment and this issue has been drawing increasing attention from international organizations, governments, companies and society at large.

Brands and corporate image are increasingly linked to the posture of companies on environmental issues and this fact has increased the importance of promoting efficiency gains in natural resource use and of reducing greenhouse gas emissions.

The low-carbon economy and the circular economy, with the new technologies and management models associated with them, feature high on the competitiveness agenda. Companies that best seize these opportunities will have more competitive advantages.

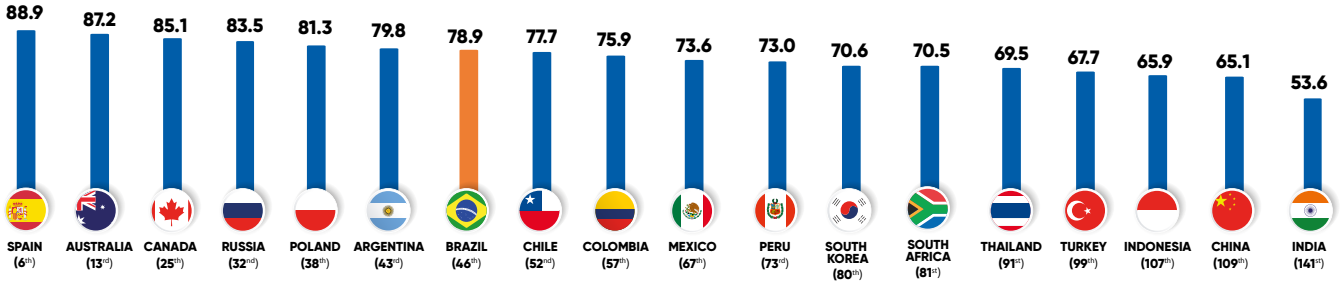
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law No. 13,123/2015 and issuance of Decree No. 8,772/2016, which regulate access to genetic heritage (access to biodiversity)
- The issuance of Provisional Measure (MP) 809/2017, which authorizes ICMbio/Ministry of Environment (MMA) to select, without bidding, a public bank to set up and manage a fund made up of sums collected as environmental compensation
- The ratification of the Paris Agreement by Brazil with the national contribution for reducing greenhouse gas emissions - NDC, 9/21/2016
- The passage of Law No. 13,329/2016, which creates the Special Regime of Incentives for Basic Sanitation - REISB
- The issuance of Resolution No. 4/2016 by the Council of the Program of Investment Partnerships of the Presidency of the Republic, which launched the program of concessions for sanitation

How are we doing?

Brazil is relatively well-positioned in the Environmental Performance Index 2016: **it was ranked 46th.** However, the country is not doing so well in the area of Climate and Energy, which is related to trends in CO_2 emissions, where it was ranked 92nd among 180 countries.

FIGURE 32 – ENVIRONMENTAL PERFORMANCE RANKING



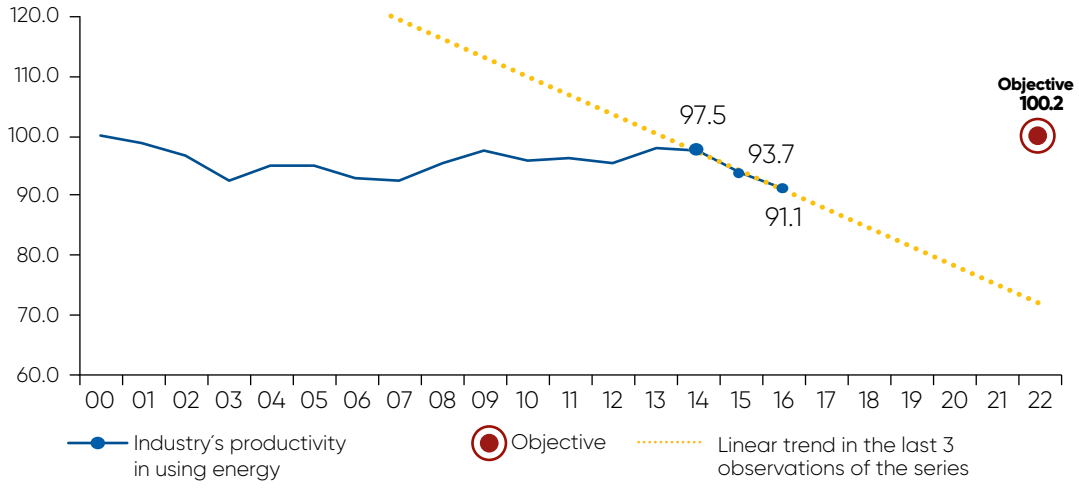
Source: Hsu et al. (2016).
Note: Mean scores (0= worst performance; 100 = best performance).

Where do we want to get to?

Main goal: Increasing industry's efficiency in using natural resources
Macro objective: Improving industry's productivity in using energy by 10% (from 91.1 to 100.2)

FIGURE 33 – INDUSTRY'S PRODUCTIVITY IN USING ENERGY

Industrial GDP by energy consumption by industry



Source: CNI, based on data from the National Energy Balance (BEN) and from the Brazilian Institute for Geography and Statistics (IBGE).
Description: Base index number 2000 = 100 of the industrial GDP series at 1995 prices of the Quarterly National Accounts divided by energy consumption by industry in 10^3 toe of the National Energy Balances.

PRIORITY TOPIC 1

USE OF NATURAL RESOURCES

Industry can play an active role in promoting efficient and sustainable use of natural resources and in utilizing Brazilian biodiversity

The world is headed toward a new pattern of production and consumption that will require smarter use of natural resources. Competitiveness gains can be achieved by making efficient use of resources.

The practices proposed by the circular economy involve the optimization of production chains through recycling, remanufacturing, reuse, sharing, maintenance and product redesign. And they offer opportunities for developing new business models designed to reduce risks and boost competitiveness.

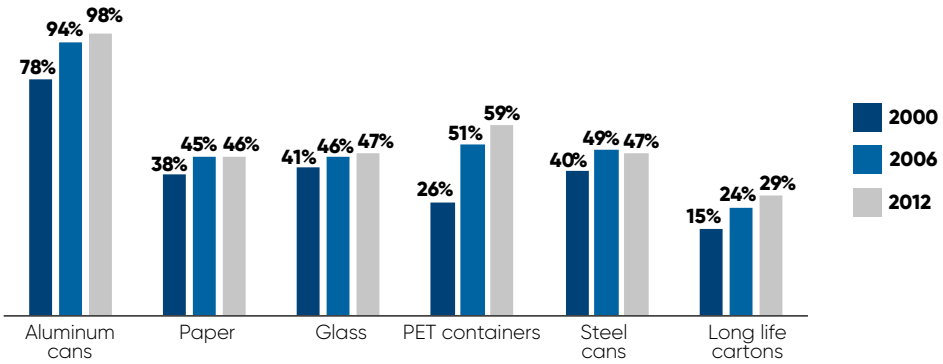
Brazil has made progress in reusing waste in several industrial sectors, but there is still much more room to grow for the country to become a benchmark in the circular economy.

The water crises in Brazil's northeast, southeast and midwest regions warn us of the need to promote more appropriate corporate strategies for water management. Companies are increasingly engaged in adopting water management practices and tools in their production processes and in seeking structural solutions jointly with other stakeholders.

Greater efficiency in the management of both water resources and solid waste implies efficient regulation designed to steer companies in the right direction without creating unnecessary costs.

Brazil is the country with the greatest biodiversity in the world and this fact should be seen as an economic asset affording many business opportunities. However, for this comparative advantage to be realized, investment, knowledge and a strategy are necessary. Industry has a key role to play in exploiting these opportunities and it is up to government to enact appropriate regulations for this purpose.

FIGURE 34 – PERCENTAGE OF RECYCLED MATERIAL IN SELECTED INDUSTRIAL ACTIVITIES IN BRAZIL



Source: IBGE (2017).
Note: Percentages for 2012 are not available for Glass and Steel Cans. For these products, their value in 2011 was used.

GOALS

1. Managing solid waste as a valuable resource in line with the concepts of circular economy

   Objective ▸ Increasing the percentage of recycled plastic in relation to total plastics production from 9.8% to 12.5%

2. Improving the management of water resources, ensuring stability in their supply and prices

   Objective ▸ Reducing the unused balance of revenues from water bills from R$241.5 million to R$145 million

3. Expanding the economic and sustainable use of biodiversity and forest resources

   Objective ▸ Increasing the share of biodiversity-based goods in the total production of Brazilian industry from 0.48% to 0.60%

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Regulating the economic instruments contemplated in the National Solid Waste Policy
- Regulating energy recovery from urban solid waste
- Regulating mechanisms for charging for water use, including a mechanism to implement the refund of water charge
- Regulating and structuring a water reuse market
- Increasing water management efficiency to ensure greater water security for user sectors
- Stimulating greater economic and sustainable use of biodiversity and forest resources
- Improving infralegal standards to increase economic use of genetic resources
- Identifying opportunities for and risks of international agreements on biodiversity use and conservation

PRIORITY TOPIC 2

LOW-CARBON ECONOMY

Improving the efficiency of greenhouse gas emissions is an important step toward the inclusion of Brazilian industry in the low-carbon economy

Concerns about the effects of climate change have gained space on the agenda of multilateral organizations, government, companies and society at large.

In 2016, when it ratified its Nationally Determined Contribution (NDC), Brazil took on a voluntary commitment to reduce its GHG emissions by 37% by 2025 in relation to the base year 2005 (MMA, 2017).

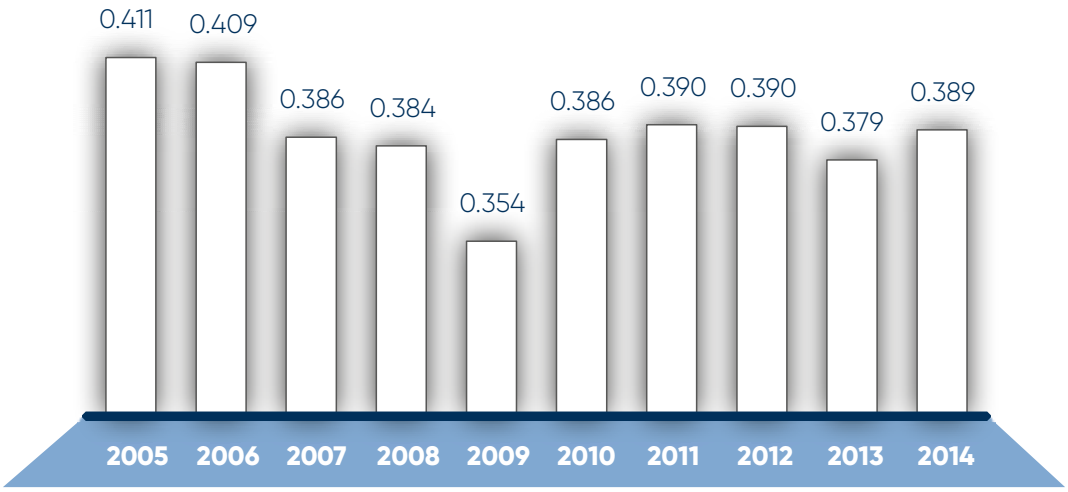
Although deforestation still accounts for most national emissions, the proactive participation of industry in this agenda will provide benefits in terms of its competitive inclusion in the low-carbon economy and of access to world markets.

Identifying risks and opportunities related to the low-carbon economy should be an element of the corporate strategy. The need to control greenhouse gas emissions is a key item on this agenda. Carbon management has become a determining factor for the competitiveness of companies.

In this strategy, the role to be played by innovation in both technology and business models is critical.

FIGURE 35 – ESTIMATE OF INDUSTRIAL EMISSIONS IN RELATION TO INDUSTRIAL GDP

(CO_2 equivalent emissions/R$ million in 1995)



Source: CNI, based on data from the Ministry of Science, Technology, Innovation and Communication (MCTIC) and IBGE.

GOAL

1 Reducing the intensity of CO_2 equivalent emissions from Brazilian industrial production processes

Objective ▸ Reducing the ratio between CO_2 equivalent emissions by industry and industrial GDP from 0.39 to 0.38.

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Identifying opportunities and risks of implementing the Nationally Determined Contribution (NDC)
- » Assessing the impacts of carbon pricing on industry competitiveness
- » Promoting innovation to increase efficiency in greenhouse gas emissions
- » Promoting actions aligned with the principles of circular economy and efficiency in the use of resources
- » Promoting and stimulating energy efficiency in industry

PRIORITY TOPIC 3

ENVIRONMENTAL LICENSING

The lack of clear and uniform standards in environmental licensing procedures is detrimental to the environment and to Brazil's socioeconomic development

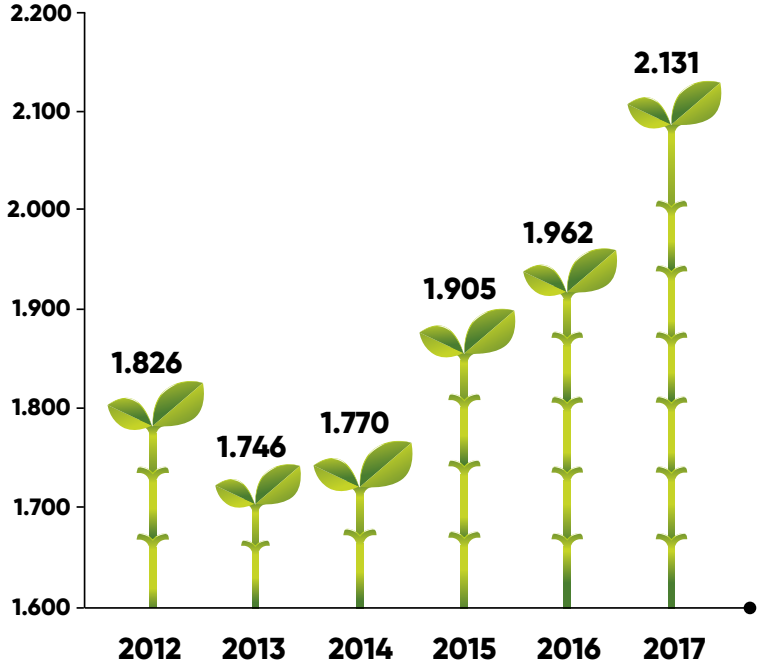
The standards that govern environmental licensing in Brazil are not objective and clear as they should, leading to a high degree of discretion on the part of licensing agencies and generating legal uncertainty.

Licensing processes are long and bureaucratic and imply high costs for businesses. This ends up spoiling the business environment and driving investments away.

A federal standard setting general guidelines for environmental licensing throughout the national territory is necessary with the aim of reducing red tape and making the process more objective, so as to reduce the distortions that prevail in the various procedures adopted in the country.

In addition, licensing applications are analyzed without taking into account the potential impacts and benefits of investments. The analyses should consider Brazil's future needs in terms of infrastructure and of the environmental and socioeconomic issues involved.

FIGURE 36 – AVERAGE TIME IN DAYS FOR OBTAINING ENVIRONMENTAL LICENSES FROM BRAZILIAN INSTITUTE FOR THE ENVIRONMENT AND RENEWABLE NATURAL RESOURCES (IBAMA)



Source: CNI, based on Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) data.
Note: moving average over five years.

GOAL

1 Improving the environmental licensing system

Objective ▸ Reducing the average time for obtaining environmental licenses from the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) from 2,131 to 1,750 days

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Approving a national standard for environmental licensing
- » Regulating a legal framework for environmental licensing
- » Encouraging the use of planning instruments to guide and expedite environmental licensing procedures

PRIORITY TOPIC 4

BASIC SANITATION

The need to overcome deficiencies in basic sanitation services in Brazil affords opportunities for industry

Brazil is yet to solve sanitation problems that affect the quality of life of its population and compromise water quality in its rivers, lakes and dams.

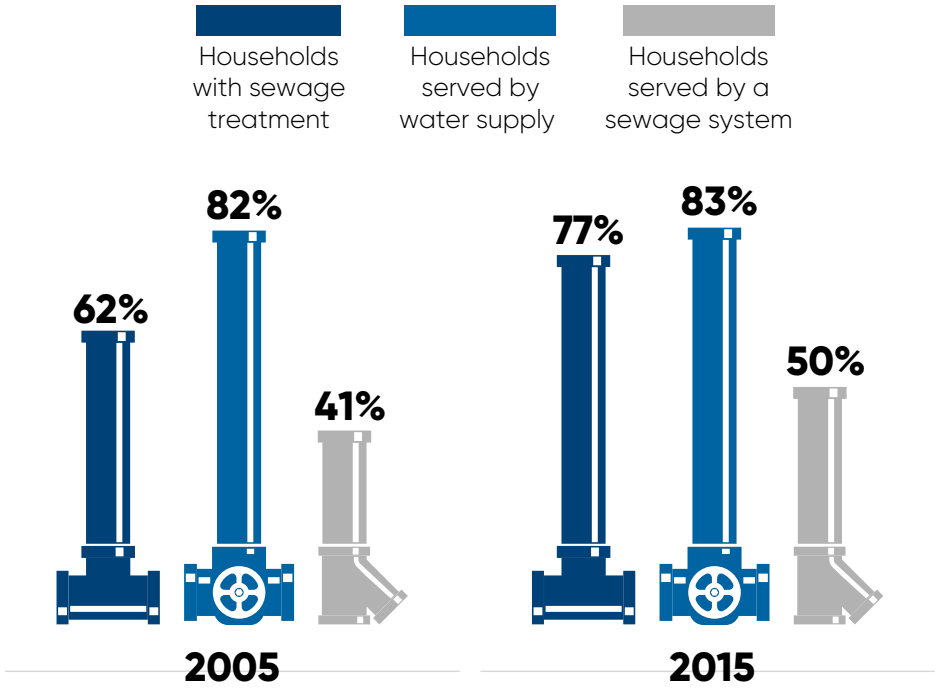
The terrible quality of the water resulting from discharges of untreated sewage into water bodies increases the costs of industrial production. Low-quality water and a poor sanitation infrastructure reduce labor productivity by adversely affecting workers' health and quality of life.

Improvements in the sanitation conditions of the Brazilian population will increase productivity, generate business in associated value chains and, consequently, increase the country's competitiveness.

Open dumps are still a reality in Brazil. The objective of putting an end to open-pit dumps set forth in the National Solid Waste Policy is far from being achieved. Building sanitary landfills has proven to be economically unfeasible in small municipalities and other solutions must be devised and implemented.

Despite a small expansion in recent years, the supply of drinking water has not been universalized and the sewage network is still very small. The participation of the private sector in these services is strategic to ensure universal access to them and to solve the problem of garbage disposal, especially at this moment, when the public sector does not have sufficient resources for investment.

FIGURE 37 – COVERAGE AND TREATMENT INDICES – BRAZIL



Source: National Sanitation Information System (SNIS), 2017.

GOALS

1. Improving efficiency in the provision of urban solid waste management services

   Objective ▸ Increasing the coverage rate of environmentally adequate collection and disposal of urban solid waste from 58.7% to 70.0%

2. Improving the efficiency of services and ensuring universal access to water supply and sewage systems

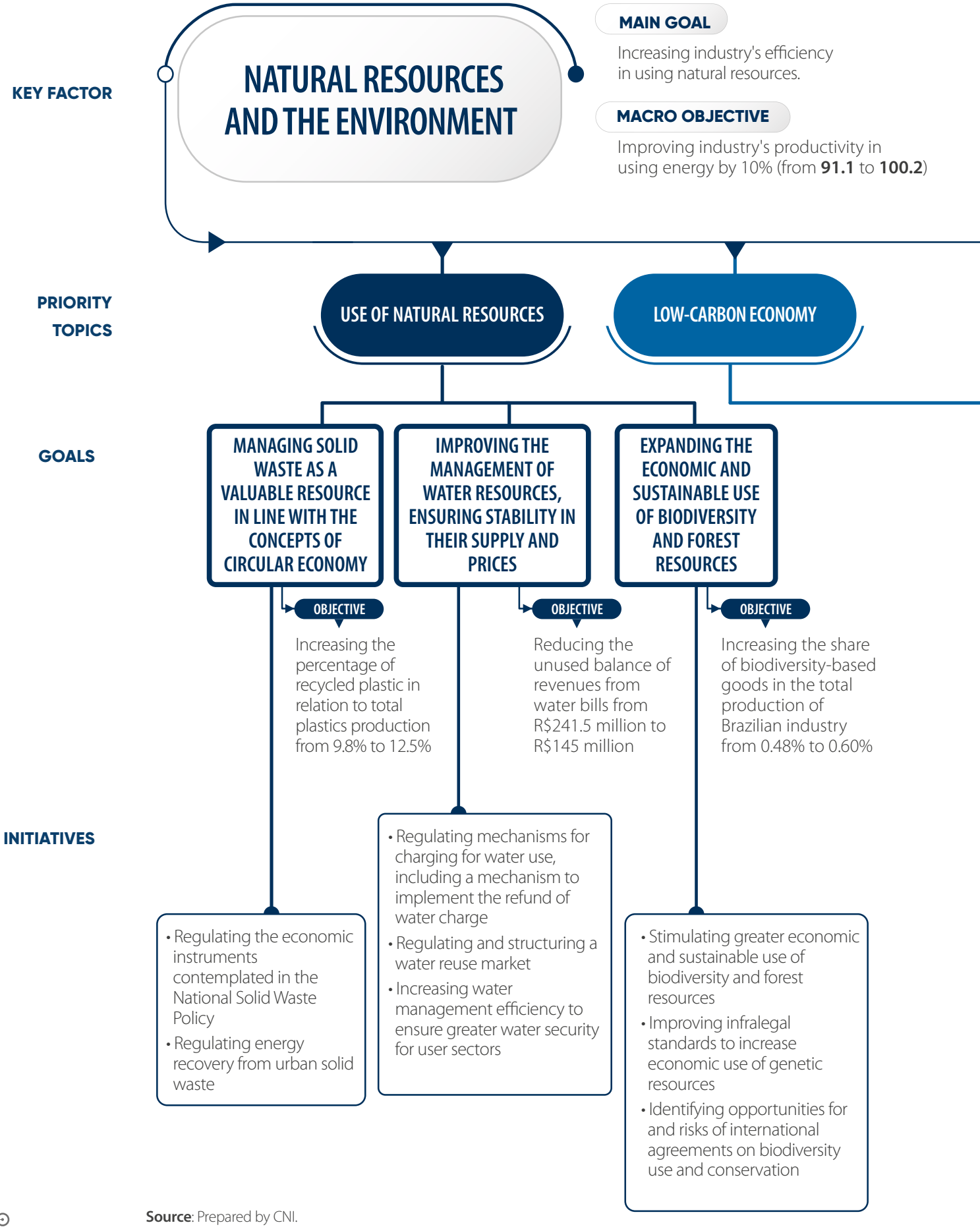
   Objective ▸ Increasing the provision of sewage collection services from 50.3% to 60.0% of the population

See the description and evolution of the indicators in Appendix A.

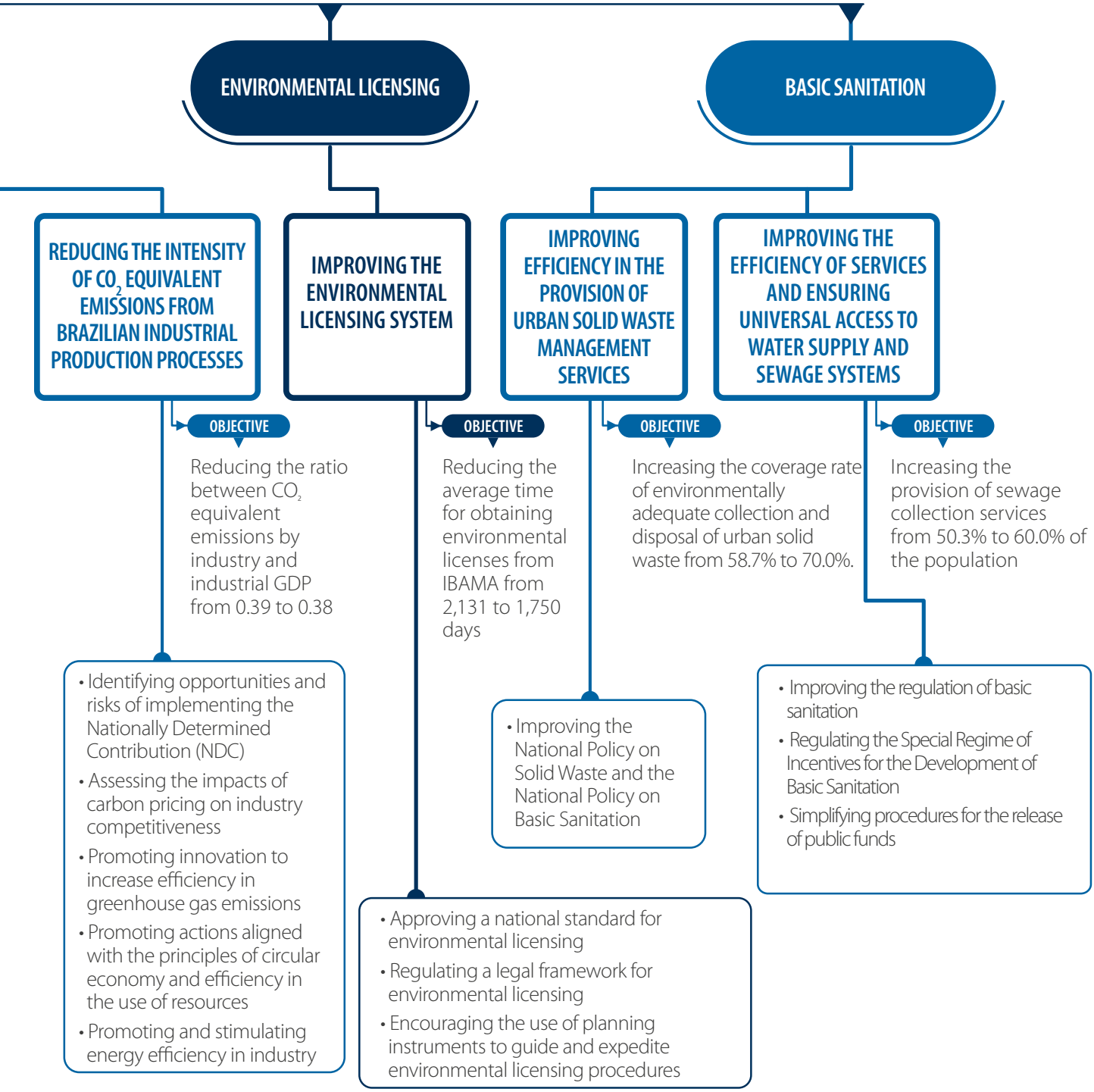
INITIATIVES

- Improving the National Policy on Solid Waste and the National Policy on Basic Sanitation
- Improving the regulation of basic sanitation
- Regulating the Special Regime of Incentives for the Development of Basic Sanitation
- Simplifying procedures for the release of public funds

BOX 11 – SUMMARY OF THE NATURAL RESOURCES AND THE ENVIRONMENT KEY FACTOR



Source: Prepared by CNI.


ENVIRONMENTAL LICENSING
BASIC SANITATION
REDUCING THE INTENSITY OF CO_2 EQUIVALENT EMISSIONS FROM BRAZILIAN INDUSTRIAL PRODUCTION PROCESSES
IMPROVING THE ENVIRONMENTAL LICENSING SYSTEM
IMPROVING EFFICIENCY IN THE PROVISION OF URBAN SOLID WASTE MANAGEMENT SERVICES
IMPROVING THE EFFICIENCY OF SERVICES AND ENSURING UNIVERSAL ACCESS TO WATER SUPPLY AND SEWAGE SYSTEMS
OBJECTIVE
Reducing the ratio between CO_2 equivalent emissions by industry and industrial GDP from 0.39 to 0.38
OBJECTIVE
Reducing the average time for obtaining environmental licenses from IBAMA from 2,131 to 1,750 days
OBJECTIVE
Increasing the coverage rate of environmentally adequate collection and disposal of urban solid waste from 58.7% to 70.0%.
OBJECTIVE
Increasing the provision of sewage collection services from 50.3% to 60.0% of the population
• Identifying opportunities and risks of implementing the Nationally Determined Contribution (NDC)
• Assessing the impacts of carbon pricing on industry competitiveness
• Promoting innovation to increase efficiency in greenhouse gas emissions
• Promoting actions aligned with the principles of circular economy and efficiency in the use of resources
• Promoting and stimulating energy efficiency in industry
• Approving a national standard for environmental licensing
• Regulating a legal framework for environmental licensing
• Encouraging the use of planning instruments to guide and expedite environmental licensing procedures
• Improving the National Policy on Solid Waste and the National Policy on Basic Sanitation
• Improving the regulation of basic sanitation
• Regulating the Special Regime of Incentives for the Development of Basic Sanitation
• Simplifying procedures for the release of public funds

TAXATION

VISION FOR 2022

Most of the distortions of the Brazilian tax structure are no longer present. Taxes on value added have been consolidated and harmonized, promoting a more homogeneous standard. Taxes are not cumulative and entrepreneurs actually receive all tax credits from taxes levied in prior stages of the production chain. Recovery of fiscal balance combined with greater productivity of public spending paves the way for resuming the agenda on reducing the tax burden.

Why **Taxation**?

Paying taxes is a major element of the social contract. However, the level of taxes, their assessment basis, the method used for calculating them and the obligations attached to them must be negotiated with society. The costs involved in paying taxes must be minimized for companies, as well as distortions in the allocation of productive resources caused by changes in the relative prices of goods and inputs.

The Brazilian tax system is burdensome, complex and involves excessive red tape, generating high costs for paying taxes and legal uncertainty. This reduces the competitiveness of companies and discourages investments in the country, negatively affecting the international integration of the Brazilian economy.

The cumulative nature of some taxes prevents the full recovery of credits along productive chains and is equivalent to a cost increase for companies. The sectors most affected by this accumulation of taxes are closer to the final links of value chains, which constitutes a disincentive to producing higher value-added goods. Cumulativeness also prevents full tax exemption for exports, thus increasing the prices of Brazilian products on the international market.

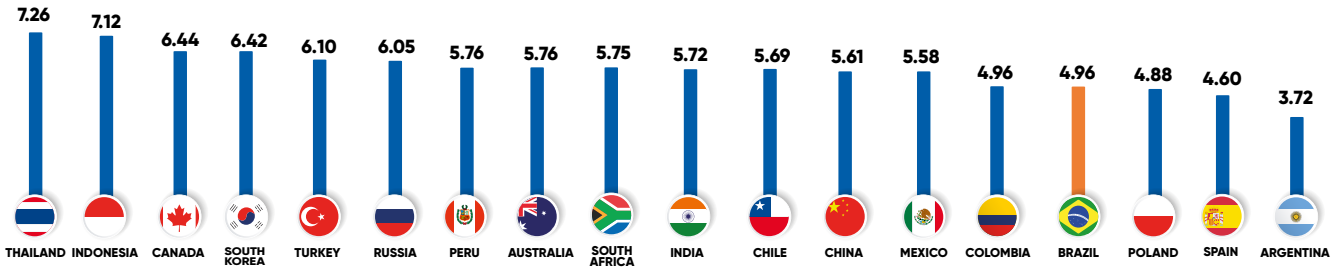
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of complementary Law No. 160/2017, which provides for the validation of fiscal incentives granted by states and the Federal District
- Agreement ICMS 92/2015 of the National Council on Fiscal Policy (CONFAZ), which excluded products/sectors from the substitution of the ICMS tax (VAT) as a result of amendments to Complementary Law No. 123/2006
- The passage of Law No. 13,137/2015 (art. 24), which simplifies the rules for withholding social contributions
- Adjustment 25/2016 in the National Economic and Fiscal Information System (SINIEF 25/2016) for simplifying Block K (Records of Production and Inventory Control) of the Public Digital Bookkeeping System (SPED)
- Elimination of ancillary obligations in the states of Alagoas, Amapá and Rio Grande do Norte

How are we doing?

Brazil was ranked **15th among 18 countries** in the Tax burden factor of the report **Competitividade Brasil 2017-2018: comparação com países selecionados**:

FIGURE 38 – TAX BURDEN RANKING



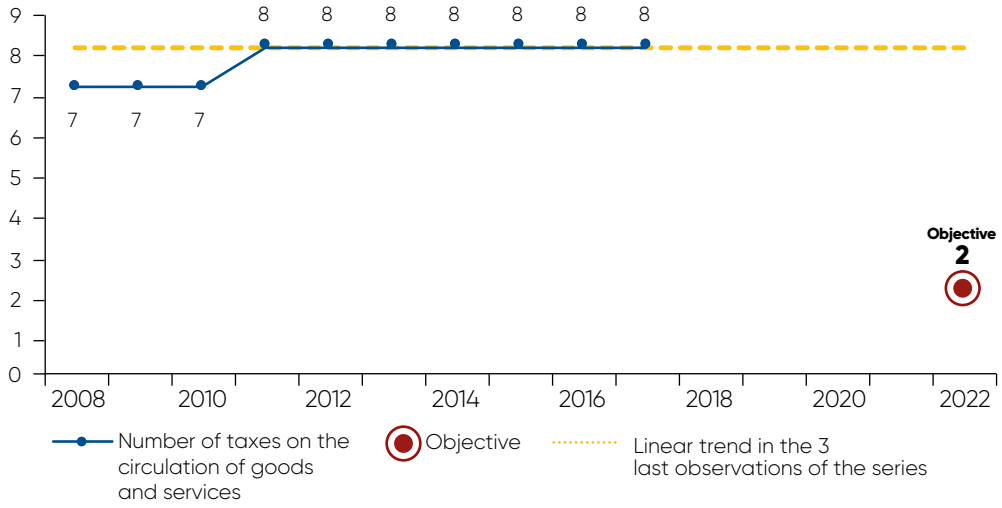
Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance)

Where do we want to get to?

Main goal: Simplifying the Brazilian Tax System by reducing the number of taxes

Macro objective: Reducing the number of taxes on the circulation of goods and services (VAT) to two at most

FIGURE 39 – NUMBER OF TAXES ON THE CIRCULATION OF GOODS AND SERVICES (VAT)



Source: CNI.

PRIORITY TOPIC 1

QUALITY OF THE TAX SYSTEM

The Brazilian tax system needs to be revamped to eliminate distortions that discourage investment and reduce competitiveness

Tax cumulativeness and taxation of exports are among the main problems of the indirect taxation system in Brazil. These problems are caused by shortcomings in the credit and debit regime in connection with intermediate product transactions. These shortcomings increase the prices of products in the final links of value chains, stimulate verticalization and limit competitiveness gains associated with specialization in production stages.

Exports are discouraged both by credits lower than the amounts actually levied in the production chain and by delays in returning them. According to CNI (2014), 60% of Brazil's largest exporting companies reported that the accumulation of tax credits affects exporting decisions.

Investment taxation is another feature of the tax system that puts Brazil at a disadvantage. The Brazilian tax model needs to be more in line with that adopted by its partners and competitors, under which investment is exempt from taxation and tax credits related to the purchase of capital goods are returned to companies expeditiously.

State taxation is also a source of inefficiencies. The ICMS (VAT) tax has a series of characteristics that generate distortions and compromise the competitiveness of companies operating in the different units of the federation: taxation on capital goods, physical credit system, commodity-limited taxation base, mixed taxation between origin and destination, difficulties to recover tax credits on exports, and excessive use of the tax substitution mechanism.

These characteristics, compounded by the excessive use of tax incentives, hinder sales between states and prevent companies from taking advantage of one of the main competitive advantages offered by Brazil, namely, the size of its domestic market.

FIGURE 40 – LEVEL OF CRITICALITY OF EXPORT TAX OBSTACLES

Source: CNI (2016b).

GOALS

1. Eliminating cumulative taxes and ensuring tax exemptions for exports of goods and services

   Objective ▸ Reducing the percentage of revenues from cumulative taxes from 6.8% to 0.0%

2. Exempting investment from taxation

   Objective ▸ Reducing the percentage of tax costs in the total value of an investment project from 17.1% to 8.0%

3. Eliminating distortions in state taxation on consumption of goods and services

   Objective ▸ Reducing the number of direct unconstitutionality lawsuits related to the ICMS tax pending judgment from 130 to 40

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Implementation of comprehensive crediting mechanisms for indirect taxes
- Incorporating the ISS tax (on services) into the ICMS tax (VAT)
- Automatic compensation of credit balances of indirect taxes
- Compensation for non-recoverable taxes on exports
- Improved use of tax credits on investment projects
- Lower incidence of non-compensable taxes on investments
- Improving income taxation to encourage investment
- Improvement and national unification of the ICMS tax law, transferring the tax to the state of destination
- Regularization of ICMS tax incentives
- Limiting the use of the tax substitution mechanism for the ICMS tax

PRIORITY TOPIC 2

TAXATION ON FOREIGN TRADE AND INTERNATIONAL INVESTMENT FLOWS

Improving taxation on foreign trade and investment flows is necessary to broaden Brazil's integration into the world economy

The inadequacy of the Brazilian laws on taxation on foreign trade in goods and services and on the international flow of investments makes it difficult for Brazil to integrate into the world economy.

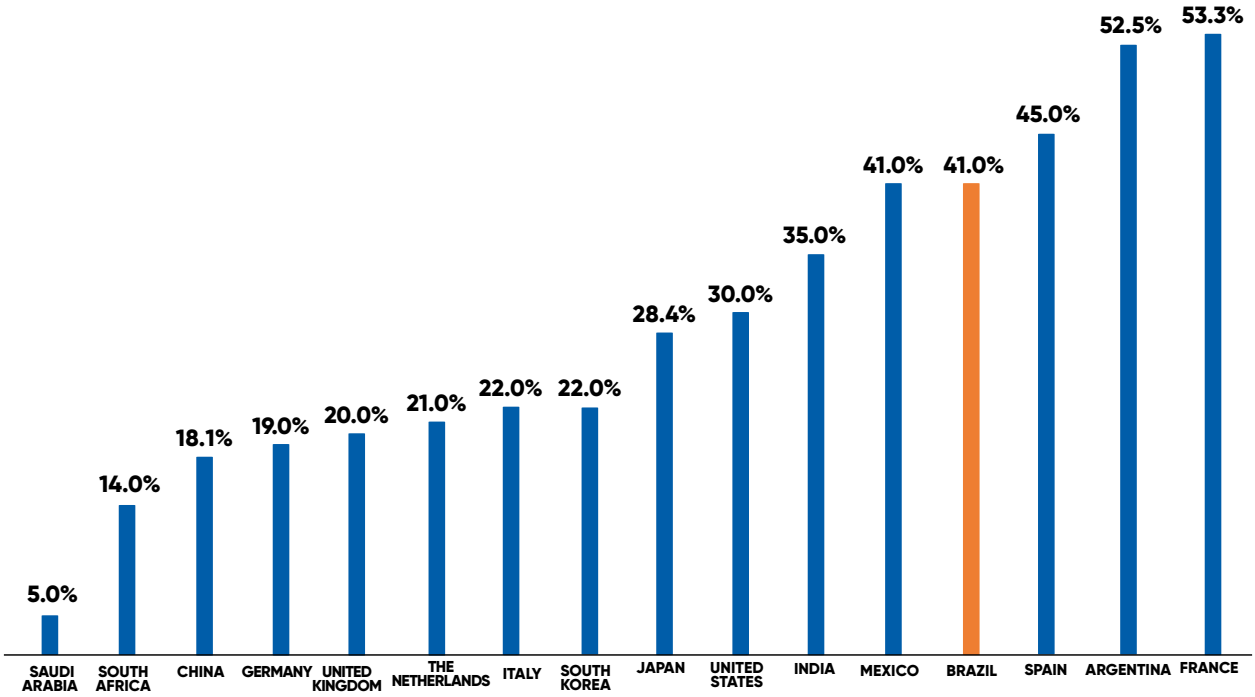
Brazilian laws on taxation of profits made abroad are rigid and onerous and Brazil is one of the few countries that tax profits made abroad. Combined with a small number of agreements to avoid double taxation, the current legislation discourages investment flows and inhibits the establishment of operating bases for multinational companies in Brazil and for Brazilian companies abroad.

A Brazilian company that decides to operate abroad is forced to compete under less favorable conditions than those available to its competitors. Therefore, taxation on profits, transfer pricing standards and agreements to avoid double taxation should be aligned with the best international benchmarks and practices.

The growing specialization of the global industry in stages of the production process has increased the importance of services, which are essential to keep the chain together and to ensure the integration of its different stages efficiently, regardless of their physical location. Industry has been changing its business model, incorporating more and more services designed to add value to its products.

The Brazilian tax system for services is marked by various distortions and it ignores the importance of services for the competitiveness of industry and its integration into global value chains. Brazil needs to review its taxation system for imports and exports of services.

FIGURE 41 – TAX BURDEN ON IMPORTED SERVICES



Source: CNI (2016c).

GOAL

1 Improving tax standards with the aim of expanding international trade and investment flows

Objective ▸ Entering into more double taxation agreements (DTAs), increasing the share in global GDP of countries with which Brazil has DTAs, from 46.5% to 50.0%

See the description and evolution of the indicator in Appendix A.

INITIATIVES

» Improvements in income taxation and in its compatibility with OECD standards (BEPS)

» Improvements in taxation of imported goods and services

» Improvements in special customs procedures

PRIORITY TOPIC 3

SIMPLIFICATION AND TRANSPARENCY

Simplifying the Brazilian tax system is a key measure for improving competitiveness

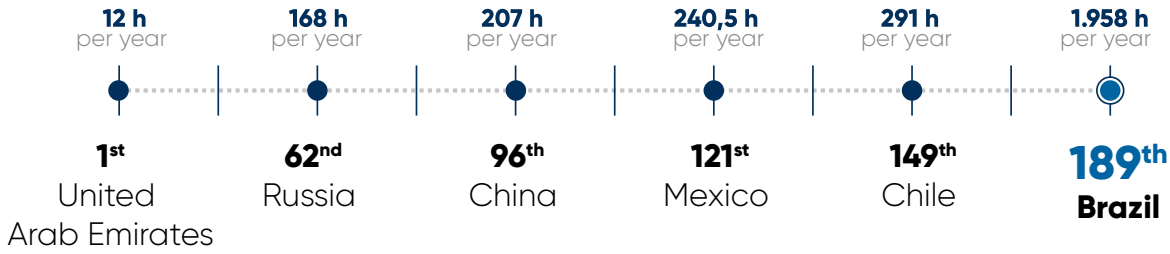
The Brazilian tax structure is very complex. It includes many rules and more than one tax is levied on the same basis - on added value, for example, the ICMS (VAT), IPI (Tax on Industrial Products), PIS/PASEP (Social Integration Program/Public Servants' Fund Financing Program) and COFINS (Social Security Financing Contribution) taxes and contributions are levied. In the case of corporate income taxation, two distinct taxes are levied: the Income Tax (IR) and the Social Contribution on Net Income (CSLL).

The costs for companies to remain compliant with this complex tax system are high. Companies are forced to spend on tax planning to minimize financial costs and not to run the risk of becoming non-compliant.

Brazil was ranked last in the item related to time spent paying taxes of the survey Doing Business 2018 (WORLD BANK 2017). Brazilian companies spend, on average, 1,958 hours a year paying taxes. This time is almost twice the time spent in Bolivia, which was ranked one before last.

Simplifying the Brazilian tax system is a key measure for reducing corporate costs and legal uncertainty.

FIGURE 42 – RANKING OF TIME SPENT PAYING TAXES



Source: World Bank (2017).

GOAL

1 Reducing the financial and ancillary costs associated with tax payments (cost of compliance)

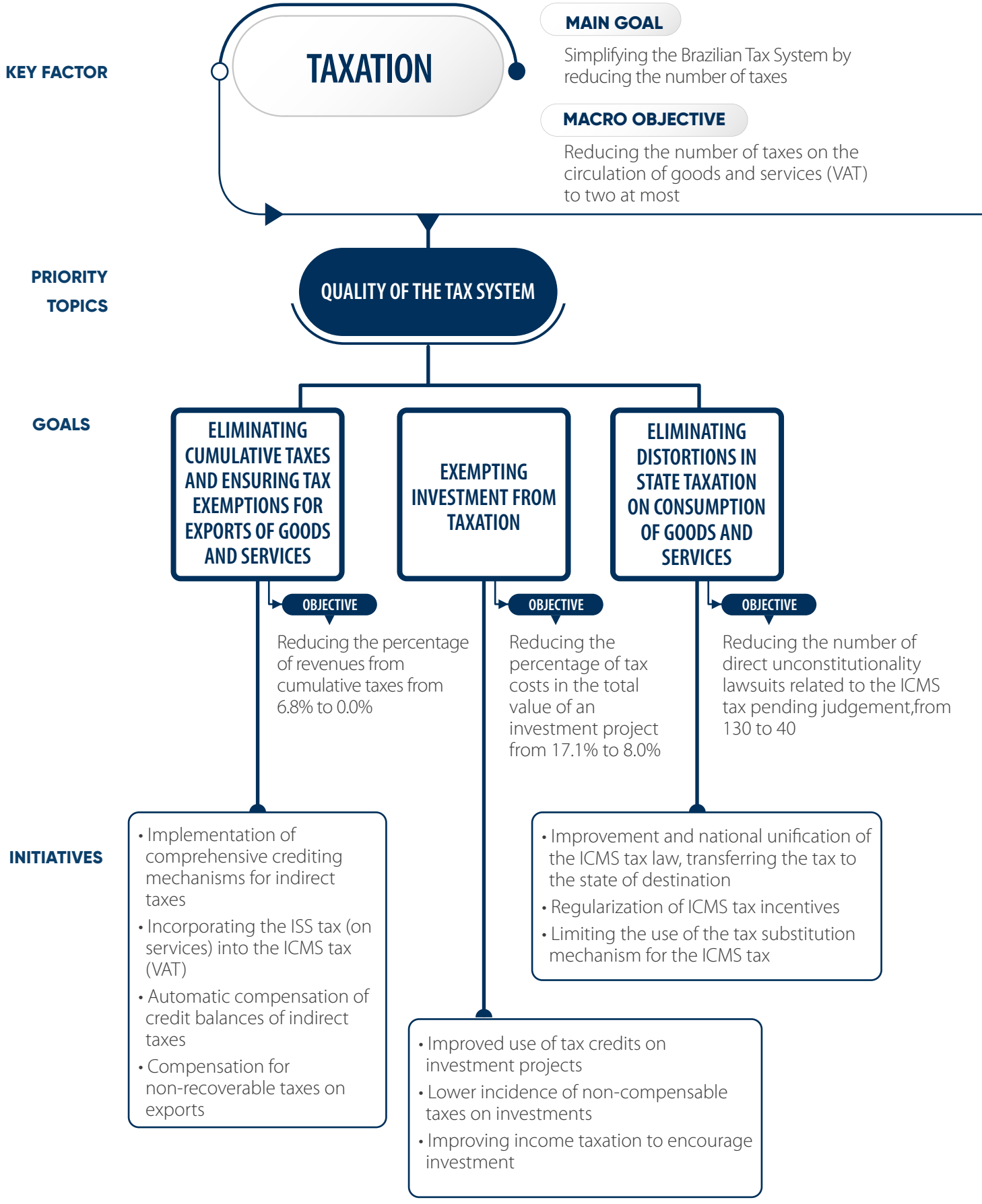
Objective ▸ Reducing the amount of hours spent paying taxes from 1,958 to 1,300 hours

See the description and evolution of the indicator in Appendix A.

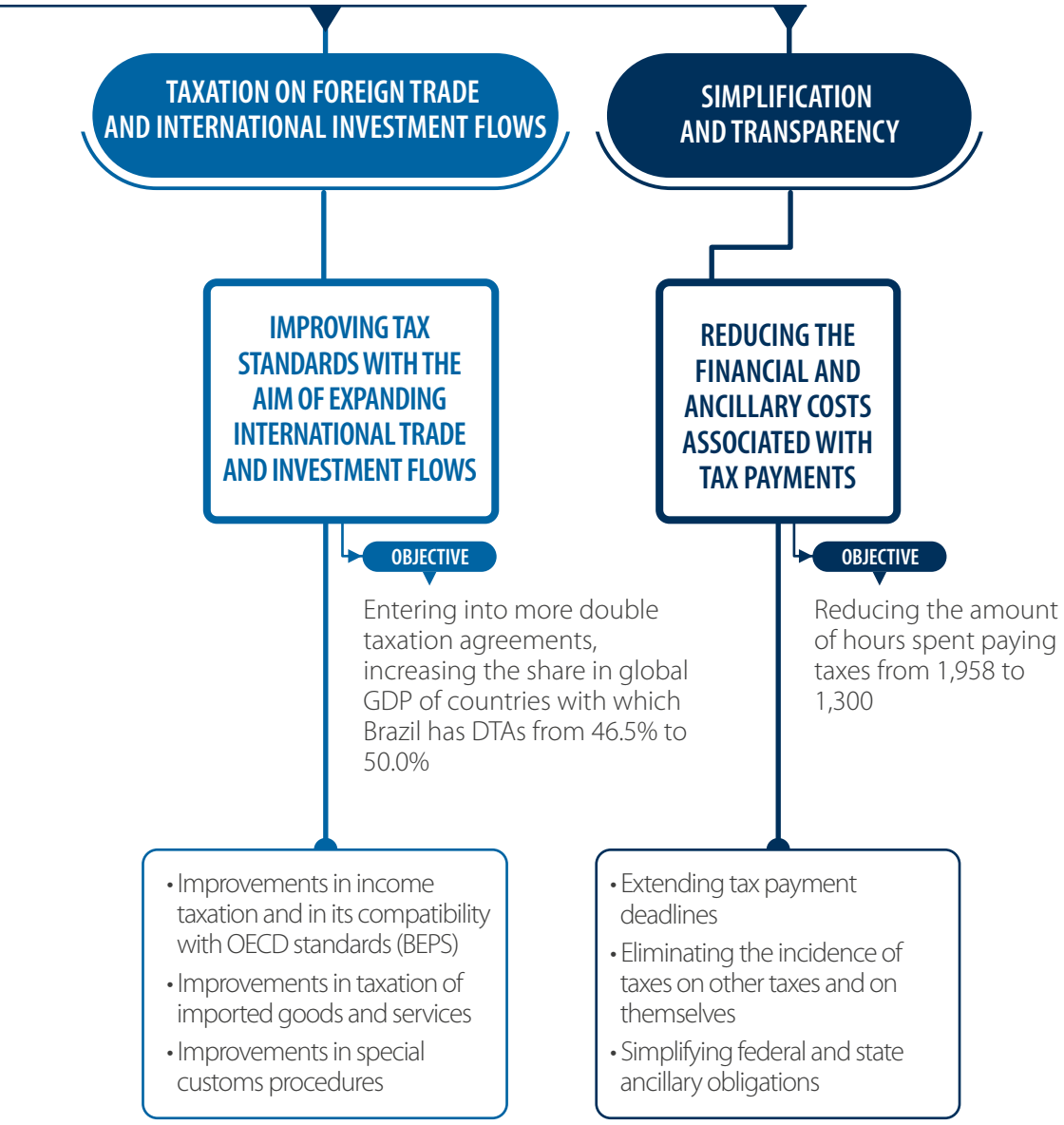
INITIATIVES

- Extending tax payment deadlines
- Eliminating the incidence of taxes on other taxes and on themselves
- Simplifying federal and state ancillary obligations

BOX 12 – SUMMARY OF TAXATION KEY FACTOR



Source: Prepared by CNI.


TAXATION ON FOREIGN TRADE AND INTERNATIONAL INVESTMENT FLOWS
SIMPLIFICATION AND TRANSPARENCY
IMPROVING TAX STANDARDS WITH THE AIM OF EXPANDING INTERNATIONAL TRADE AND INVESTMENT FLOWS
REDUCING THE FINANCIAL AND ANCILLARY COSTS ASSOCIATED WITH TAX PAYMENTS
OBJECTIVE
Entering into more double taxation agreements, increasing the share in global GDP of countries with which Brazil has DTAs from 46.5% to 50.0%
OBJECTIVE
Reducing the amount of hours spent paying taxes from 1,958 to 1,300
• Improvements in income taxation and in its compatibility with OECD standards (BEPS)
• Improvements in taxation of imported goods and services
• Improvements in special customs procedures
• Extending tax payment deadlines
• Eliminating the incidence of taxes on other taxes and on themselves
• Simplifying federal and state ancillary obligations

LABOR RELATIONS

VISION FOR 2022

Labor relations are in line with the needs of society and of the economy and adapted to the demands created by new technologies, by changes in the population profile and by the need for mobility and flexibility. There is greater recognition of arrangements negotiated between employees and employers, with positive impacts on investments in human capital and increased productivity.

Why **Labor Relations**?

The rules governing the relations between workers and employers play a key role in ensuring a functional labor market. They must be clear and easy to understand, so that companies and workers can be certain about their rights and duties in their labor relations. In addition, these rules must be modern, flexible and negotiable between companies and employees.

Rules that meet these criteria reduce disputes and increase the legal certainty of companies and workers in their labor relations. Less conflicting labor relations lead to increased productivity and production efficiency, with gains for the Brazilian economy.

Recently, the regulation of outsourcing and Law 13,467/2017 (labor reform) modernized the labor law with the aim of adapting it to new ways of working and facilitating the development of companies and job creation.

Enforcing this law is the challenge to be faced right now, but continuing to make progress in modernizing labor relations in Brazil is fundamental.

Reducing the tax burden on labor is also essential. This will boost the competitiveness of Brazilian industry, promoting job creation and increasing workers' income.

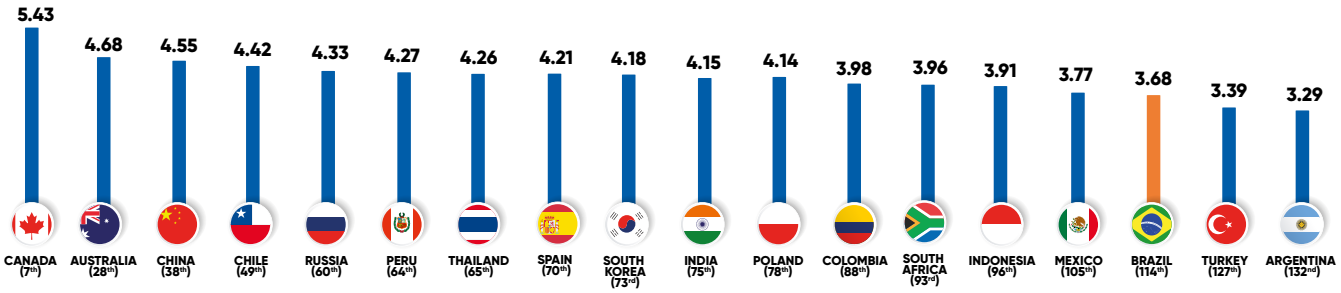
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law No. 13,429/2017, which regulates outsourcing
- The passage of Law No. 13,467/2017, which modernizes labor relations, strengthens collective bargaining, regulates new ways of hiring workers and simplifies dismissal procedures, among others
- The issuance, by the Ministry of Labor, of Normative Instruction No. 129/2017 on special procedures for inspecting compliance with Regulatory Standard (NR) 12, which set a deadline of 12 months for correcting irregularities

How are we doing?

Because of difficulties caused by red tape, Brazil was ranked **114th among 138 countries** in the Labor Relations pillar of the **Global Competitiveness Report 2017-2018**.

FIGURE 43 – RANKING OF THE LABOR RELATIONS PILLAR



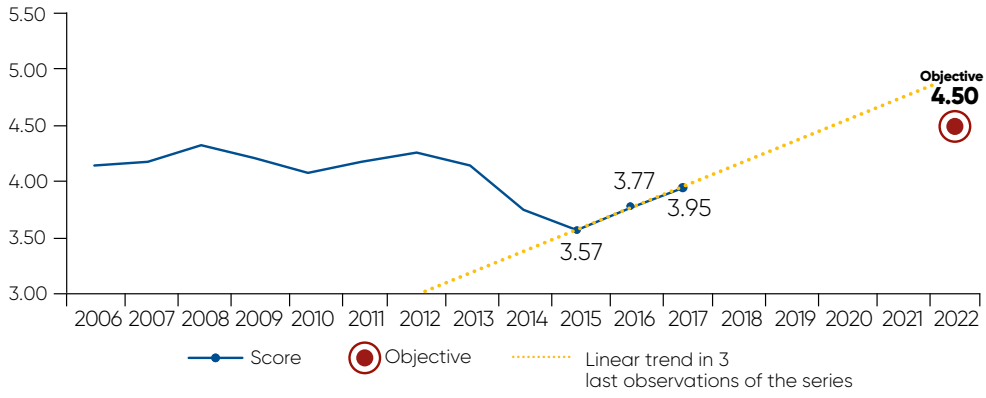
Source: WEF (2017).
Note: Mean scores (0 = worst performance; 7 = best performance)

Where do we want to get to?

Main goal: Modernizing labor relations

Macro objective: Improving Brazil's score on relations between employees and employers from 3.95 to 4.50

FIGURE 44 – BRAZIL'S SCORE IN THE EVALUATION OF EMPLOYEE-EMPLOYER RELATIONS



Source: CNI, based on WEF data (2017).
Description: Average score weighted by the frequency of answers to the question "How would you characterize your country in relation to employee-employer relations?"; (1 = usually conflicting; 7 = usually cooperative).

PRIORITY TOPIC 1

MODERNIZATION OF LABOR RELATIONS

Ensuring the effectiveness and continuity of measures designed to modernize labor relations is essential for creating a more favorable environment for productive investment and job creation

In 2017, the passage of laws 13,429/2017 (outsourcing) and 13,467/2017 (labor reform) modernized key provisions of labor laws, adjusting them to more modern production models and lending more flexibility to labor relations, as companies and workers wanted.

It is now necessary to ensure the effectiveness of the laws that were passed. Action must be taken to inform society about the importance of the new laws and devise the best ways possible to enforce them.

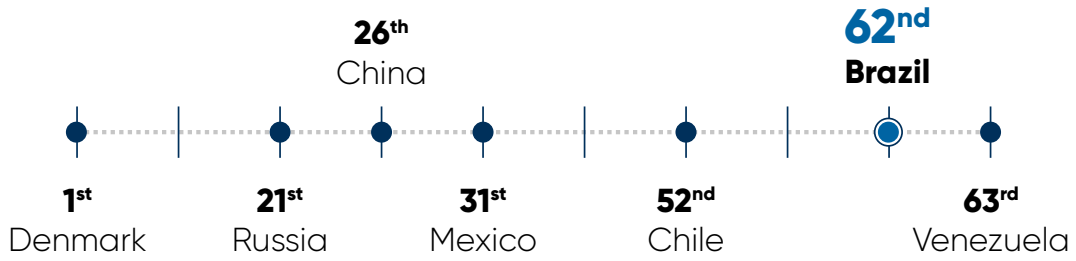
Brazil must also remain on the path toward modern labor relations. The law is still marked by gaps that leave room for different interpretations and generate legal uncertainty and the excessive red tape that still prevails in Brazil needs to be eliminated to reduce costs and improve the efficiency of companies and of the state.

Brazil is one of the countries with the highest number of labor lawsuits. Excessive judicialization is aggravated by a sluggish and expensive system that generates costs and uncertainties.

It is hoped that the amendments made to the labor law will strengthen collective bargaining and, through dialogue, adjust working conditions between companies and workers in ways that are positive for both of them. It is also important to move forward in promoting other alternatives for settling disputes and reducing judicialization.

A competitive and global industry requires up-to-date, non-bureaucratic, flexible and more freely negotiated labor relations between workers and employers.

FIGURE 45 – RANKING OF THE IMPACT OF LABOR MARKET REGULATION ON BUSINESS



Source: IMD (2017).

GOALS

1. Ensuring the effectiveness and continuity of measures to modernize labor regulations

   Objective ▸ Improving Brazil's score on hiring and dismissal practices from 1.92 to 3.70

2. Stimulating negotiations between workers and employers

   Objective ▸ Increasing the percentage of industrial establishments that enter into collective agreements from 5.29% to 6.00%

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Improving labor relations
- Implementing alternative mechanisms to settle disputes
- Training entrepreneurial leaders in collective bargaining
- Promoting negotiations and a positive work environment

PRIORITY TOPIC 2

LABOR COST

Excessive labor charges increase costs for companies and reduce their competitiveness and incentives to make new investments and hire workers

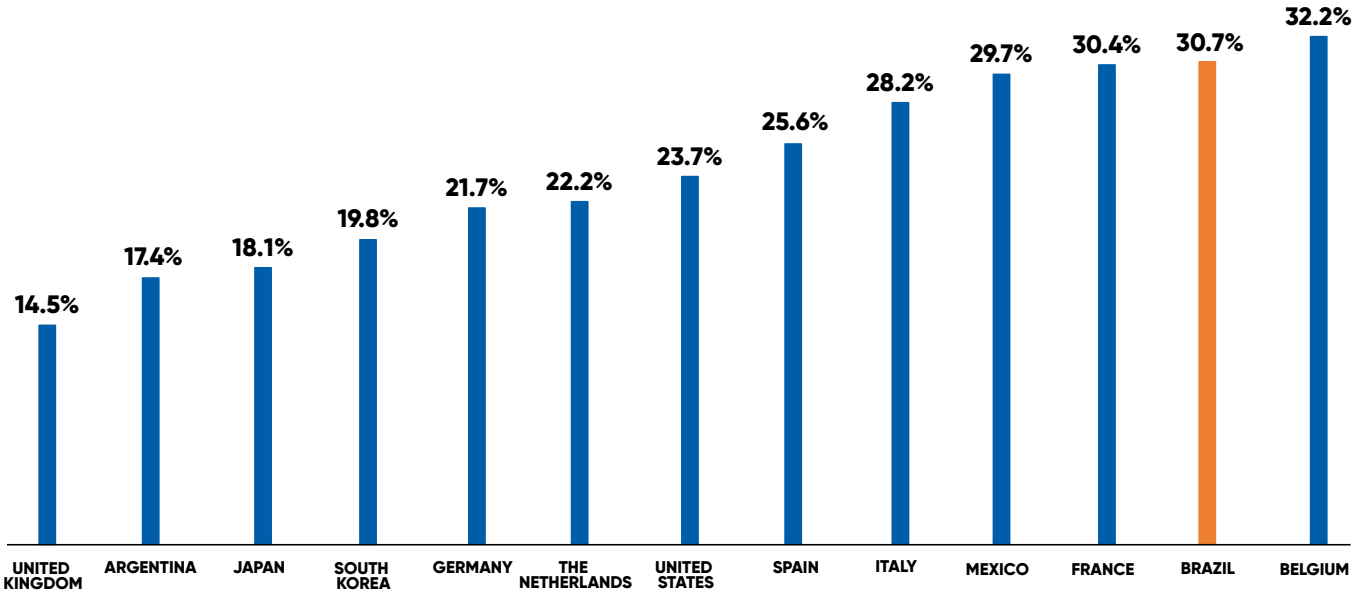
Labor costs are a major determinant of industry competitiveness. The wages paid by Brazilian industry are in the middle range as compared to those paid in selected countries, according to CNI (2018b).

However, the costs for companies are well above the wages actually earned by their workers. This is because labor law provides for a large number of cash and non-cash social and labor charges.

The Brazilian labor system increases labor costs and has negative effects on the competitiveness of companies, reducing job creation in Brazil. In addition, workers do not receive benefits commensurate with the labor charges borne by their employers.

FIGURE 46 – RANKING OF THE PERCENTAGE OF SPENDING ON SOCIAL SECURITY AND OTHER LABOR-RELATED TAXES IN TOTAL COMPENSATION COSTS (2015)

Brazil and selected countries



Source: The Conference Board (2017).

GOAL

1 Reducing indirect labor costs

Objective ▸ Reducing the unit labor cost for Brazilian industry from 103 to 90

See the description and evolution of the indicator in Appendix A.

INITIATIVES

» Reducing the costs for complying with ancillary obligations

» Expanding differentiated treatment for micro and small enterprises

» Implementing remuneration policies that ensure a balance between the evolution of costs and labor productivity

PRIORITY TOPIC 3

SOCIAL PROTECTION MECHANISMS

Regulations on labor social protection in Brazil need to be reviewed with the aim of avoiding adverse effects on worker productivity

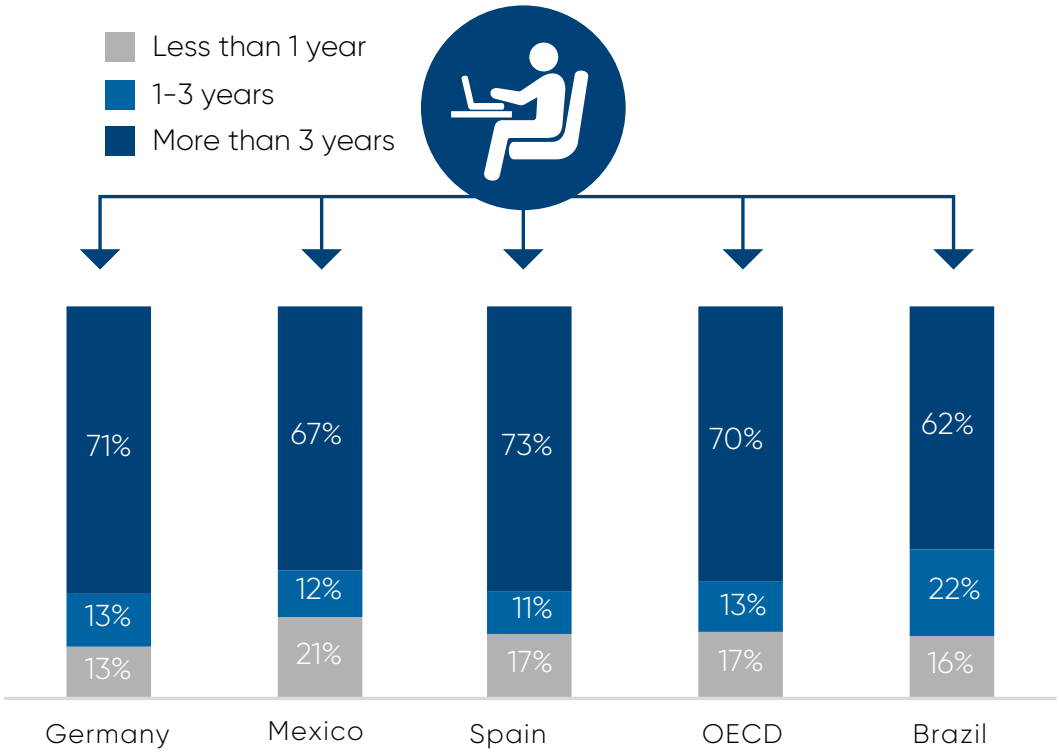
Technological innovation and worker qualification levels are important factors for labor productivity. Workers are not qualified through formal education alone, but also through the professional experience they acquire by learning at work.

In Brazil, certain social protection mechanisms have been generating incentives for worker turnover, that is, for labor relations not to be lasting. The time a worker remains in a job in Brazil is shorter than in Germany, Spain and in OECD countries on average.

The short length of time workers remain in a job prevents a significant percentage of workers from gaining sufficient experience at work and, as a result, their productivity is lower than that of workers who stay longer in a job. In addition, the prospect that workers will not stay in their jobs for long reduces the incentives for workers and companies to invest in training.

Social protection mechanisms are important for ensuring the quality of life of workers and their economic-financial security. However, they should not generate excessive costs or encourage behaviors that are not conducive to increased worker productivity.

FIGURE 47 – LENGTH OF TIME WORKERS STAY IN A JOB (2015)



Source: OECD (2017b).

GOAL

1 Improving social protection mechanisms to reduce negative impacts on productivity

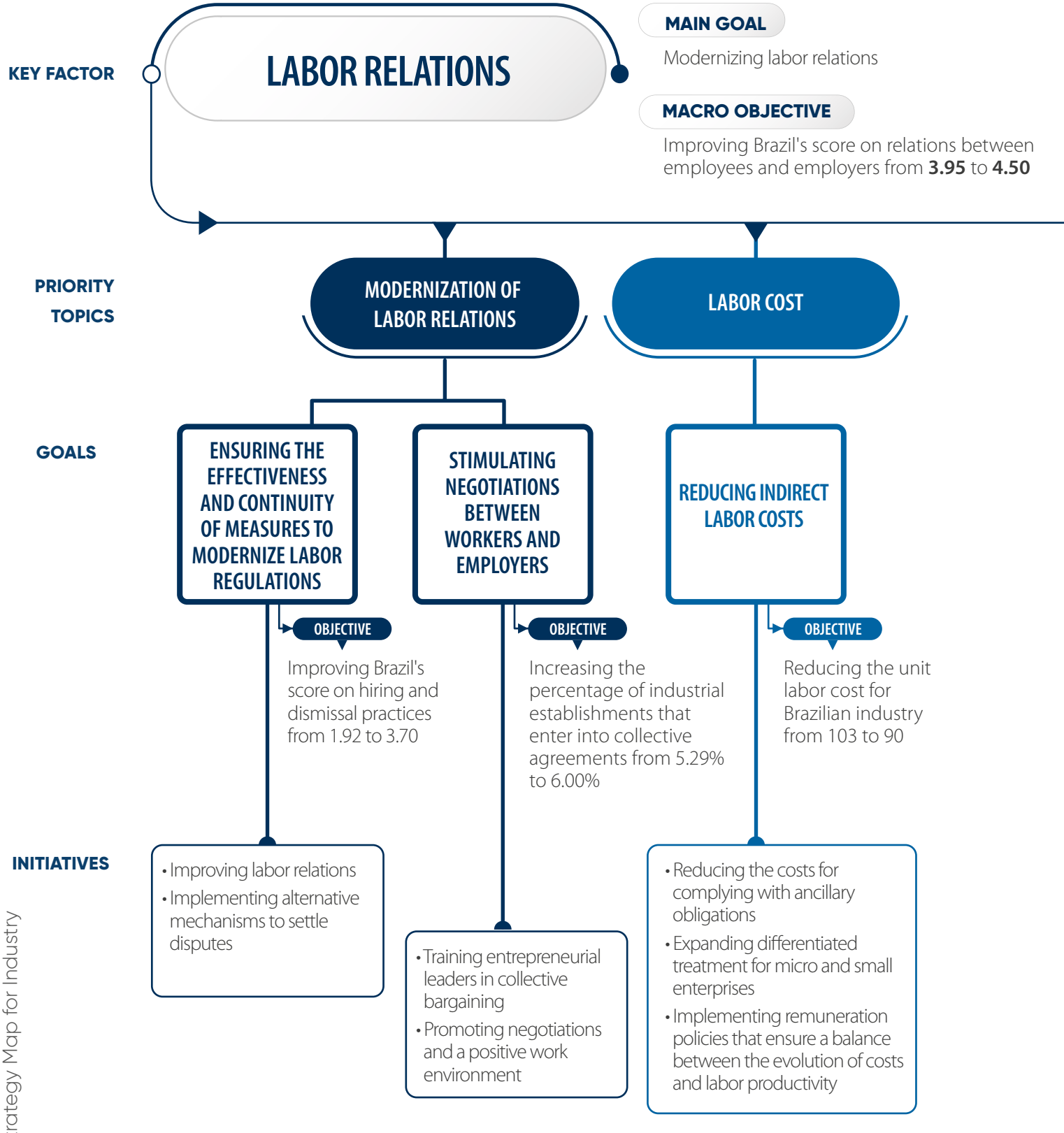
Objective ▸ Improving Brazil's score on incentives provided for in the unemployment law for people to look for a job from 3.40 to 5.10

See the description and evolution of the indicator in Appendix A.

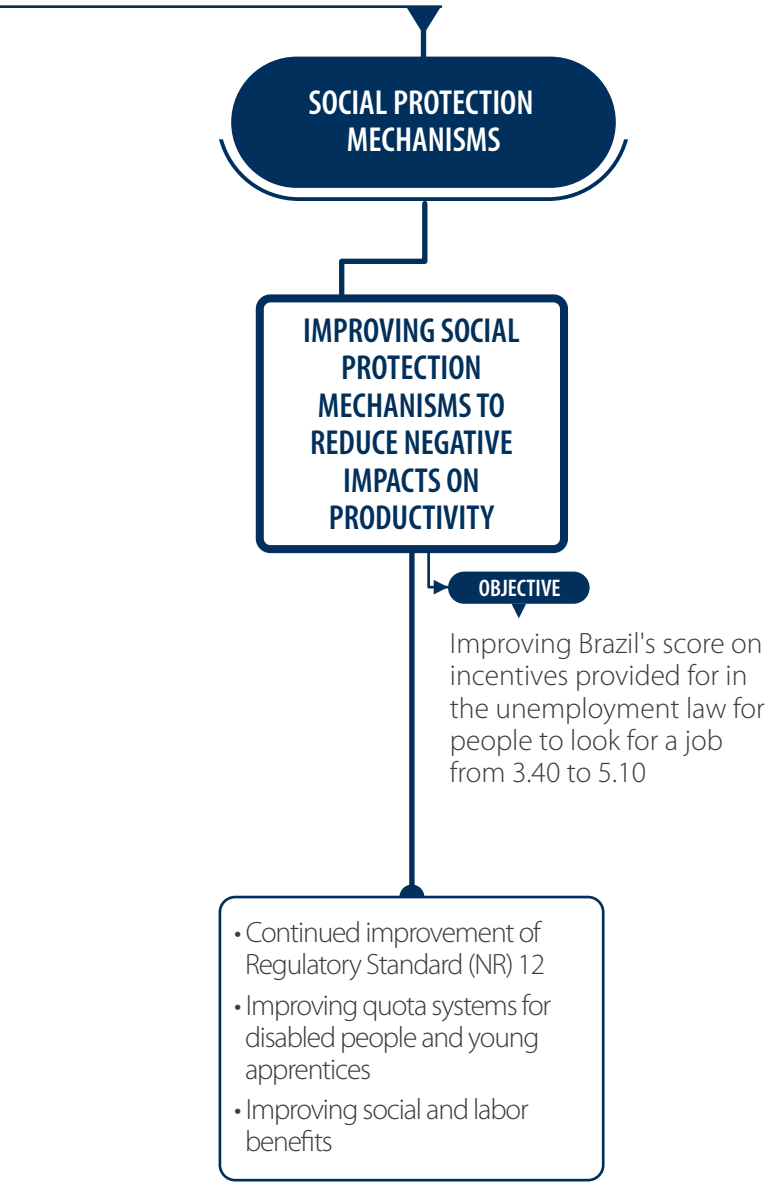
INITIATIVES

- » Continued improvement of Regulatory Standard (NR) 12
- » Improving quota systems for disabled people and young apprentices
- » Improving social and labor benefits

BOX 13 – SUMMARY OF THE LABOR RELATIONS KEY FACTOR



Source: Prepared by CNI.


SOCIAL PROTECTION MECHANISMS
IMPROVING SOCIAL PROTECTION MECHANISMS TO REDUCE NEGATIVE IMPACTS ON PRODUCTIVITY
OBJECTIVE
Improving Brazil's score on incentives provided for in the unemployment law for people to look for a job from 3.40 to 5.10
• Continued improvement of Regulatory Standard (NR) 12
• Improving quota systems for disabled people and young apprentices
• Improving social and labor benefits

INFRASTRUCTURE

VISION FOR 2022

Public and private investments in infrastructure are expanded. The Brazilian logistics system becomes more efficient and integrated, with a better distribution among modes. The share of the railway system in the cargo transportation market was increased, the quality of railroads was improved and the capacity and efficiency of ports were expanded. Energy is being supplied at competitive prices in relation to other countries. The digitization of the economy was sped up by increasing the coverage and quality of the telecommunications infrastructure, raising the productivity of industry and contributing to improvements in public services in the areas of education, health care and urban mobility.

Why **Infrastructure**?

Current production models are specialized in value chain stages located in different regions. For the Brazilian economy to enter these value chains, investing in energy supply, transportation logistics and telecommunications is necessary.

Efficient transportation logistics makes it possible for inputs to be delivered and final products to be distributed safely and within appropriate deadlines.

Ensuring the access of industry to energy with stable rules, competitive pricing and assured supply is vital for planning investments and competing internationally. Particularly in the natural gas sector, boosting competition and bringing domestic prices closer to international ones are key measures.

The availability of an appropriate framework for high-speed (broadband) data transmission free of oscillations and interruptions and at competitive costs is essential for industrial organization and production processes.

Improving the telecommunications infrastructure is crucial for enabling the development of digital solutions designed to address major challenges facing Brazil in areas such as health care, education, energy efficiency and urban mobility.

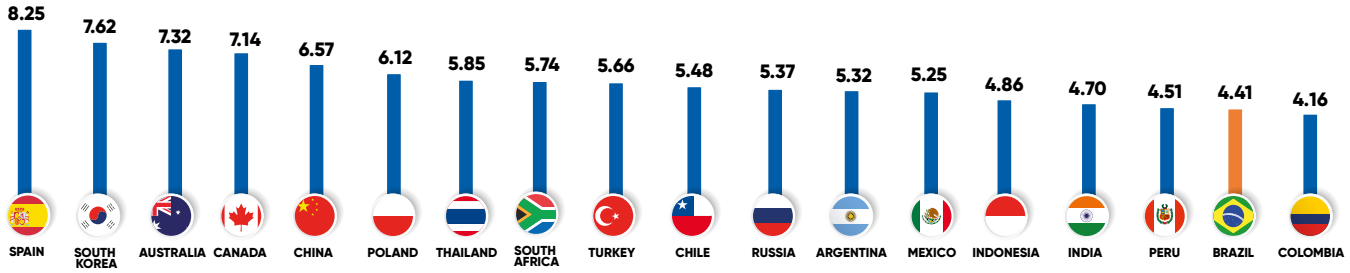
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- The passage of Law No. 13,365/2016, which grants Petrobras the preemptive right to operate as an operator and hold a minimum of 30% (thirty percent) in the consortiums set up for exploring blocks tendered under the production sharing regime.
- The passage of Law No. 13,448/2017, which extends concession periods for railways, ports and airports
- The passage of Law No. 12,815/2013, which provides for the New Ports Law
- Regulation of new port polygons (bordering perimeters) in 12 organized ports
- The issuance of Resolution No. 10/2017 by the National Council on Energy Policy (CNPE), which sets out guidelines for the natural gas market
- The passage of Law 13,299/2016, which provides for proportional charging of the Energy Development Account

How are we doing?

Brazil was ranked **17th among 18 countries** in the Infrastructure and Logistics factor, according to the report **Competitividade Brasil 2017-2018: comparação com países selecionados.**

FIGURE 48 – INFRASTRUCTURE RANKING

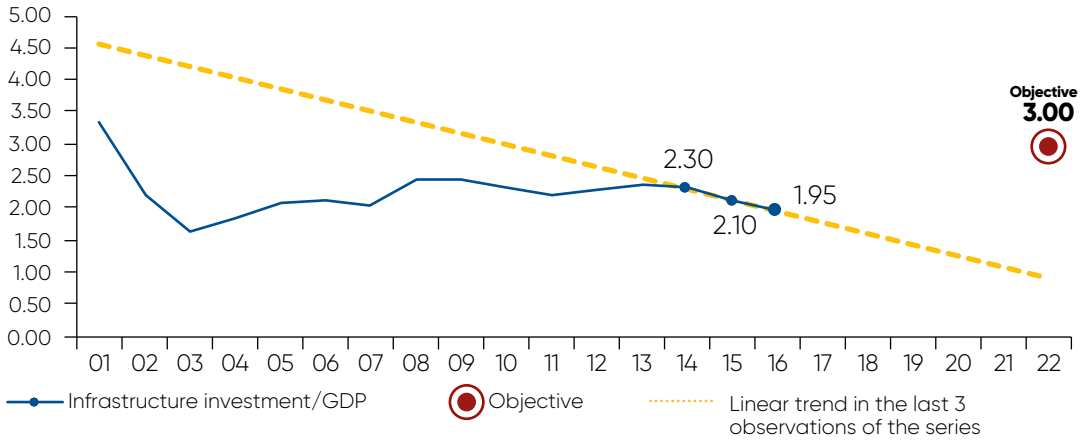


Source: CNI (2018b).
Note: Mean scores (0 = worst performance; 10 = best performance).

Where do we want to get to?

Main goal: Improving Brazil's infrastructure
Macro objective: Increasing the share of infrastructure investment in GDP from 1.95% to 3%

FIGURE 49 – SHARE OF INFRASTRUCTURE INVESTMENT IN GDP



Source: CNI, based on data from Inter B.

PRIORITY TOPIC 1

PRIVATIZATIONS AND CONCESSIONS

Increasing private sector participation in investments and service provision is necessary for filling infrastructure gaps

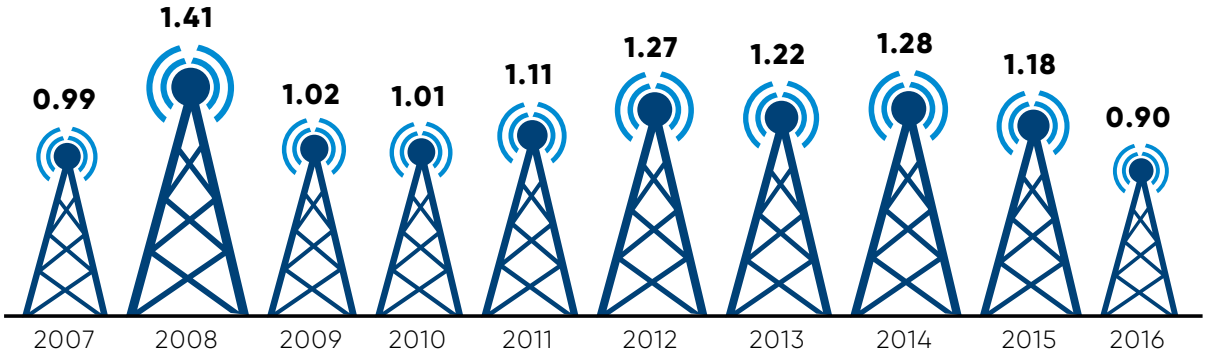
Brazil still has gaps in infrastructure that hinder the country's growth. Efforts must be urgently made to expand and improve the quality of the existing infrastructure. This requires increased public and private investment and greater efficiency in its management.

Given the fiscals constraints faced by the Brazilian state, increasing the share of private investment to ensure the resumption of investments is a must.

Creating a favorable environment is a necessary condition for such investments to occur. Efforts to set clear standards and promote confidence are fundamental for this purpose. This involves strengthening regulatory agencies and improving regulatory frameworks, management structures and sectoral planning.

The country needs to expand its privatization and concession agenda for private investment to materialize and contribute to filling gaps in the country's infrastructure.

FIGURE 50 – INVESTMENT OF PRIVATE COMPANIES IN INFRASTRUCTURE AS A PERCENTAGE OF GDP



Source: InterB (2016).

GOAL

1 Expanding private sector participation in investments in infrastructure and in its management

Objective ▸ Increasing the share of private investment in infrastructure in total investment in infrastructure from 53.8% to 60.0%

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Promoting privatizations or concessions of infrastructure projects
- » Improving standards and procedures for privatizations and concessions
- » Ensuring the feasibility of new municipal concessions and Public-Private Partnerships (PPPs) on urban infrastructure projects (sanitation, mobility, housing and public lighting)

PRIORITY TOPIC 2

LOGISTICS AND TRANSPORTATION

Relying on an efficient transportation network capable of interconnecting different logistic modes is necessary

Investing in improving the efficiency of the different modes and in integrating them appropriately along the main logistical axes through which manufactured goods are transported is also necessary.

Therefore, Brazil needs to increase the supply of transportation systems and develop its integration infrastructure by building distribution centers, multimodal integration terminals, and transshipment and storage terminals.

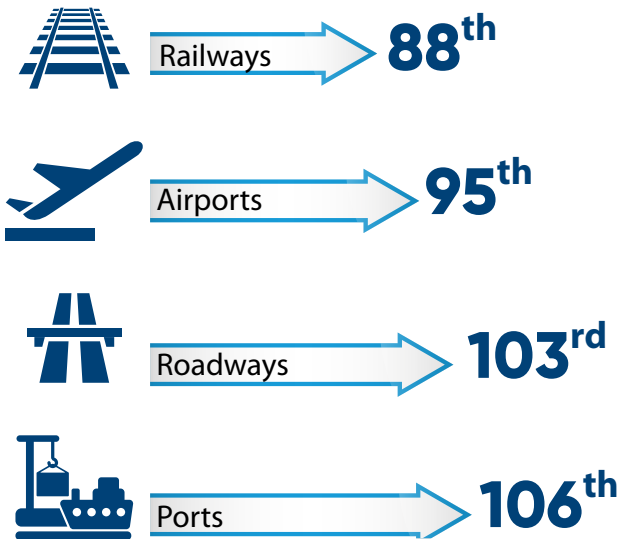
In the railway system, it is necessary to expand the network, increase the speed of trains in circulation and promote better integration between lines.

In the roadway system, it is necessary to invest in lane duplication, adjustments, paving, restoration and conservation of the mesh, besides improving signage and weight and speed control on highways.

In ports, it is necessary to eliminate problems in access by road or sea and to improve the coordination between the authorities involved in port activities to reduce the costs of using ports. It is also necessary to make more cabotage routes available and to increase the capacity of ports and container terminals.

Airports must have runways and facilities suitable for large cargo aircraft. In addition, delays and the costs for clearing air cargo must be reduced.

FIGURE 51 – BRAZIL'S RANKING IN INFRASTRUCTURE COMPONENTS AMONG 137 COUNTRIES



Source: WEF (2017).

GOALS

1. Increasing the supply and efficiency of transportation modes

   Objective ▸ Increasing the average speed on railways from 16.4km/h to 18km/h

2. Reducing the logistics costs of foreign trade

   Objective ▸ Increasing container handling capacity per hour from 43.6 to 80.0

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Maintaining free competition in road transportation
- Implementing the right of way for railroads
- Promoting intermodality, considering industry's supply and distribution chains
- Reducing rates, charges and tariffs on cargo transportation
- Reducing red tape in public ports
- Adjusting the maritime, terrestrial and operational infrastructure of ports considering trends in merchant navy
- Following up on the process of defending competition in container transportation and on procedures of foreign shipowners involved in transporting internationally traded Brazilian products

PRIORITY TOPIC 3

ENERGY

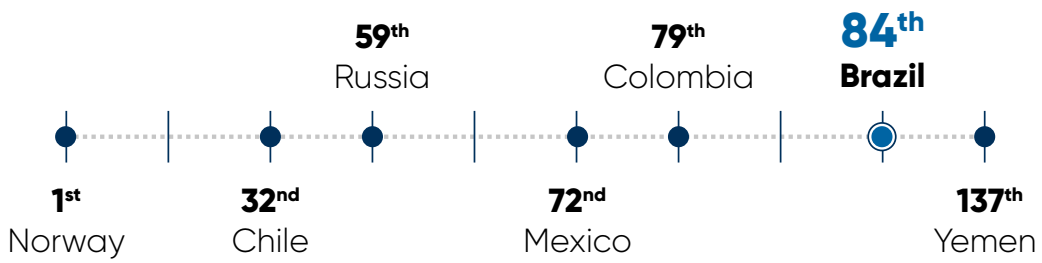
Competitiveness gains for industry depend on the availability of energy with internationally competitive quality and prices

Industry is the largest consumer of electricity in Brazil. The industrial sector is the most impacted by the prices above world average charged in the domestic market and by the poor quality of energy supply services.

According to CNI (2016d), power supply failures cause significant losses to 67% of Brazilian industrial companies, which mainly use electricity in their production process.

Stimulating the use of other energy sources, particularly natural gas, is necessary. Used in industrial processes as a source of thermal energy, natural gas is an energy source that is less aggressive to the environment. Despite its importance, natural gas supply in Brazil is marked by large regional disparities and high costs as compared to other countries.

FIGURE 52 – RANKING OF THE QUALITY OF ENERGY SUPPLY



Source: WEF (2017).

GOALS

1. Ensuring electricity supply with improved quality and at lower costs

   Objective ▸ Keeping the cost of electricity below R$319.00 (in reals in 2006 per MW/h)

2. Increasing the supply of natural gas and reducing its cost to international competitive levels

   Objective ▸ Reducing the difference between the price of natural gas in Brazil and the average price as measured by the Henry Hub index from 484% to 200%

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Implementing measures to ensure quality energy supply at competitive prices
- Reducing electricity costs for industrial consumers
- Improving the regulation of the natural gas industry
- Approving a national policy for land-based gas exploitation

PRIORITY TOPIC 4

TELECOMMUNICATIONS

The provision of high-performance and low-cost broadband connectivity is a fundamental condition for implementing the Internet of Things and Industry 4.0 in Brazil

Brazil needs to improve the provision of broadband services to make progress in digitizing industrial production. A good telecommunications network is essential for Brazilian companies to take advantage of opportunities to reduce production costs through digitization, develop new business models, specialize themselves and take part in local and global value chains.

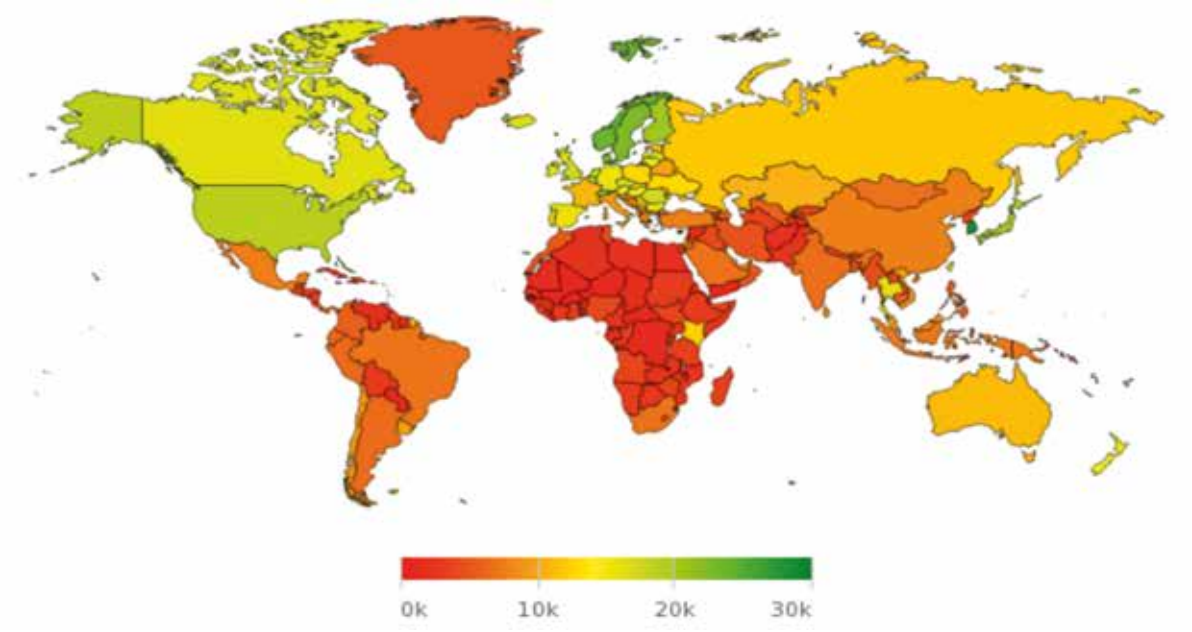
Technologies associated with the Internet of Things can in turn offer solutions to some of the main national problems faced in the areas of health care, urban mobility and energy efficiency.

Broadband services in Brazil are expensive and slow and they are often slower than contracted.

In addition, Brazil ranks second in the world in tax burden on telecommunication services (more than twice that of the third-placed country).

The average internet speed in Brazil leaves much to be desired. In the ranking of the State of Internet Report 2017 (Akamai, 2017), which includes 148 countries, Brazil was ranked 79th. The average connection speed in Brazil is 6.8 Mbps, slower than in the large majority of countries in North America and Europe. In South America, it is behind Chile and Uruguay.

FIGURE 53 – AVERAGE INTERNET CONNECTION SPEED (2017)



Source: Akamai (2017).

GOAL

1 Expanding the access to faster and lower-cost broadband services

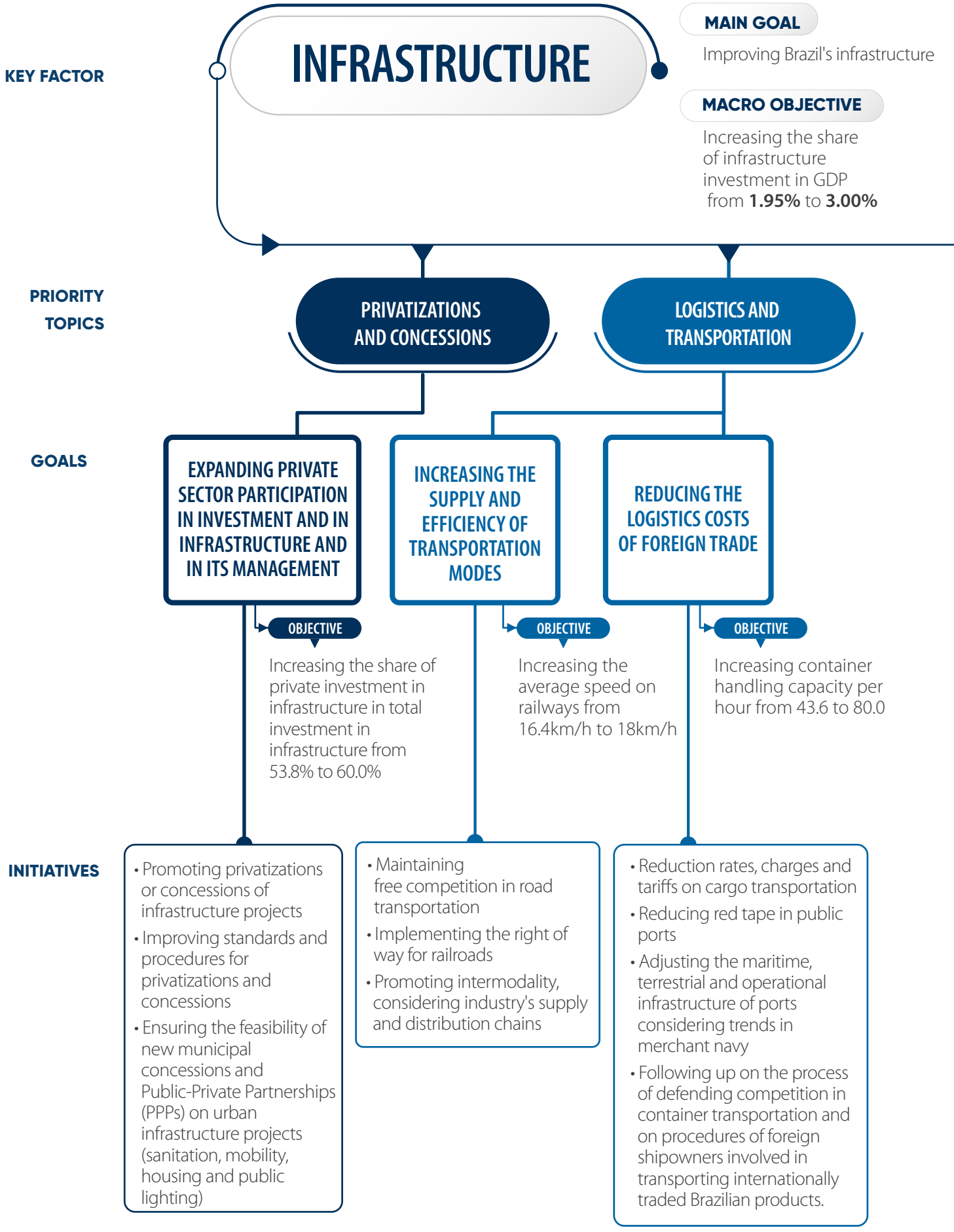
Objective ▸ Increasing the percentage of Brazilian households with fixed broadband access from 38.5% to 55.0%

See the description and evolution of the indicator in Appendix A.

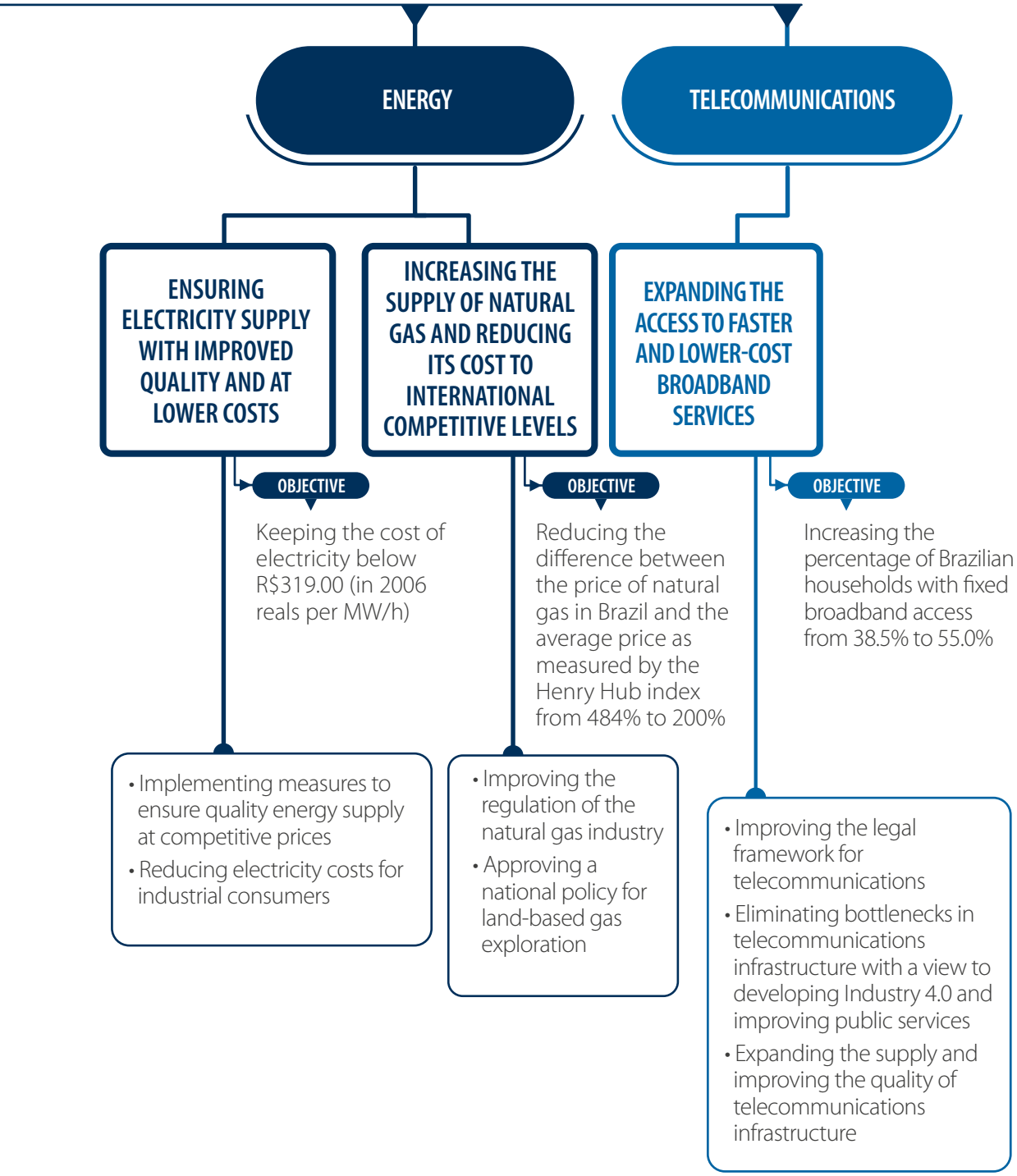
INITIATIVES

- Improving the legal framework for telecommunications
- Eliminating bottlenecks in telecommunications infrastructure with a view to developing Industry 4.0 and improving public services
- Expanding the supply and improving the quality of telecommunications infrastructure

BOX 14 – SUMMARY OF THE INFRASTRUCTURE KEY FACTOR



Source: Prepared by CNI.


ENERGY
TELECOMMUNICATIONS
ENSURING ELECTRICITY SUPPLY WITH IMPROVED QUALITY AND AT LOWER COSTS
INCREASING THE SUPPLY OF NATURAL GAS AND REDUCING ITS COST TO INTERNATIONAL COMPETITIVE LEVELS
EXPANDING THE ACCESS TO FASTER AND LOWER-COST BROADBAND SERVICES
OBJECTIVE
Keeping the cost of electricity below R$319.00 (in 2006 reals per MW/h)
OBJECTIVE
Reducing the difference between the price of natural gas in Brazil and the average price as measured by the Henry Hub index from 484% to 200%
OBJECTIVE
Increasing the percentage of Brazilian households with fixed broadband access from 38.5% to 55.0%
• Implementing measures to ensure quality energy supply at competitive prices
• Reducing electricity costs for industrial consumers
• Improving the regulation of the natural gas industry
• Approving a national policy for land-based gas exploration
• Improving the legal framework for telecommunications
• Eliminating bottlenecks in telecommunications infrastructure with a view to developing Industry 4.0 and improving public services
• Expanding the supply and improving the quality of telecommunications infrastructure

INDUSTRIAL, INNOVATION AND FOREIGN TRADE POLICY

VISION FOR 2022

Brazil improves its industrial, innovation and foreign trade policy, aligning it with the pursuit of the same goal. A more positive innovation environment boosts private investments in R&D. A gradual and consistent productive diversification process is under way and greater technological intensity is promoted in the production of industrial goods in Brazil. Industry 4.0 is advancing at a greater speed in the country. Brazil becomes more integrated globally. Industry is taking part in global value chains more intensely and its share in world trade in goods and services increases, while Brazilian companies increase their degree of internationalization.

Why **Industrial, Innovation and Foreign Trade Policy**?

Industry plays a key role in fostering economic growth. It is the segment with the greatest multiplier effect on the economy as a whole, meaning that it is an important engine of growth. Each R$1.00 produced in industry generates R$2.32 in the Brazilian economy (CNI, 2017d).

Integrated industrial, innovation and foreign trade policies must be designed to remove obstacles and promote industrial growth, stimulate innovation and integration into the international market, seize competitive advantages, develop new skills and produce goods with greater technological content.

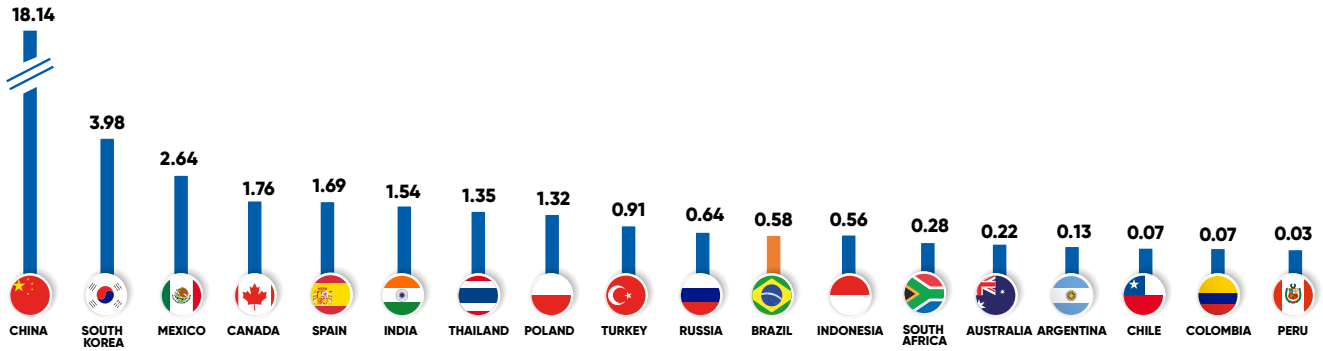
ADVANCES IN THE AGENDA OVER THE PAST FIVE YEARS:

- Launch of trade negotiations with countries in South America, Canada, EFTA, India and Mexico, and resumption of negotiations with the European Union
- Negotiation of new Cooperation and Investment Facilitation Agreements with eight countries in Africa and Latin America
- Ratification by Brazil of the WTO Trade Facilitation Agreement in March 2016
- Launch of the Unified Foreign Trade Portal in 2014
- Launch of the Brazilian Authorized Economic Operator Program, 2015, 2017
- The passage of Law No. 13,243/2016, which updates the country's legal framework for innovation
- Creation of Brazilian Company for Research and Industrial Innovation (EMBRAPII) in 2013
- Signing of Patent Prosecution Highway (PPH) agreements with the USA, Japan and the European Patent Office
- Issuance of Normative Instruction No. 70/2017 by INPI (National Industrial Property Institute)/PR and of Joint Ordinance No. 1/2017 by ANVISA (National Health Surveillance Agency)/INPI), which simplified technology transfer processes within the INPI

How are we doing?

Brazilian industry has been losing competitiveness in the international market. Brazil's share in global exports of manufactured products **decreased from 0.82% in 2005 to 0.58% in 2015**.

FIGURE 54 – BRAZIL'S SHARE IN GLOBAL EXPORTS OF MANUFACTURED PRODUCTS (%)

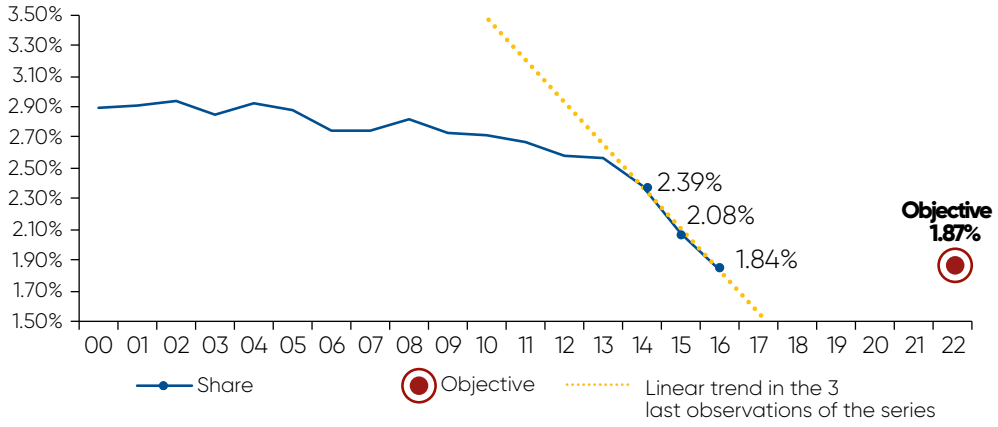


Source: CNI, based on WTO data.

Where do we want to get to?

Main Goal: Strengthening Brazilian industry
Macro objective: Increasing Brazil's share in the global industry from 1.84% to 1.87%

FIGURE 55 – SHARE OF BRAZILIAN PRODUCTION OF MANUFACTURED GOODS IN GLOBAL PRODUCTION OF MANUFACTURED GOODS



Source: CNI, based on data from UNIDO.
Description: Added value of manufacturing in Brazil divided by added value of manufacturing in the world.

PRIORITY TOPIC 1

INDUSTRIAL AND INNOVATION POLICY

Adopting a consistent industrial and innovation policy is essential for industry to reach a new level of competitiveness

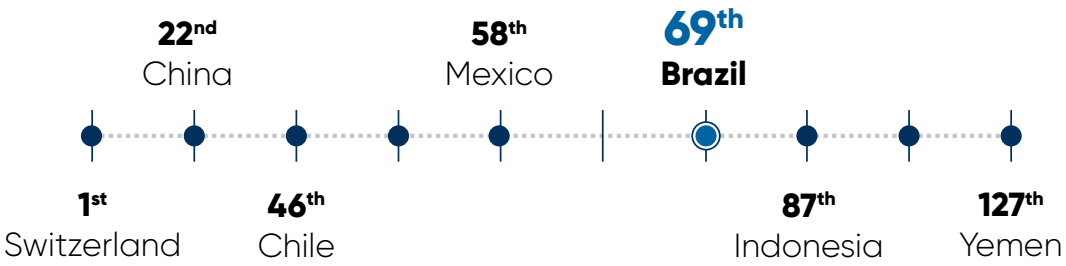
Industry has been going through profound transformations as a result of what is commonly referred to as the fourth industrial revolution, Industry 4.0 or digitization. These transformations have brought challenges and opportunities for Brazilian companies.

The challenges are the following ones: transition to Industry 4.0; development of the Internet of Things; modernization of the industrial park; greater production of highly technological goods; and increased innovation.

Innovation is the engine of long-term productivity gains. Once systemic inefficiencies are eliminated as a result of product and process innovation alone, productivity can grow indefinitely. Investing in innovation generates benefits for the economy as a whole, but the costs and risks inherent in innovative activities are exclusively borne by companies that invest in RD&I. It is therefore necessary to create a regulatory environment designed to stimulate innovation, a technological support system and appropriate funding lines.

FIGURE 56 – GLOBAL INNOVATION INDEX (2017)

(Ranking)



Source: Cornell University, INSEAD and WIPO (2017).

GOALS

1. Increasing the use of technologies associated with Industry 4.0 and with the Internet of Things (IoT)

   Objective ▸ Increasing the percentage of large industrial companies employing digital technologies from 63% to 80%

2. Increasing the share of highly technological goods in industrial production

   Objective ▸ Increasing the share of goods with medium-high and high technological content in industry from 30.8% to 34.0%

3. Increasing private investment in innovation

   Objective ▸ Increasing the share of corporate investment in RD&I in total investment from 39.9% to 50.0%

4. Increasing the effectiveness of public RD&I policies

   Objective ▸ Improving Brazil's score on the capacity of R&D law to promote innovation from 3.24 to 5.0

See the description and evolution of the indicators in Appendix A.

INITIATIVES

- Promoting the adoption of digital technologies by Brazilian industry
- Strengthening programs designed to stimulate startups with the aim of developing solutions for industry
- Improving sectoral policies, with a focus on activities with greater technological content
- Improving the policy adopted to attract foreign direct investment, with a focus on activities with greater technological content
- Improving government procurement policies with the aim of fostering technological development
- Improving the regulatory framework for RD&I
- Promoting a competitive environment
- Improving compulsory R&D policies in regulated sectors, such as in the electricity, oil and gas, and information technology sectors
- Facilitating access to and reducing the costs of imported inputs and technologies without locally manufactured equivalent
- Improving the management of public funds earmarked for supporting ST&I activities, giving priority to allocating them to companies
- Systematic evaluation of industrial, innovation and foreign trade policies

PRIORITY TOPIC 2

FOREIGN TRADE POLICY

Greater international integration contributes to raising the competitiveness of Brazilian industry and strengthening the country's ranking in international trade

Foreign trade makes it possible to increase the production scale, acquire knowledge and use specialization gains in stages of global value chains. The international market environment stimulates efforts to boost competitiveness and innovation. Internationalized companies innovate more, pay better wages and generate foreign exchange for the country.

The industrial policies implemented in Brazil in recent years have been disconnected from foreign trade policies and this has hampered the performance of industry in this area. The export coefficient – which measures the importance of the foreign trade market for domestic production – decreased from 19.1% to 15.7% between 2006 and 2016, both at 2007 prices (CNI, 2017e).

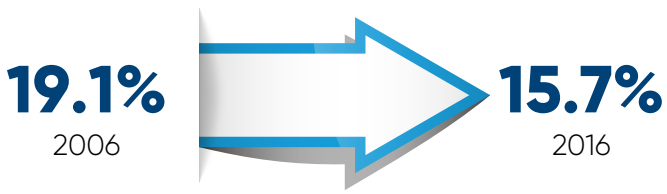
Brazil needs to increase the access of its products to the international market. For this purpose, it must intensify negotiations on trade and investment agreements and step up efforts to eliminate barriers to Brazilian exports and investments abroad. At the same time, it must facilitate and reduce red tape in foreign trade by promoting reforms in customs procedures and by simplifying legal and administrative rules.

In order to take better advantage of opportunities afforded by greater international integration, it is necessary to stimulate Brazilian investments abroad and foreign investments in Brazil. Increased investment will foster growth in industry and greater absorption of new knowledge, which is essential for innovation.

As the country becomes more integrated into the global economy, it is necessary to improve its trade defense policy with the aim of fighting unfair trade practices.

FIGURE 57 – EXPORT COEFFICIENT OF MANUFACTURING INDUSTRY

(In % - constant prices)



Source: CNI (2017e).
Note: The figure for 2016 is an estimate.

GOALS

1. Expanding access to foreign trade markets for Brazilian goods, services and investments

   Objective ▸ Increasing the share of markets with which Brazil has trade agreements in the global market from 7.0% to 40.0%

2. Expanding Brazilian investments abroad

   Objective ▸ Increasing the stock of investments of Brazilian companies abroad from US$259.3 billion to US$380.0 billion

3. Facilitating Brazilian foreign trade

   Objective ▸ Reducing the average export and import time from 125 hours to 80 hours

4. Improving the Brazilian trade defense system

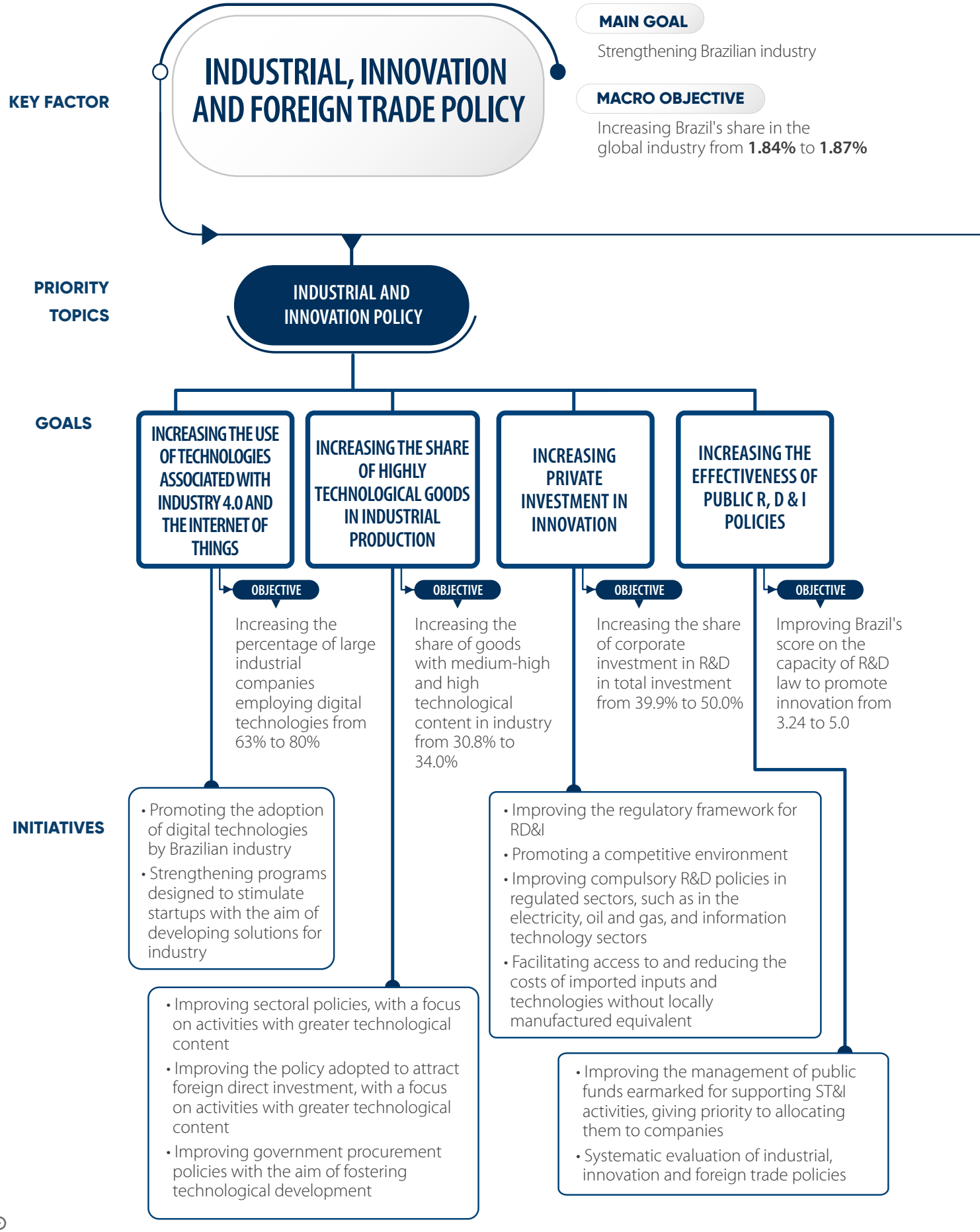
   Objective ▸ Increasing the success rate of investigations of new trade defense measures from 53.3% to 75.0%

See the description and evolution of the indicators in Appendix A.

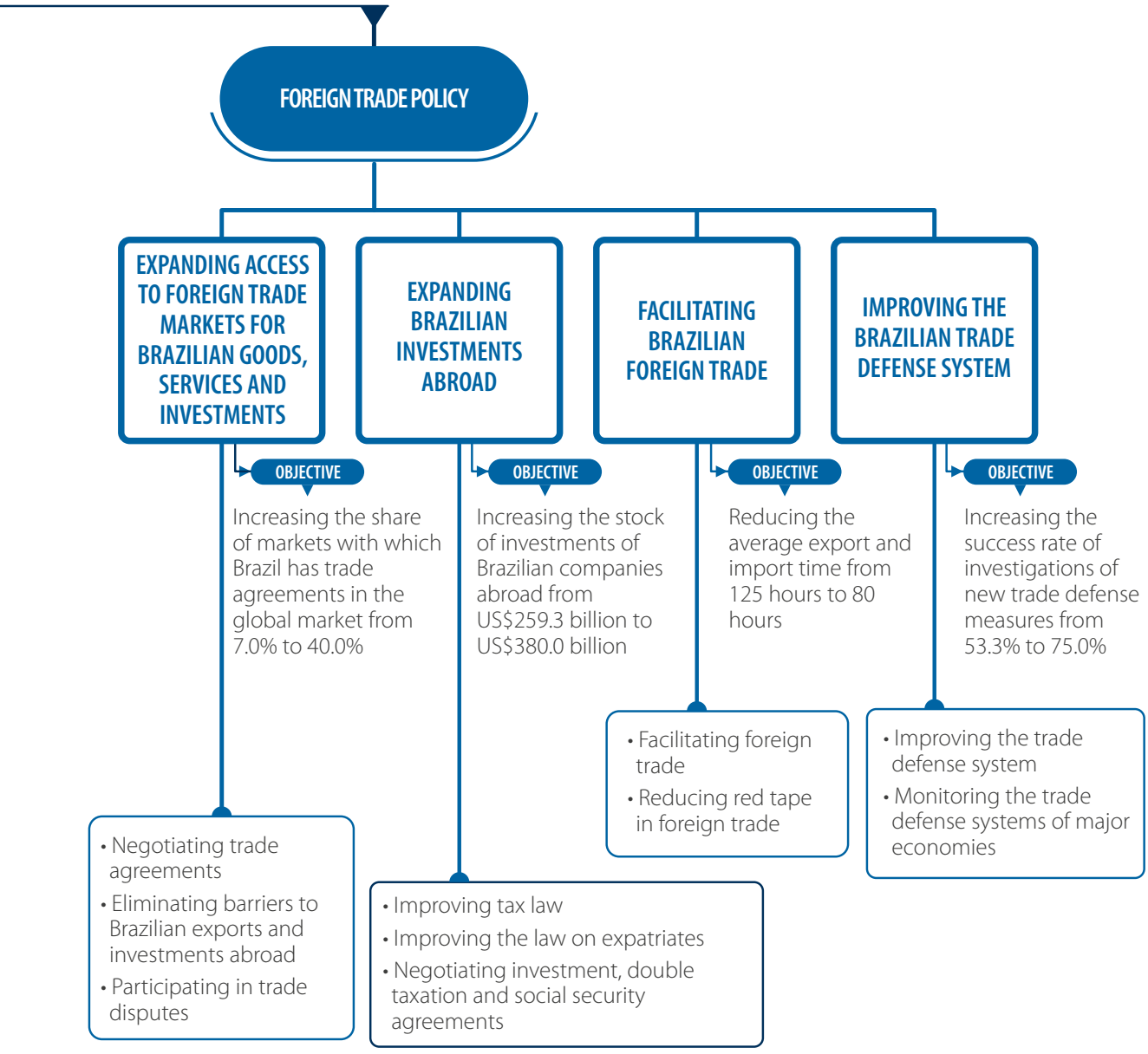
INITIATIVES

- Negotiating trade agreements
- Eliminating barriers to Brazilian exports and investments abroad
- Participating in trade disputes
- Improving tax law
- Improving the law on expatriates
- Negotiating investment, double taxation and social security agreements
- Facilitating foreign trade
- Reducing red tape in foreign trade
- Improving the trade defense system
- Monitoring the trade defense systems of major economies

BOX 15 – SUMMARY OF THE INDUSTRIAL, INNOVATION AND FOREIGN TRADE POLICY KEY FACTOR



Source: Prepared by CNI.


FOREIGN TRADE POLICY
EXPANDING ACCESS TO FOREIGN TRADE MARKETS FOR BRAZILIAN GOODS, SERVICES AND INVESTMENTS
EXPANDING BRAZILIAN INVESTMENTS ABROAD
FACILITATING BRAZILIAN FOREIGN TRADE
IMPROVING THE BRAZILIAN TRADE DEFENSE SYSTEM
OBJECTIVE
Increasing the share of markets with which Brazil has trade agreements in the global market from 7.0% to 40.0%
OBJECTIVE
Increasing the stock of investments of Brazilian companies abroad from US$259.3 billion to US$380.0 billion
OBJECTIVE
Reducing the average export and import time from 125 hours to 80 hours
OBJECTIVE
Increasing the success rate of investigations of new trade defense measures from 53.3% to 75.0%
• Negotiating trade agreements
• Eliminating barriers to Brazilian exports and investments abroad
• Participating in trade disputes
• Improving tax law
• Improving the law on expatriates
• Negotiating investment, double taxation and social security agreements
• Facilitating foreign trade
• Reducing red tape in foreign trade
• Improving the trade defense system
• Monitoring the trade defense systems of major economies

PRODUCTIVITY AND INNOVATION WITHIN COMPANIES

VISION FOR 2022

Brazilian industrial companies increase their productivity, become more competitive and expand their share in the international market. The technological gap and productivity heterogeneity are reduced in several industrial segments. A large number of Brazilian business administrators are recognized for their modern and efficient practices. Innovation is intensely practiced by companies, yielding solid results for strengthening Brazilian industry.

Why **Productivity and Innovation within Companies**?

Companies play a key role in improving Brazil's competitiveness. Government is responsible for ensuring a positive business environment and infrastructure, stimulating innovation and building policies and instruments designed to stimulate and steer industrial growth. It is up to companies to promote productivity, launch new and better products and business models, continually improve manufacturing and management processes and conquer new markets.

ADVANCES IN THE AGENDA OVER THE PAST FOUR YEARS:

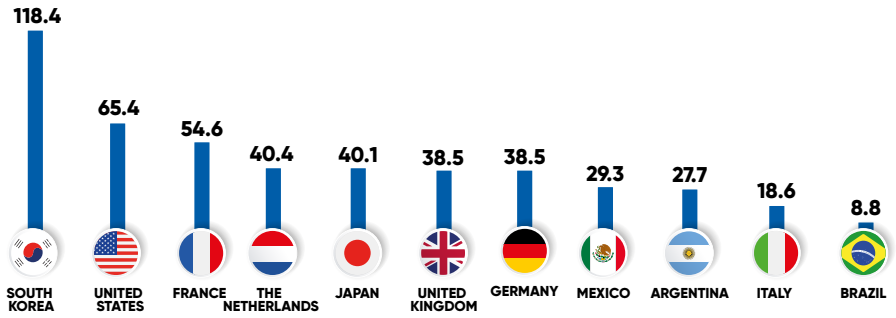
- More Productive Industry Program, CNI/SENAI (National Service for Industrial Training), 2014
- More Productive Brazil Program, Federal Government/SENAI, 2016
- Operation of the Network of SENAI Institutes for Technology and Innovation, 2014
- Edital de Inovação para a Indústria, an initiative designed to finance selected innovative projects developed by startups, Sebrae (Brazilian Micro and Small Business Support Service)/SESI (Social Service of Industry)/SENAI, 2017
- Launch of the Rota Global (global route) Program, CNI/CIN Network, 2017
- Implementation of ATA Brasil (ATA carnet in Brazil), CNI/CIN Network, 2016
- Implementation of the Brazil4Business Program, CNI/CIN Network, 2014

How are we doing?

Labor productivity in Brazil is virtually stagnant. Between 2000 and 2016, productivity in the Brazilian industry grew by only 8.8%, **the lowest percentage recorded among our main trading partners**. This low labor productivity hinders the competitiveness of Brazilian industry both in the domestic and in the international market.

FIGURE 58 – GROWTH RATE OF LABOR PRODUCTIVITY IN INDUSTRY 2000-2016

Brazil and its main trading partners



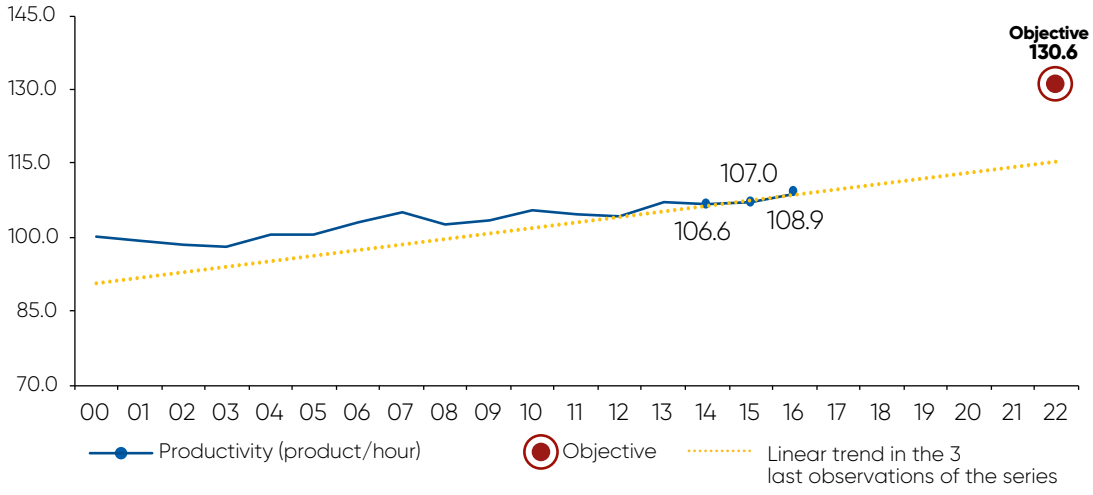
Source: CNI (2017a).
Note: China was not included in the figure for lack of information.

Where do we want to get to?

Main goal: Increasing productivity in Brazilian industrial companies
Macro objective: Increasing labor productivity in industry by 20% (from 108.8 to 130.6)

FIGURE 59 – LABOR PRODUCTIVITY IN BRAZILIAN INDUSTRY

product per hours worked / Base index 2000 = 100



Source: CNI, based on CNI data (2017a).

PRIORITY TOPIC 1

ENTREPRENEURIAL MANAGEMENT

Continuous improvement in entrepreneurial management is crucial for achieving productivity and competitiveness gains

The World Management Survey, an international survey designed to evaluate management practices, found that poor management quality prevails in most companies in Brazil. For the technology innovation and industry 4.0 agenda to succeed, it must be accompanied by an efficient management process.

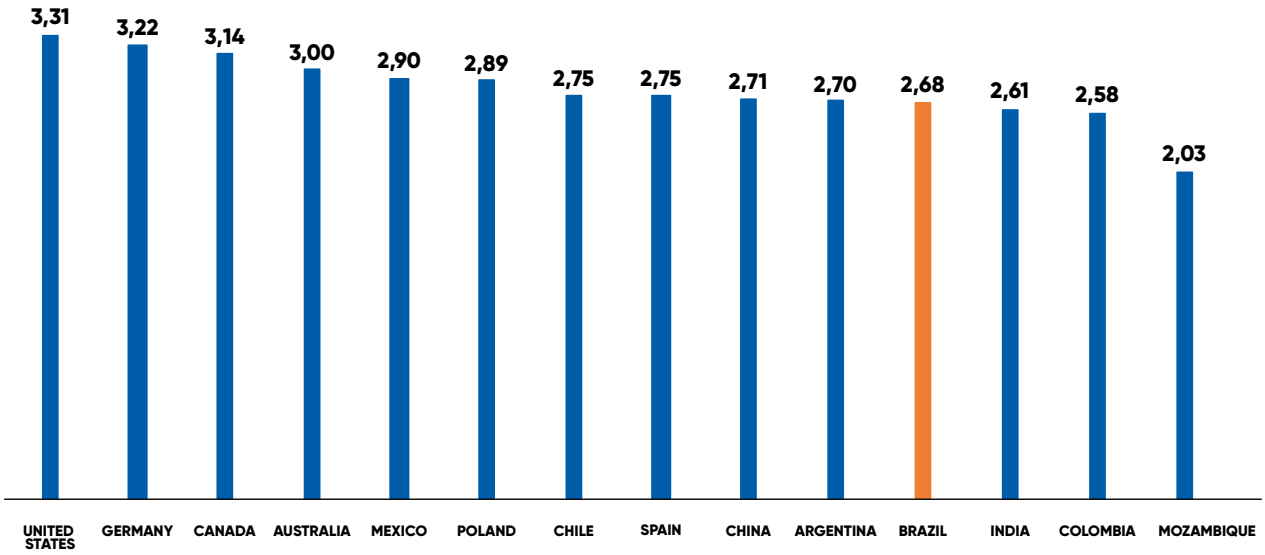
Good management leads to a leap in productivity with low investment, as demonstrated by the More Productive Industry project of CNI and Senai, which inspired the More Productive Brazil Program. Until December 2017, the adoption of lean manufacturing practices resulted in an average productivity increase of 52% in the 2,832 companies that completed the program[3].

Successful investment in research and development depends on good innovation management. Efficient management contributes to minimizing risks, to adjusting results to objectives and to speeding up the process of innovation research and development.

Management of health and safety at work is also important, as healthy employees working in a safe environment tend to be more productive.

[3] Indicators of the More Productive Brazil Program. http://www.brasilmaisprodutivo.gov.br/home.aspx

FIGURE 60 – RANKING OF MANUFACTURING MANAGEMENT PRACTICES



Source: Management Matters (2014).
Note: Companies with 50-5,000 employees, gross data.

GOAL

1 Improving the quality of entrepreneurial management and of innovation management

Objective ▸ Improving Brazil's score on management quality from 5.3 to 7.5

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- » Training in entrepreneurial management
- » Promoting management of health and safety at work
- » Promoting innovation management

PRIORITY TOPIC 2

INNOVATION IN INDUSTRY

Expanding innovation capacity is key to improving the competitiveness of companies

With the technological changes brought about by Industry 4.0, investing in innovation becomes even more essential for Brazilian industry to reduce its distance from the world's technological frontier.

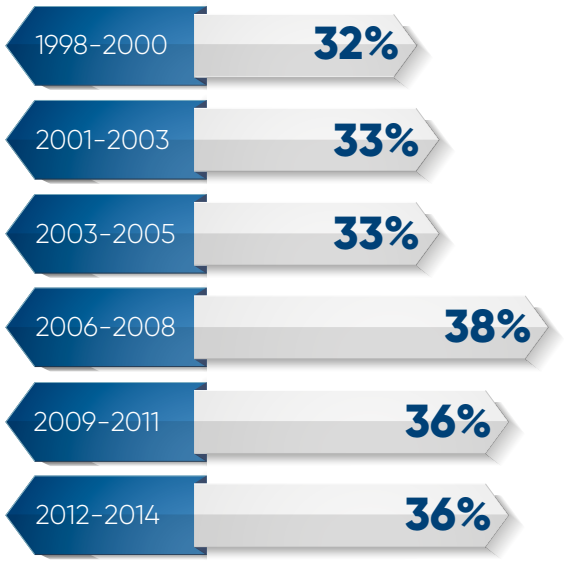
Despite its importance, the innovation capacity of Brazilian companies leaves much to be desired. In this regard, Brazil was ranked 85th among 137 countries (WEF, 2017).

A major challenge is that of increasing the share of industrial companies in R&D investment, either autonomously or in partnerships with others.

Promoting partnerships with technological and innovation institutes and universities increases the research and development capacity of companies and, as a result, their capacity to innovate.

Innovation requires knowledge both to develop new ideas and to prepare and organize an innovation project. Many companies don't even know where to start or what partners to look for. Disseminating new technologies, promoting access to innovation information and services and strengthening the relationship between Science, Technology and Innovation Institutions and companies is essential to stimulate innovation in Brazilian industry.

FIGURE 61 – RATE OF INNOVATION OF PRODUCTS AND/OR PROCESSES



Source: CNI, based on data from Pintec (Brazilian Institute for Geography and Statistics - IBGE).
Note: Industry includes the mining and manufacturing industry (common to all editions of Pintec). Due to changes in the new National Classification of Economic Activities (CNAE 2.0) in 2008, industry no longer contemplates Publishing and Recycling activities.

GOAL

1 Increasing innovation in products, processes and business models

Objective ▸ Increasing the innovation rate from 36.4% to 45.0%

See the description and evolution of the indicator in Appendix A.

INITIATIVES

- Promoting innovation in products, processes and business models
- Promoting open innovation projects with Science, Technology and Innovation Institutions, startups and value chains
- Disseminating innovation information and services
- Promoting the adoption of technologies associated with Industry 4.0
- Promoting closer relations between Science, Technology and Innovation Institutions and companies

PRIORITY TOPIC 3

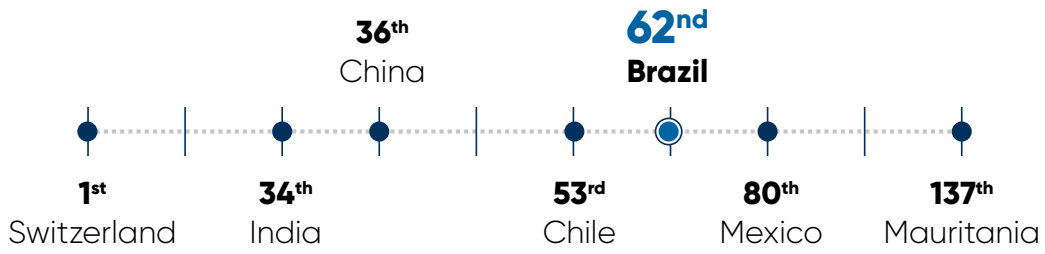
PROFESSIONAL QUALIFICATION

Companies need to invest permanently in qualifying their professionals to keep up with technological changes and to remain competitive

The technological advances promoted by Industry 4.0 include greater integration between workers and machines in production processes, which requires specific professional skills and competencies that need to be continually updated.

In this scenario of rapid technological change, the efforts being made by government to improve basic and technological training are not enough. Companies must actively keep up with this process of change by investing in continued professional qualification programs for its employees on an ongoing basis.

FIGURE 62 – RANKING OF COMPANIES' INVESTMENT IN PROFESSIONAL TRAINING AND DEVELOPMENT



Source: WEF (2017).

GOAL

1 Promoting the qualification of industry professionals

Objective ▸ Improving Brazil's score on workers' qualification by companies from 5.0 to 7.0

See the description and evolution of the indicator in Appendix A.

INITIATIVES

» Promoting technical qualification of workers within companies

» Promoting continued training in the workplace

PRIORITY TOPIC 4

INTERNATIONALIZATION

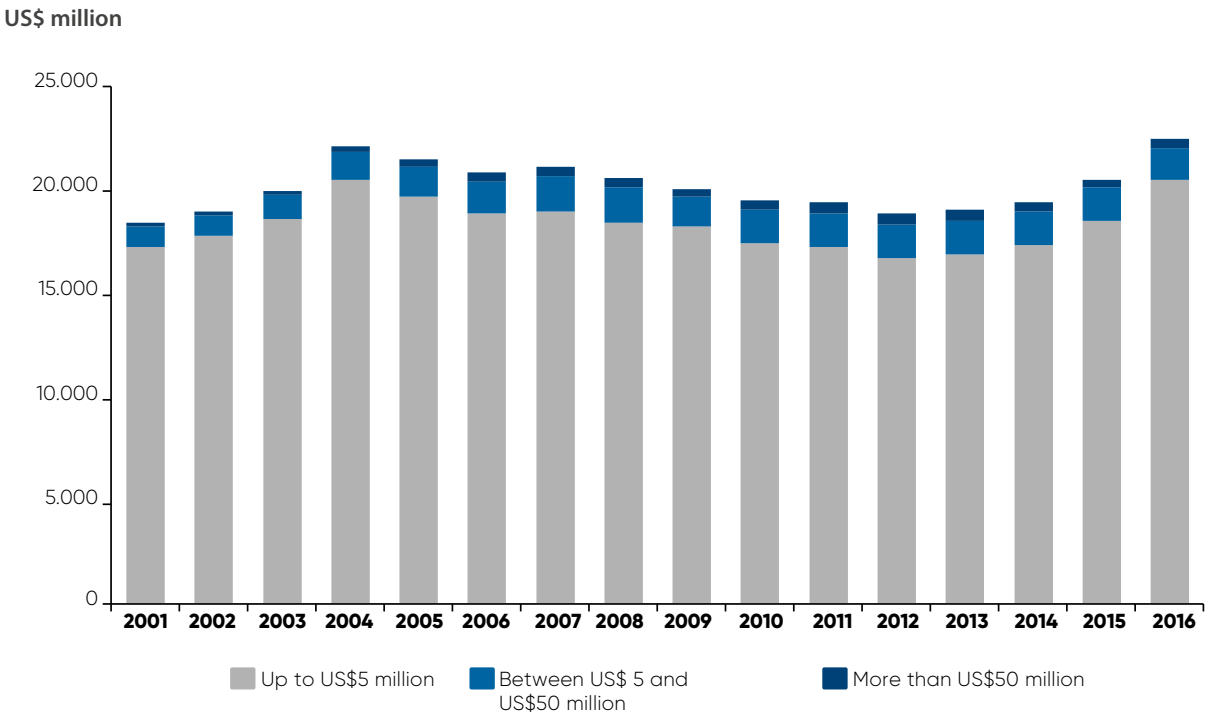
Internationalization is a path for expanding and increasing the productivity of Brazilian companies

Competing in the global market presupposes preparedness on the part of companies. Internationalization strategies require market prospecting, definition of distribution channels, branding, adaptation of products and packaging to international requirements, identification of trade and investment partners.

Lack of knowledge on the part of companies is one of the main difficulties hindering export growth. Providing information and support to companies is fundamental for their internationalization. For these actions to be optimized, it is important that the various institutions engaged in promoting and supporting internationalization do so in an aligned and coordinated manner.

Difficulties are greater as the size of companies decreases, making it more important to provide specialized support to and develop partnerships with smaller companies and/or companies that are new entrants to the international market.

FIGURE 63 – NUMBER OF EXPORTING COMPANIES BY VALUE RANGE



Source: CNI, based on data from the Ministry of Development, Industry and Foreign Trade (MDIC).
Note: Only the first 8 digits of the corporate taxpayer registration number (CNPJ) were considered, i.e. the value added, adding up the values of the headquarters and of subsidiaries of the same company.

GOAL

1 Expanding the presence of Brazilian companies in the international market

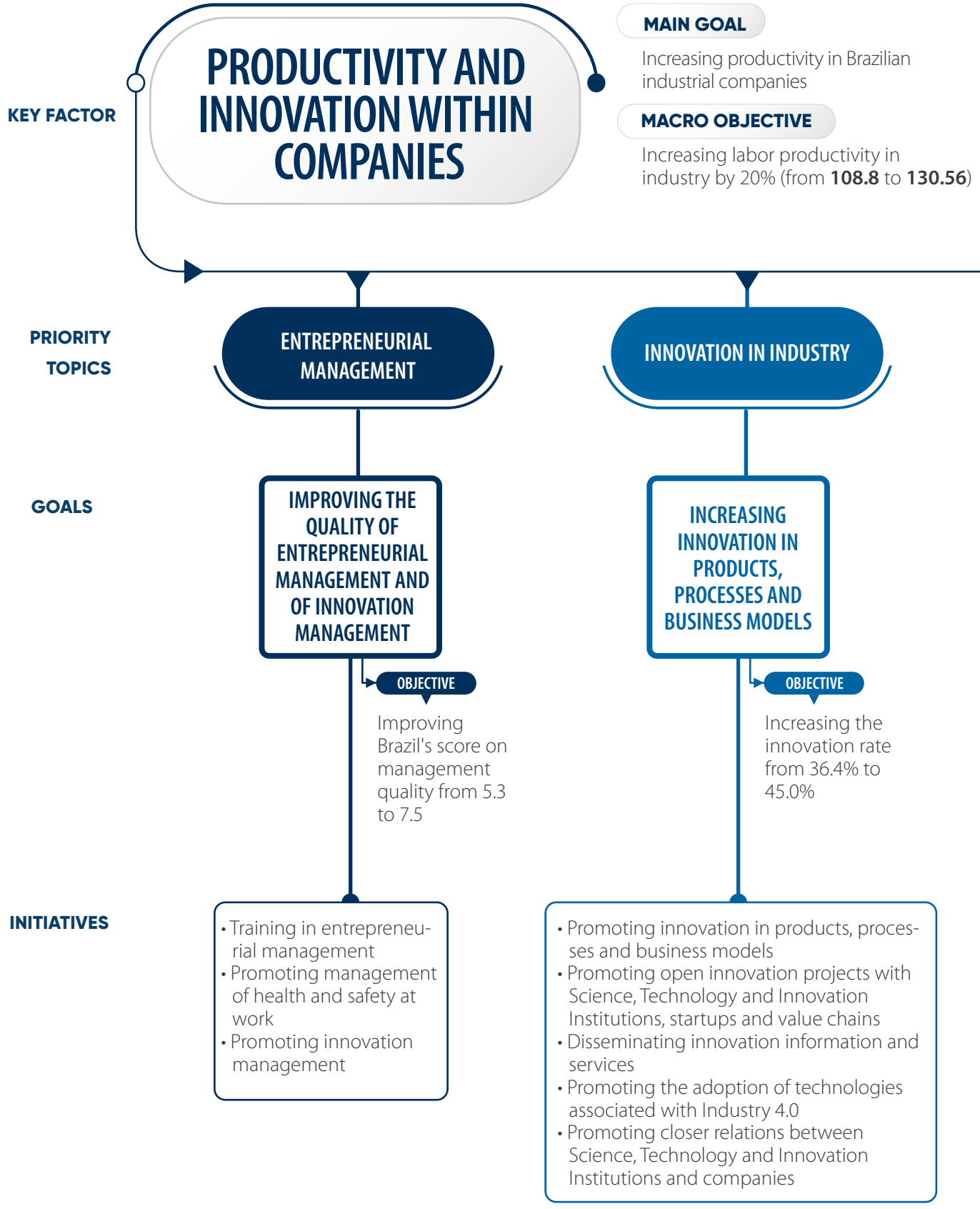
Objective ▸ Increasing the number of industrial companies engaged in foreign trade from 13,057 to 15,000

See the description and evolution of the indicator in Appendix A.

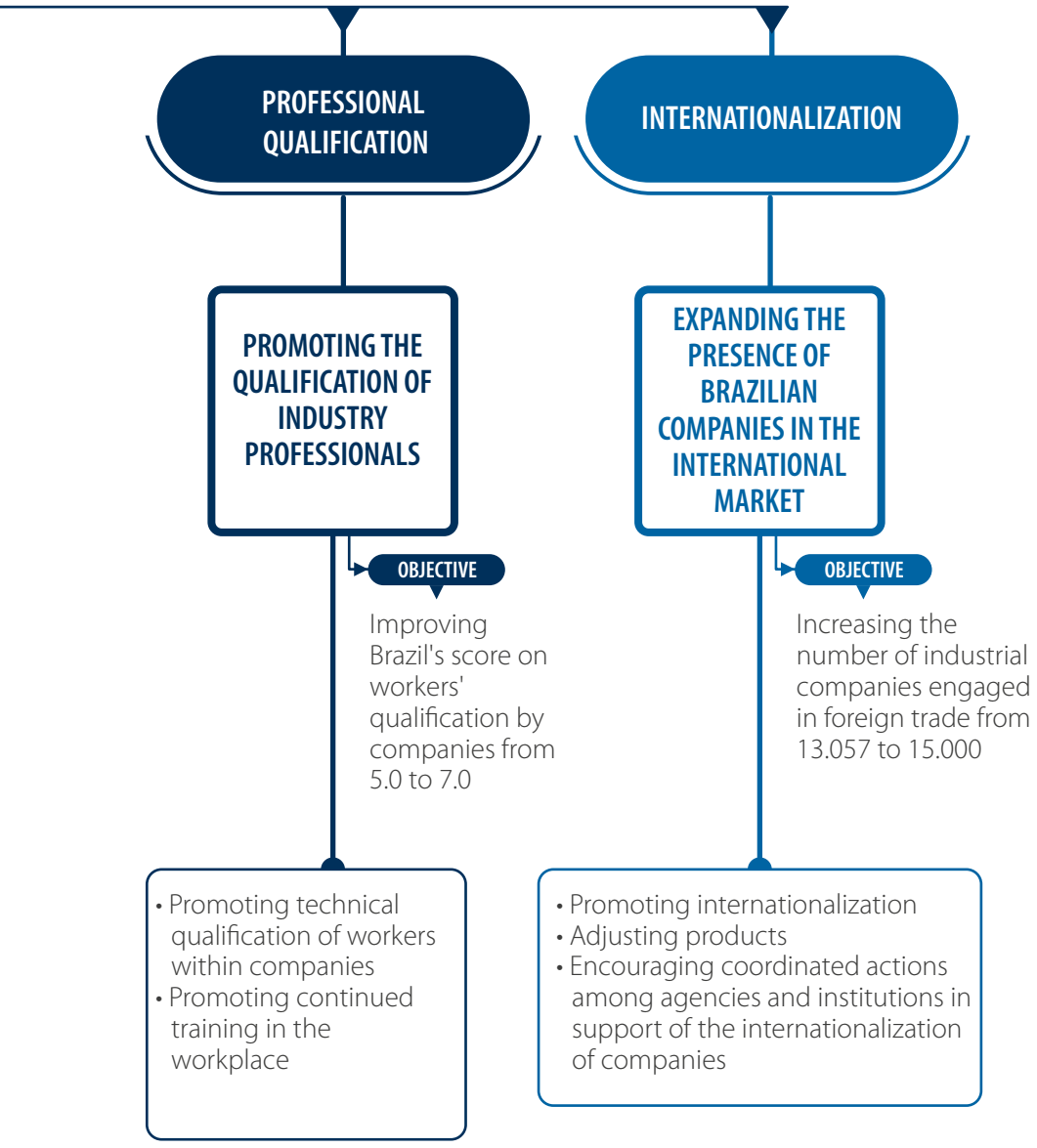
INITIATIVES

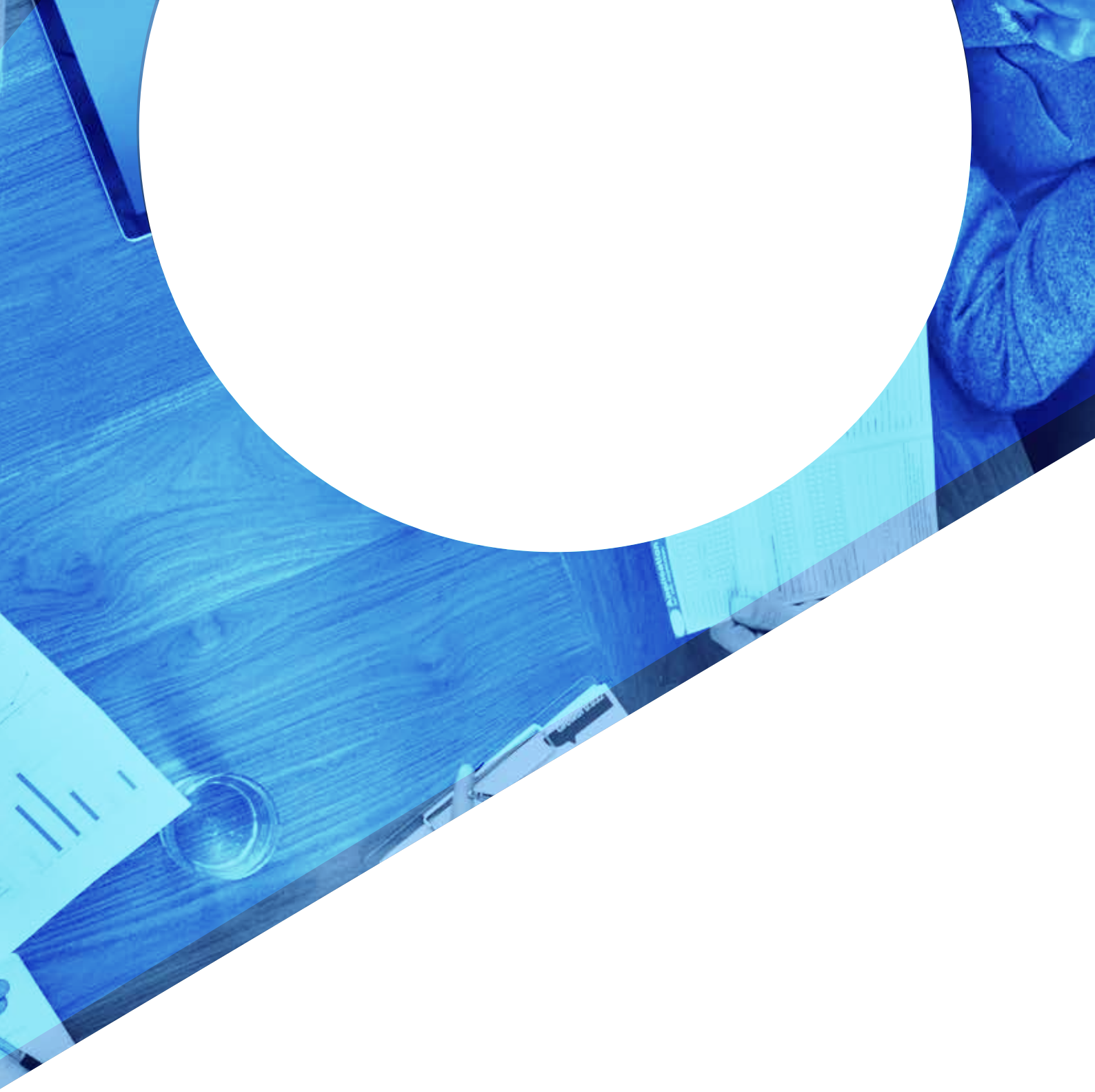
- » Promoting internationalization
- » Adjusting products
- » Encouraging coordinated actions among agencies and institutions in support of the internationalization of companies

BOX 16 – SUMMARY OF THE PRODUCTIVITY AND INNOVATION WITHIN COMPANIES KEY FACTOR



Source: Prepared by CNI


PROFESSIONAL QUALIFICATION
INTERNATIONALIZATION
PROMOTING THE QUALIFICATION OF INDUSTRY PROFESSIONALS
EXPANDING THE PRESENCE OF BRAZILIAN COMPANIES IN THE INTERNATIONAL MARKET
OBJECTIVE
Improving Brazil's score on workers' qualification by companies from 5.0 to 7.0
OBJECTIVE
Increasing the number of industrial companies engaged in foreign trade from 13.057 to 15.000
• Promoting technical qualification of workers within companies
• Promoting continued training in the workplace
• Promoting internationalization
• Adjusting products
• Encouraging coordinated actions among agencies and institutions in support of the internationalization of companies



APPENDICES

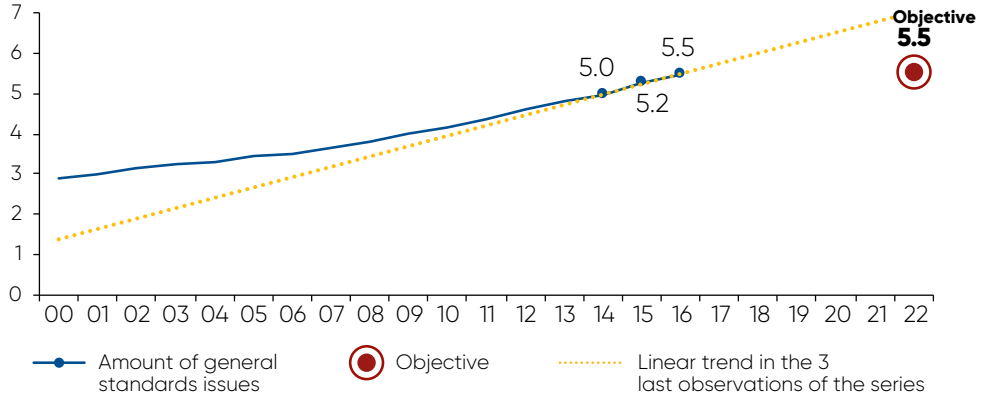
APPENDIX A

INDICATORS AND OBJECTIVES OF THE GOALS

Key factor: **Legal Certainty**

Priority topic: Predictability and quality of standards
Goal: Ensuring higher quality, predictability and stability to standards
Objective: Halting the increase in the number of standards issued (4.5% a year over the past 5 years), keeping it at a maximum of 5.5 million.

FIGURE A1 – NUMBER OF GENERAL STANDARDS ISSUED (MILLIONS)



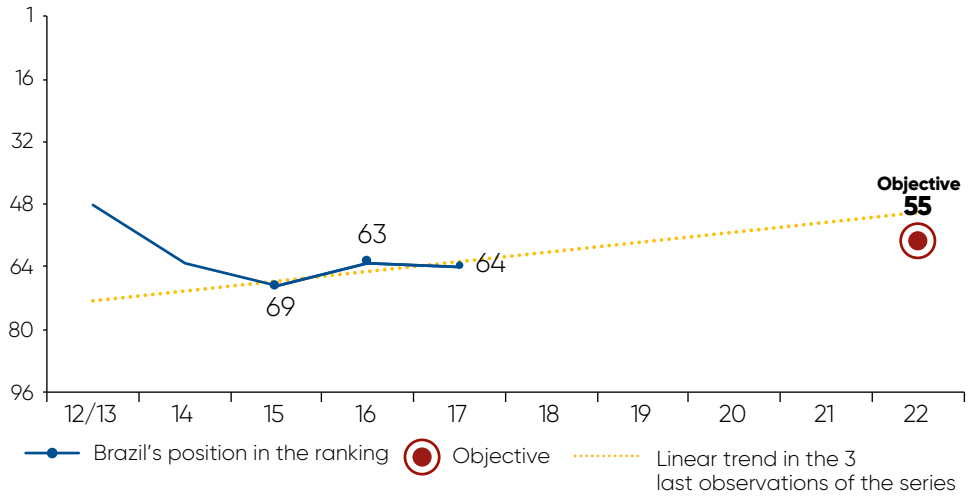
Source: CNI, based on data from the Brazilian Institute for Tax Planning (IBPT).
Description: Number of general standards issued, in millions, at the federal, state and municipal levels.

Priority topic: Predictability in the application of standards

Goal: Ensuring predictability in the application of standards

Objective: Improving Brazil's position in the ranking of quality application of standards from 64th to 55th place

FIGURE A2 – BRAZIL'S POSITION IN A RANKING OF QUALITY APPLICATION OF RULES



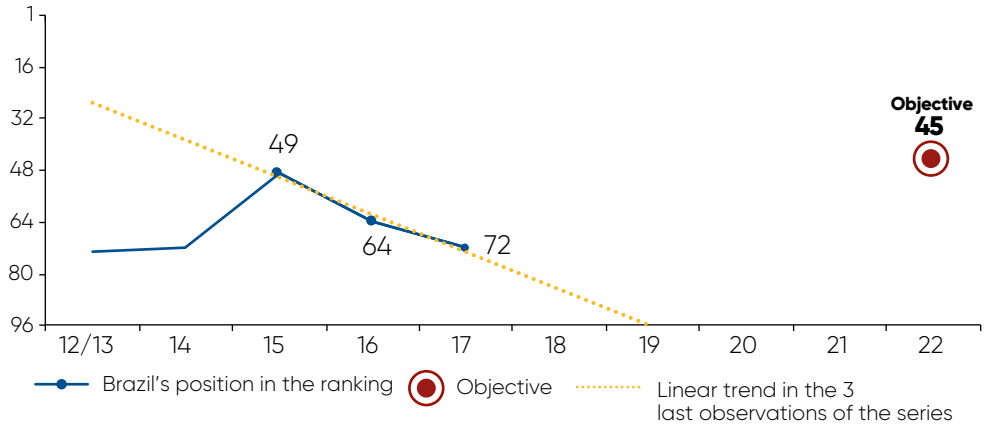
Source: CNI, based on data from the World Justice Project.
Description: Brazil's position in a ranking, with a fixed panel of 96 countries, created from the average of scores in the sub-factors "Government powers are effectively limited by law and by the judiciary", "Administrative procedures are conducted without unreasonable delays", "Civil justice is free of improper government influence", "Civil justice is not subject to unreasonable delays" and "Civil Justice is effectively enforced" of the Rule of Law Index.

Priority topic: Judicialization

Goal: Reducing the judicialization of disputes

Objective: Improving Brazil's position in the ranking of effectiveness of alternative dispute resolution mechanisms from 72nd to 45th place

FIGURE A3 – BRAZIL'S POSITION IN THE RANKING OF EFFECTIVENESS OF ALTERNATIVE DISPUTE RESOLUTION MECHANISMS

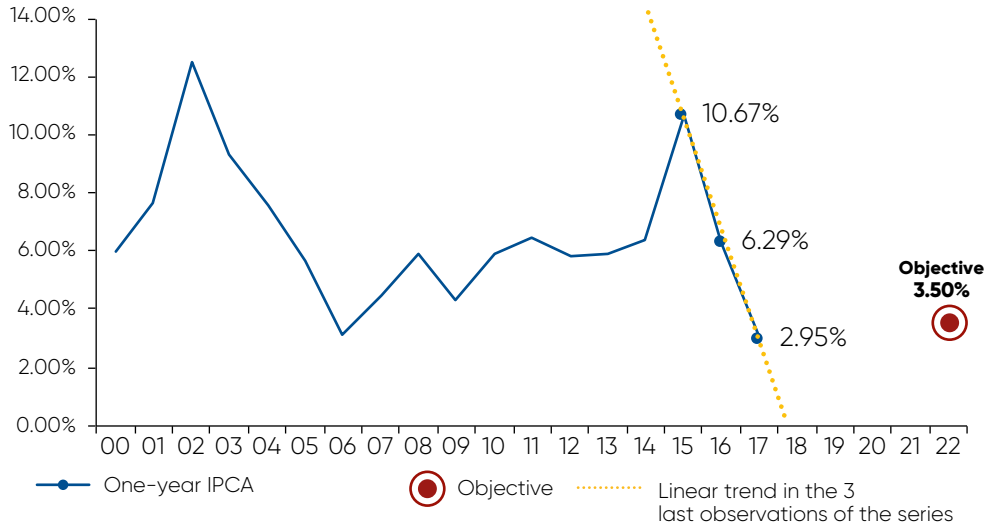


Source: CNI, based on data from the World Justice Project.
Description: Position of Brazil in a ranking, with a fixed panel of 96 countries, created from the average of scores in the sub-factor "Alternative dispute resolution mechanisms are accessible, impartial and effective" of the Rule of Law Index.

Key factor: **Macroeconomic Environment**

Priority topic: Stability and predictability
Goal: Ensuring stability and predictability in macroeconomic policy
Objective: Keeping the inflation rate below 3.5% per year

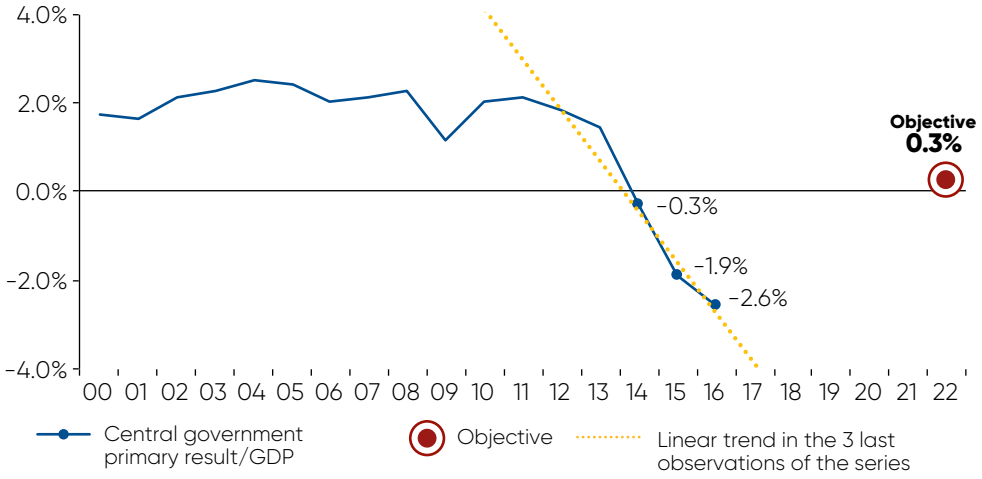
FIGURE A4 – ANNUAL INFLATION RATE (%)



Source: CNI, based on IBGE data.
Description: Annual inflation rate as measured by the one-year Expanded Consumer Price Index (IPCA).

Priority topic: Stability and predictability
Goal: Recovering and ensuring fiscal balance
Objective: Increasing the primary result of the public sector from -2.6% to 0.3%

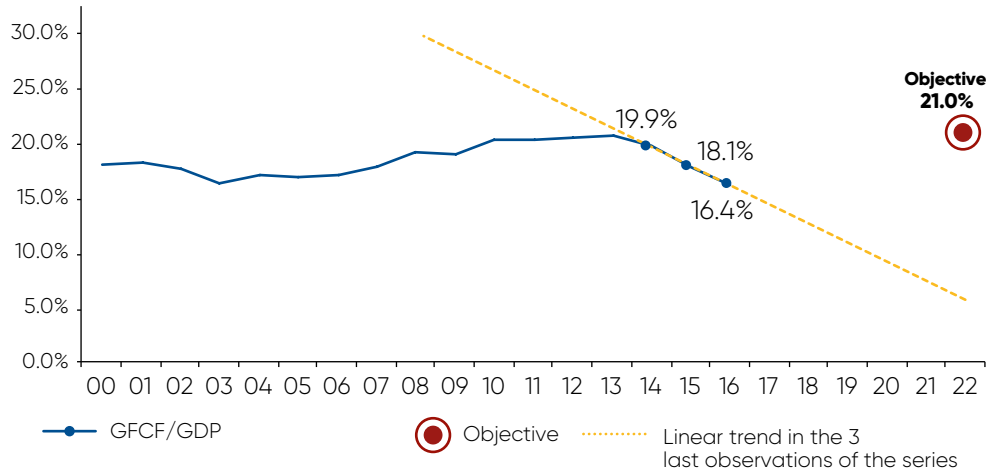
FIGURE A5 – CENTRAL GOVERNMENT PRIMARY RESULT (% OF GDP)



Source: CNI, based on data from the National Treasury.
Description: Central Government primary result as a percentage of GDP.

Priority topic: Investment
Goal: Increasing the investment rate
Objective: Increasing the investment rate from 16.4% to 21%

FIGURE A6 – INVESTMENT RATE (%)

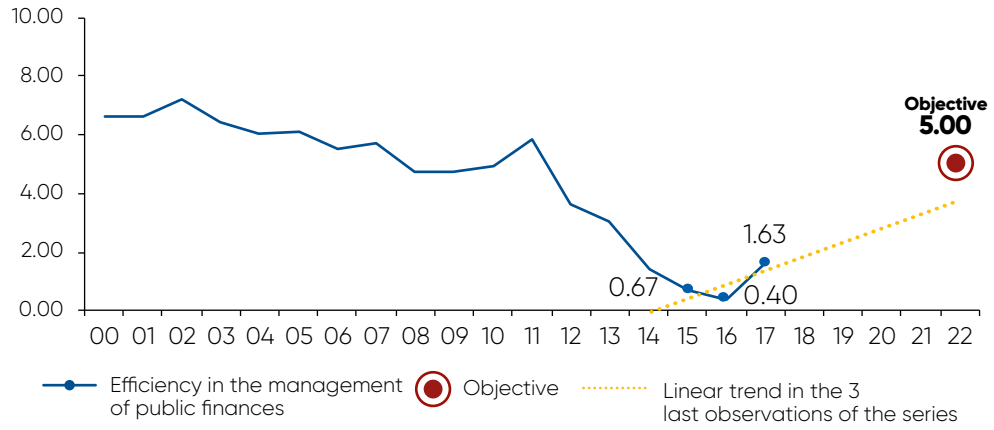


Source: CNI, based on IBGE data.
Description: Gross Fixed Capital Formation as a percentage of GDP.

Key factor: **Efficiency of the State, Governance and Red Tape Reduction**

Priority topic: Public Management
Goal: Improving the efficiency of public spending
Objective: Improving Brazil's score on efficiency in the management of public finances from 1.63 to 5.00

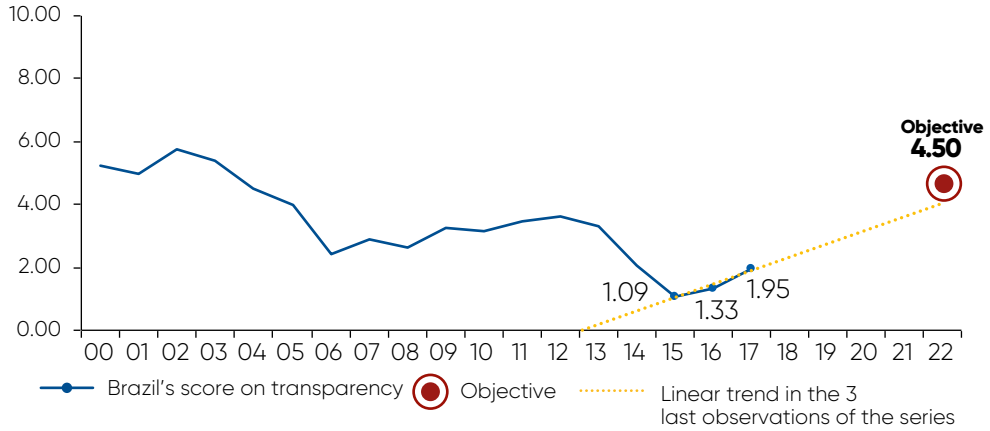
FIGURE A7 – BRAZIL'S SCORE ON EFFICIENCY IN THE MANAGEMENT OF PUBLIC FINANCES



Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on efficiency in the management of public finances, considering that score 0 = "public finances are not being managed efficiently" and score 10 = "public finances are being managed efficiently."

Priority topic: Public Management
Goal: Increasing transparency in the public sector
Objective: Improving Brazil's score on transparency of government policy from 1.95 to 4.50

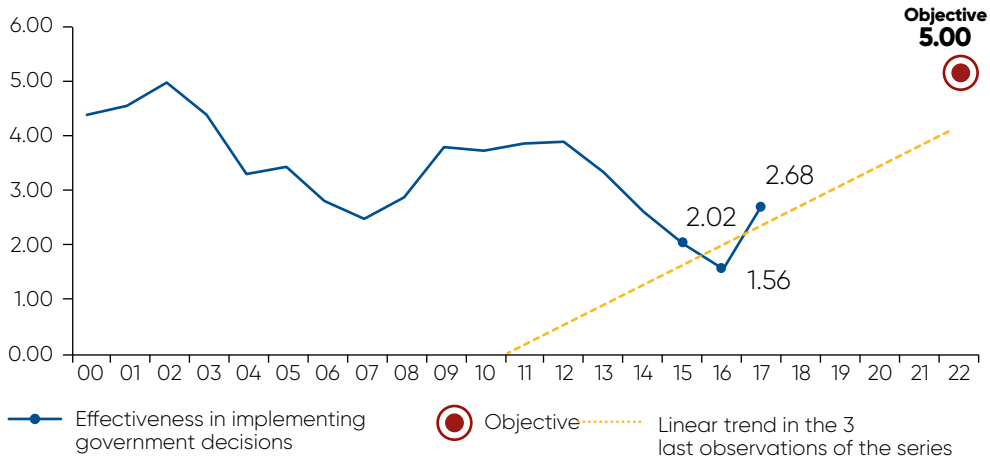
FIGURE A8 – BRAZIL'S SCORE ON TRANSPARENCY OF GOVERNMENT POLICY



Source: Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on government policy transparency, considering that score 0 = " transparency of government policies is unsatisfactory" and score 10 = "transparency of government policies is satisfactory."

Priority topic: Governance
Goal: Increasing governance effectiveness
Objective: Improving Brazil's score on effectiveness in implementing government decisions from 2.68 to 5.00

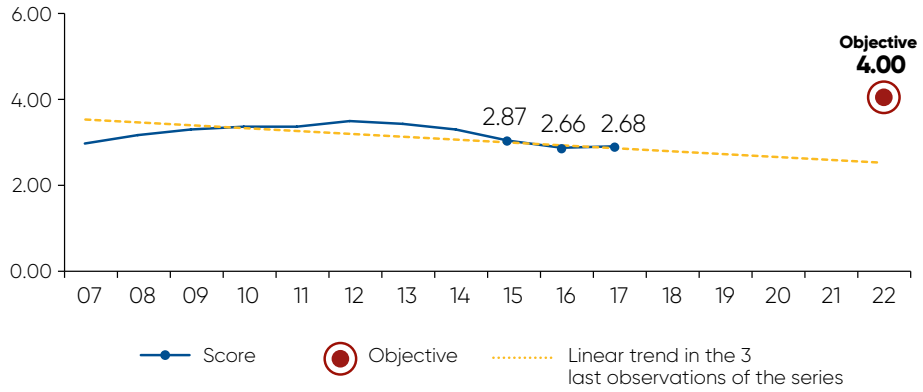
FIGURE A9 – BRAZIL'S SCORE ON EFFECTIVENESS IN IMPLEMENTING GOVERNMENT DECISIONS



Source: CNI, based on data from the World Competitiveness Yearbook (IMD)
Description: Brazil's score on effective implementation of government decisions, considering that score 0 = "decisions are not effectively implemented" and score 10 = "decisions are effectively implemented."

Priority topic: Public Safety
Goal: Improving public safety
Objective: Improving Brazil's score on crime costs for business from 2.68 to 4.00

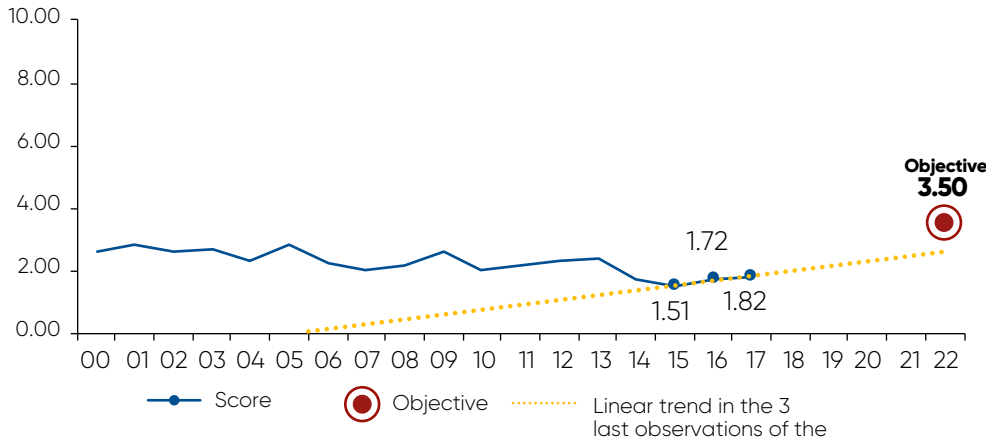
FIGURE A10 – BRAZIL'S SCORE ON CRIME COSTS FOR BUSINESS



Source: CNI, based on data from the Global Competitiveness Report (WEF).
Description: Brazil's score on crime costs for business, considering that score 0 = "crime and violence generate great costs for business" and 7 = "crime and violence do not impose costs on business."

Priority topic: Health Care System
Goal: Improving the performance of the health care system
Objective: Improving Brazil's score on appropriateness of the health care infrastructure from 1.82 to 3.50

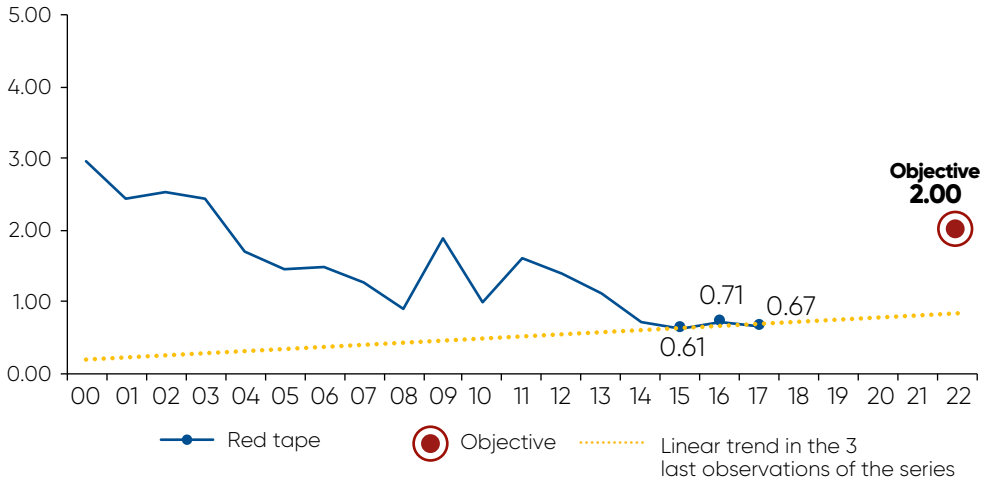
FIGURE A11 – BRAZIL'S SCORE ON APPROPRIATENESS OF THE HEALTH CARE INFRASTRUCTURE



Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on appropriateness of the health care infrastructure, considering that 0 = "Health care infrastructure does not meet the needs of society" and 10 = "Health care infrastructure meets the needs of society."

Priority topic: Red Tape Reduction
Goal: Reducing excessive bureaucratic procedures that affect the business environment
Objective: Improving Brazil's score on business losses caused by red tape from 0.67 to 2.00

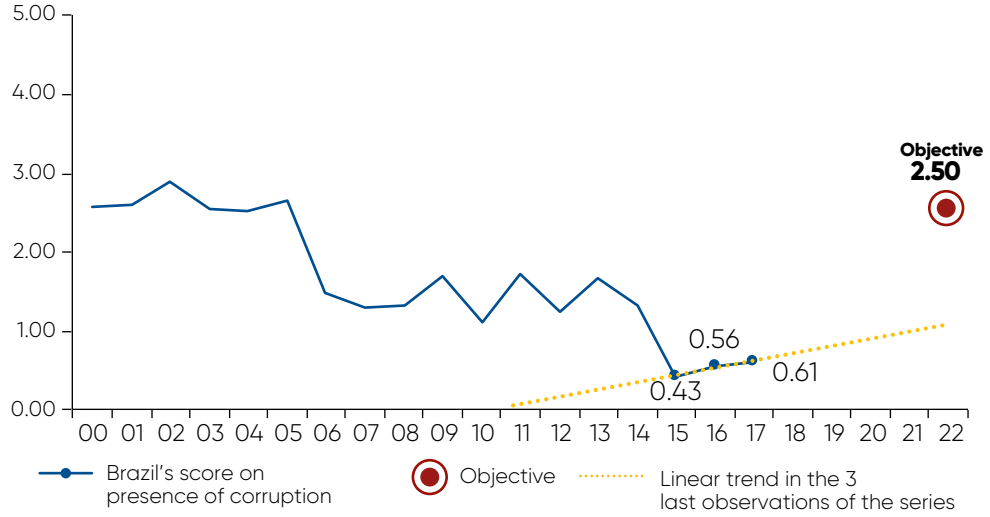
FIGURE A12 – BRAZIL'S SCORE ON LOSSES CAUSED TO BUSINESS BY RED TAPE



Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on the extent to which red tape in the country harms business, considering that score 0 = "Red tape harms business" and score 10 = "Red tape does not harm business."

Priority topic: Fighting Corruption
Goal: Strengthening and improving anti-corruption mechanisms
Objective: Improving Brazil's score on presence of corruption from 0.61 to 2.50

FIGURE A13 – BRAZIL'S SCORE ON PRESENCE OF CORRUPTION



Source: Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on presence of corruption, considering that score 0 = "There is corruption" and score 10 = "There is no corruption."

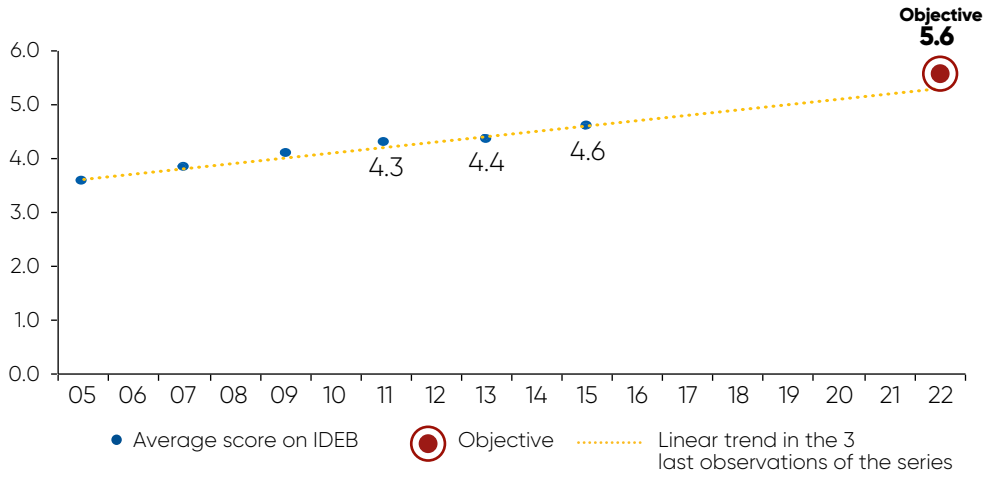
Key factor: **Education**

Priority topic: Basic Education

Goal: Improving the quality of basic education

Objective: Improving the average score on the basic education development index (IDEB) from 4.6 to 5.6

FIGURE A14 – AVERAGE SCORE ON THE IDEB



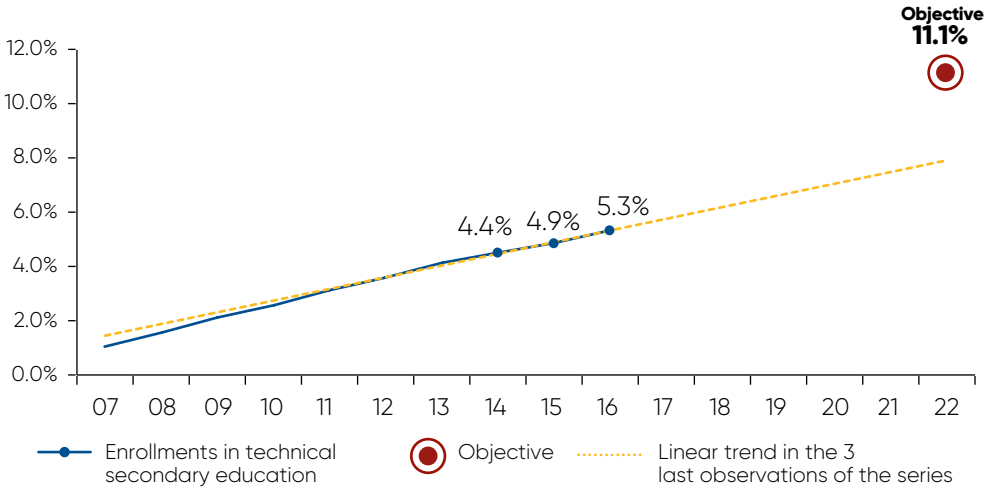
Source: CNI, based on data from IDEB (INEP).
Description: Simple average of IDEB scores for Elementary School I, Elementary School II and High School.

Priority topic: Basic Education

Goal: Increasing the supply of secondary education integrated into technical and vocational training

Objective: Increasing the share of integrated secondary education from 5.3% to 11.1%

FIGURE A15 – SHARE OF INTEGRATED SECONDARY EDUCATION (%)



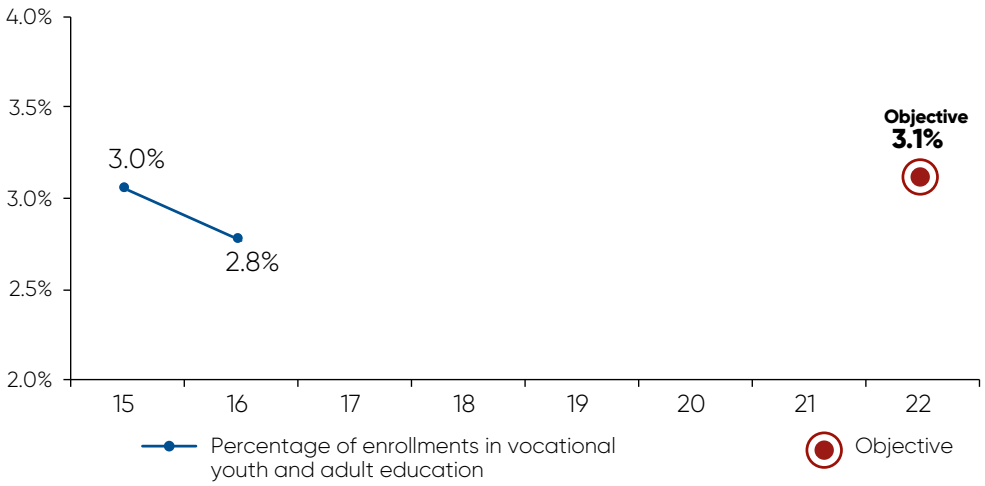
Source: CNI, based on data from the Basic Education Census (INEP).
Description: Percentage of enrollments in technical education integrated into secondary education in total secondary school enrollments.

Priority topic: Basic Education

Goal: Increasing the supply of Youth and Adult Education (EJA) linked to Vocational Education

Objective: Increasing the share of vocational education in youth and adult education from 2.8% to 3.1%

FIGURE A16 – SHARE OF VOCATIONAL EDUCATION IN YOUTH AND ADULT EDUCATION (%)



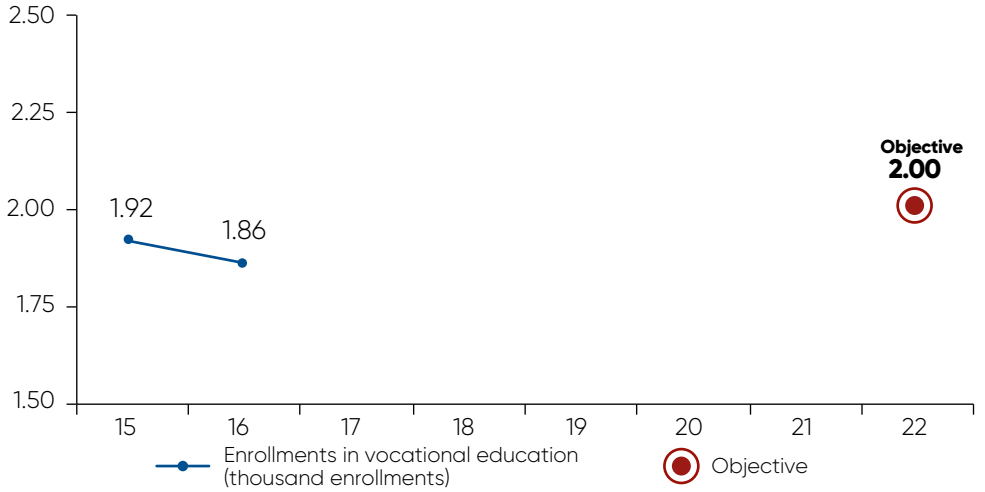
Source: CNI, based on data from the Basic Education Census (INEP).
Note: Trend cannot be calculated with less than three observations.
Description: Percentage of enrollments in vocational youth and adult education [includes enrollments for FIC (continued initial training) courses integrated to youth and adult education (EJA) at the elementary and secondary level, technical courses (high school) integrated into EJA and elementary education for youths in urban areas (EJA Ensino Fundamental Projovem Urbano)].

Priority topic: Vocational Education

Goal: Increasing the supply of a Vocational Education model aligned with the demands of the productive sector

Objective: Increasing the number of enrollments in vocational education from 1.86 million to 2 million

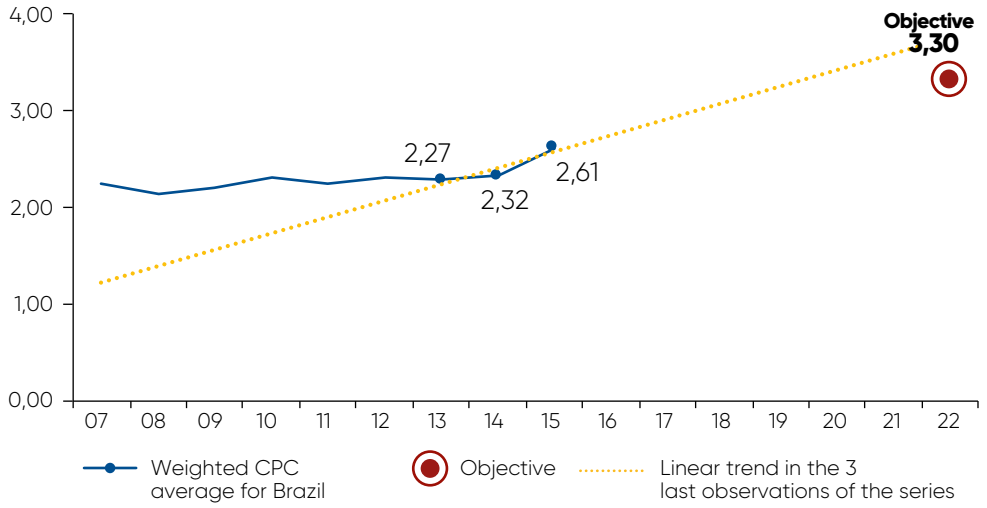
FIGURE A17 – ENROLLMENTS IN VOCATIONAL EDUCATION (MILLIONS)



Source: CNI, based on data from the Basic Education Census (INEP).
Note: Trend cannot be calculated with less than three observations.
Description: Number of enrollments in vocational education [includes Integrated technical courses (integrated secondary education), teacher training courses, concurrent and subsequent technical courses, concurrent FIC courses, FIC courses integrated into EJA at elementary and secondary levels, elementary education for youths in urban areas (EJA Ensino Fundamental Projovem Urbano) and technical courses integrated into EJA (EJA integrated to vocational education at secondary level) for regular, special and/or EJA education)].

Priority topic: Higher Education
Goal: Improving the quality of higher education
Objective: Improving the average score of undergraduate courses in Brazil from 2.61 to 3.30

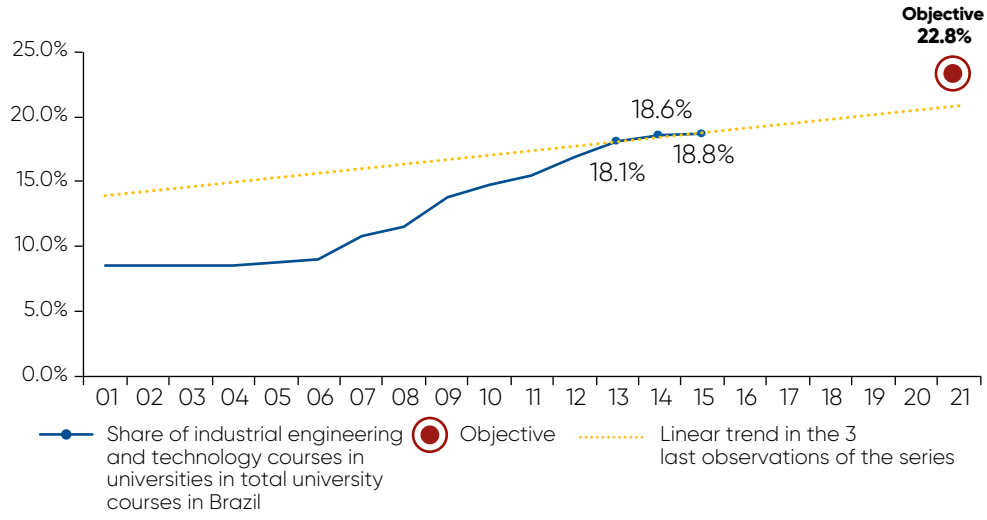
FIGURE A18 – AVERAGE SCORE OF UNDERGRADUATE COURSES IN BRAZIL



Source: CNI, based on data from the Preliminary Course Concept (INEP).
Description: Average Preliminary Course Concepts (CPC) - for all Brazilian undergraduate courses. For calculating the national average, the number of graduates is used as weight. This information is not available for 2007, 2008 and 2009, and in these cases the number of participants is used as weight.

Priority topic: Higher Education
Goal: Increasing the supply of industrial engineers and technologists
Objective: Increasing the share of industrial engineering and technology courses in universities from 18.8% to 22.8%

FIGURE A19 – SHARE OF INDUSTRIAL ENGINEERING AND TECHNOLOGY COURSES IN UNIVERSITIES (%)

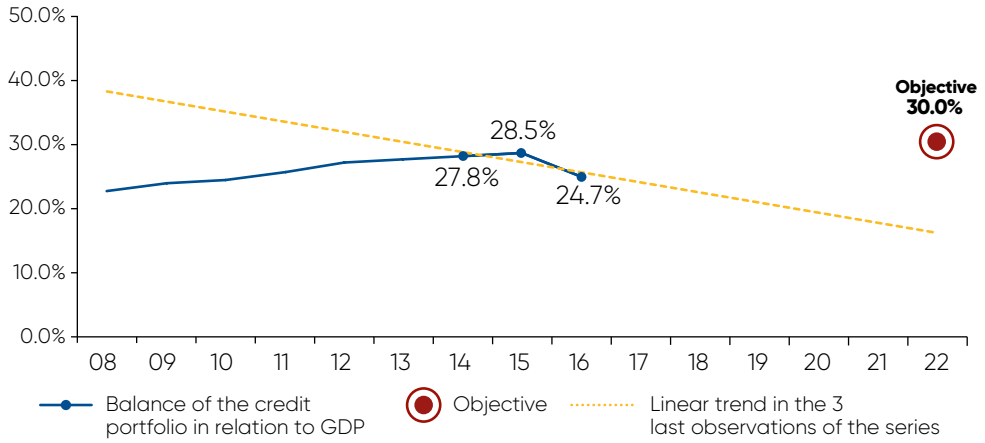


Source: CNI, based on data from the Higher Education Census (INEP)
Description: Share of industrial engineering and technology courses in universities in total university enrollments in Brazil.

Key factor: **Financing**

Priority topic: Bank Financing
Goal: Increasing the amount of bank financing
Objective: Increasing the balance of the loan portfolio in relation to GDP from 24.7% to 30.0%

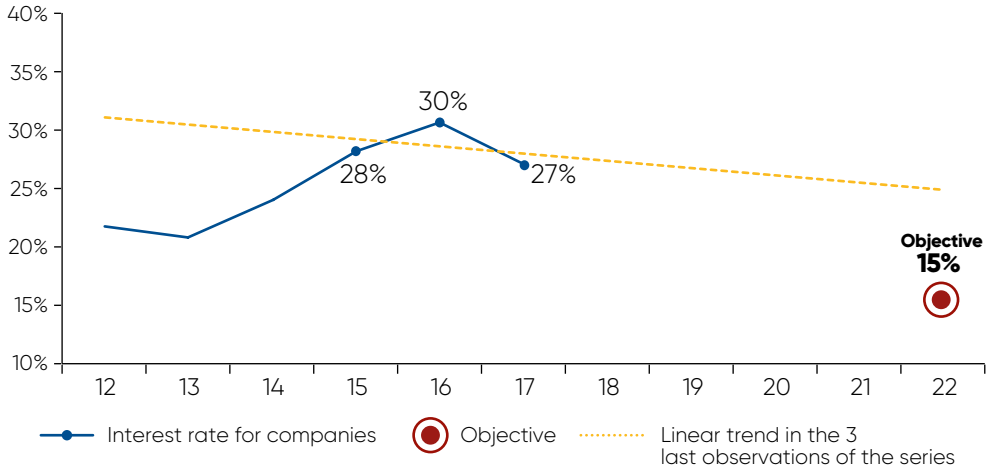
FIGURE A20 – BALANCE OF THE CREDIT PORTFOLIO (% OF GDP)



Source: CNI, based on data from the Central Bank of Brazil and IBGE.
Description: End-of-period balance of credit operations contracted in the National Financial System. Includes operations contracted in the non-earmarked credit segment and in the earmarked credit segment.

Priority topic: Bank Financing
Goal: Reducing interest rates for companies
Objective: Reducing interest rates for companies from 27% to 15% per annum.

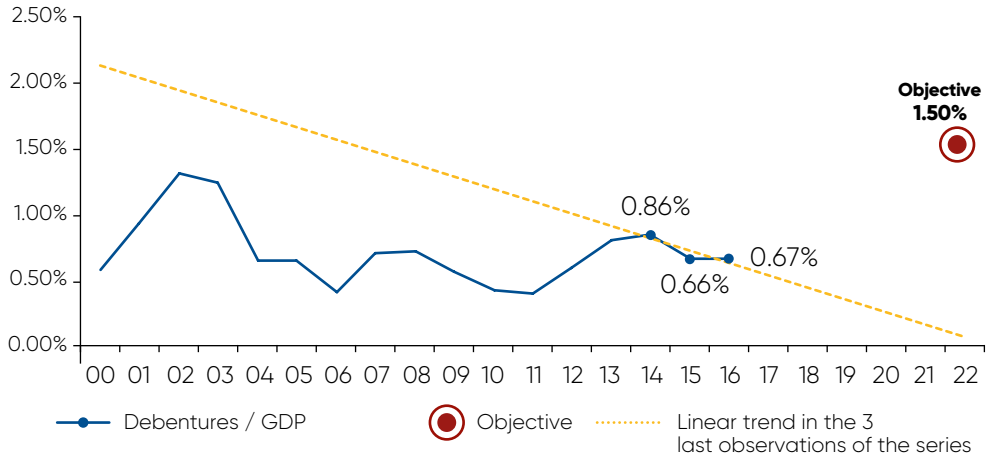
FIGURE A21 – INTEREST RATE FOR COMPANIES (%)



Source: CNI, based on data from the Central Bank of Brazil.
Description: Average interest rate for credit operations with non-earmarked resources - Companies – Total

Priority topic: Non-Bank Financing
Goal: Expanding the corporate fixed income market
Objective: Increasing the ratio of total debentures in relation to GDP from 0.67% to 1.50%

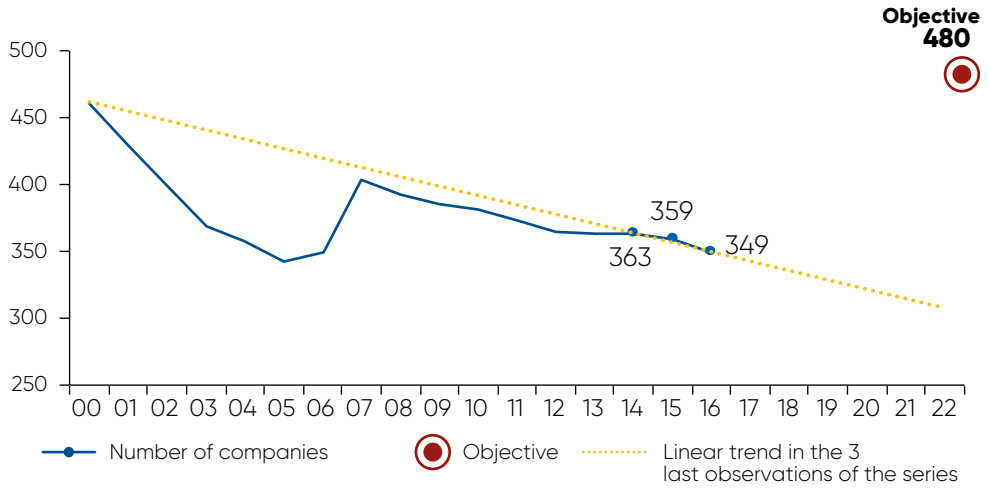
FIGURE A22 – TOTAL VALUE OF DEBENTURES (% OF GDP)



Source: CNI, based on data from the Brazilian Association of Financial and Capital Market Entities (ANBIMA).
Description: Total value of debentures (without leasing) divided by GDP.

Priority topic: Non-Bank Financing
Goal: Developing the stock market
Objective: Increasing the number of listed companies from 349 to 480

FIGURE A23 – NUMBER OF COMPANIES LISTED ON THE STOCK EXCHANGE



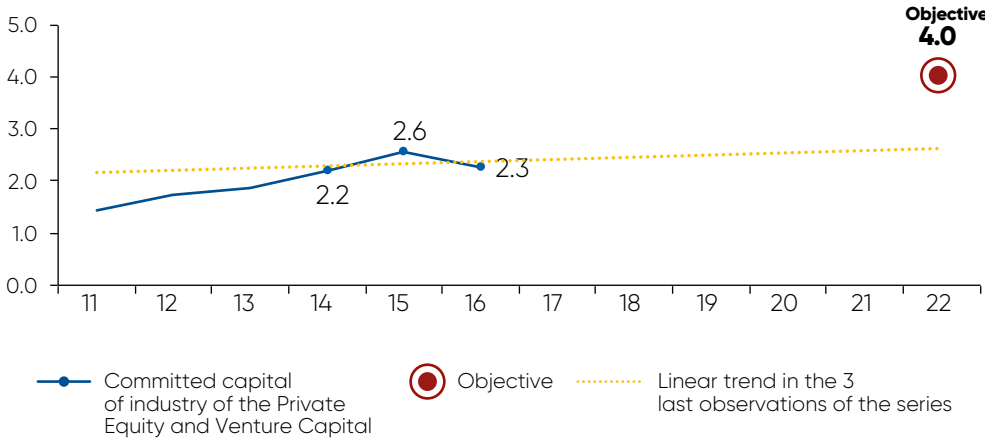
Source: CNI, based on WFE data.
Description: Number of companies listed on the Brazilian stock exchange (BM&F/BOVESPA)

Priority topic: Non-Bank Financing

Goal: Increasing access to new financing mechanisms

Objective: Increasing the committed capital of industry of the private equity and venture capital from 2.3% to 4.0% of GDP

FIGURE A24 – COMMITTED CAPITAL OF INDUSTRY OF THE PRIVATE EQUITY AND VENTURE CAPITAL (% OF GDP)



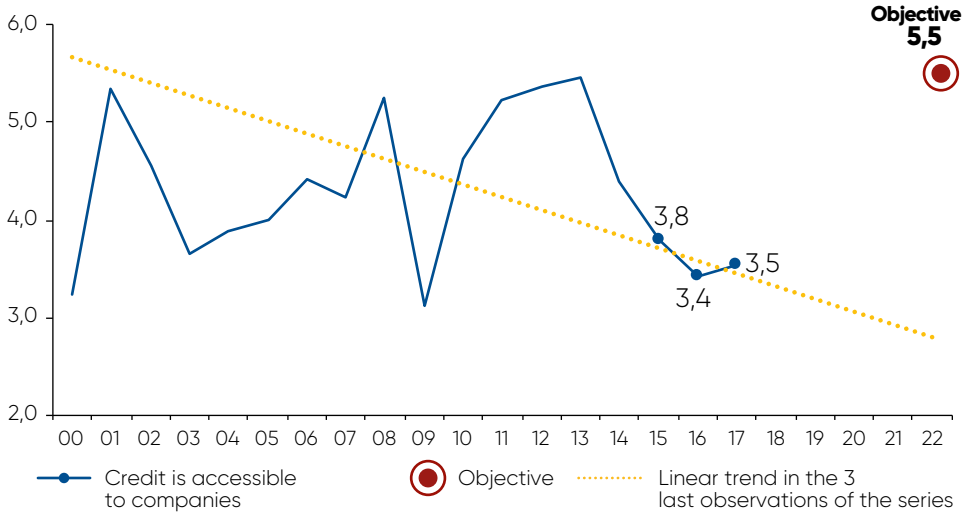
Source: CNI, based on data from KPMG and from the Brazilian Private Equity and Venture Capital Association.
Description: Committed Capital of the Private Equity and Venture Capital industry as a percentage of GDP.

Priority topic: Collateral

Goal: Facilitating the access of companies to the credit collateral system

Objective: Improving Brazil's score on ease of access to credit from 3.5 to 5.5

FIGURE A25 – BRAZIL'S SCORE ON EASE OF ACCESS TO CREDIT



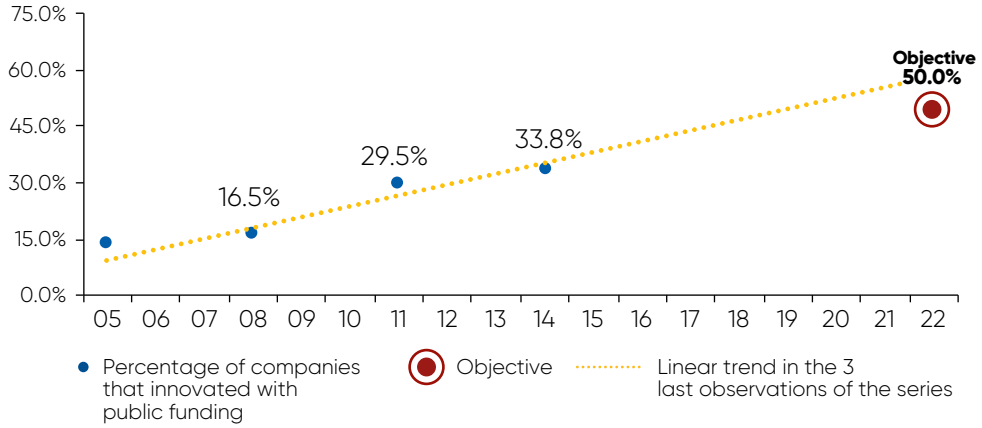
Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on the criterion of access to credit, considering score 0 = "credit is not accessible to companies" and score 10 = "credit is accessible to companies."

Priority topic: Financing for Innovation, Exports and MSMEs

Goal: Improving mechanisms to facilitate access to financing and incentives for innovation

Objective: Increasing the share of industrial companies that promoted innovations with public financing in relation to the total of industrial companies that innovated from 33.8% to 50.0%

FIGURE A26 – SHARE OF INDUSTRIAL COMPANIES THAT PROMOTED INNOVATIONS WITH PUBLIC FINANCING IN RELATION TO THE TOTAL OF INDUSTRIAL COMPANIES THAT INNOVATED (%)



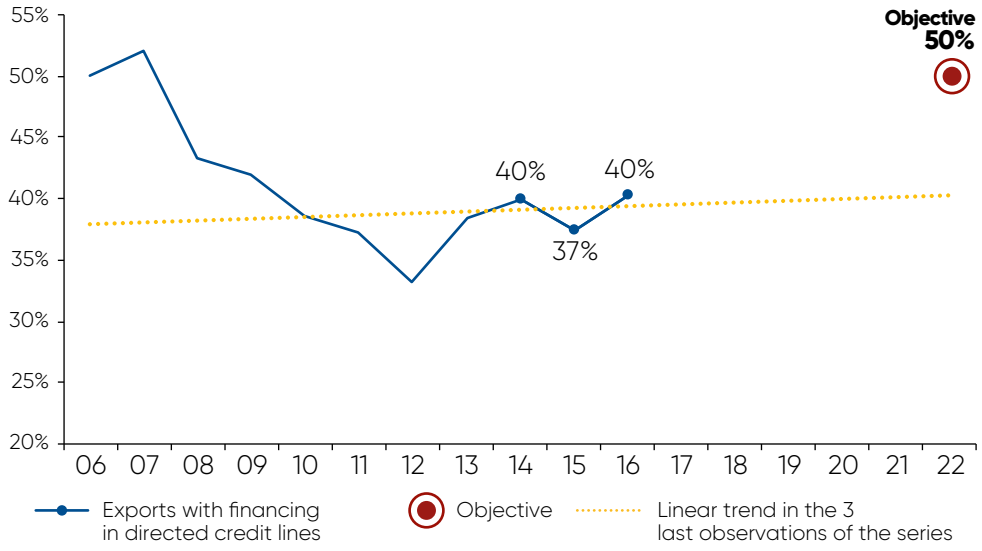
Source: CNI, based on data from the Innovation Survey - PINTEC (IBGE).
Description: Percentage of mining and manufacturing enterprises that innovated with public funding in relation to the total number of industrial enterprises that innovated.

Priority topic: Financing for Innovation, Exports and MSMEs

Goal: Expanding export financing

Objective: Increasing the percentage of exports relying on specific financing lines from 40% to 50%

FIGURE A27 – PERCENTAGE OF EXPORTS RELYING ON SPECIFIC FINANCING LINES (%)



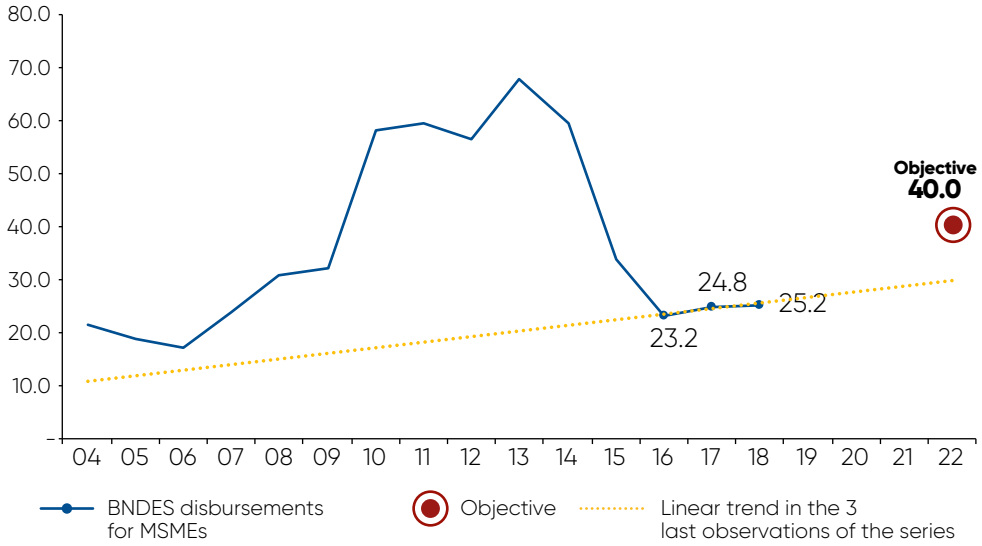
Source: CNI, based on data from the Central Bank of Brazil and BNDES.
Description: Disbursements with financing lines related to advance on exchange contracts (ACC), prepayment and BNDES EXIM for exports of goods and services.

Priority topic: Financing for Innovation, Exports and MSMEs

Goal: Increasing credit lines available to micro, small and medium-sized enterprises

Objective: Increasing BNDES disbursements for MSMEs from R$25.2 million to R$40.0 million in constant reals of 2014

FIGURE A28 – BNDES DISBURSEMENTS TO MSMES (R$ MILLION IN 2014)



Source: CNI, based on data from BNDES and IBGE.
Description: Annual disbursements of the BNDES system for micro, small and medium enterprises deflated at 2014 prices by the Expanded Consumer Price Index (IPCA).

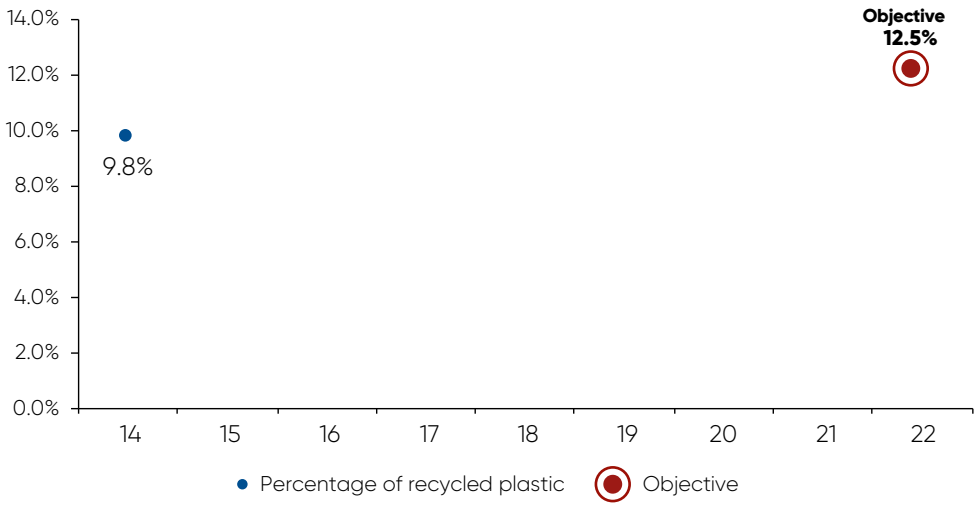
Key factor: **Natural Resources and the Environment**

Priority topic: Use of Natural Resources

Goal: Managing solid waste as a valuable resource in line with the concepts of circular economy

Objective: Increasing the percentage of recycled plastic in relation to total plastics production from 9.8% to 12.5%

FIGURE A29 – PERCENTAGE OF RECYCLED PLASTIC IN RELATION TO TOTAL PLASTICS PRODUCTION (%)



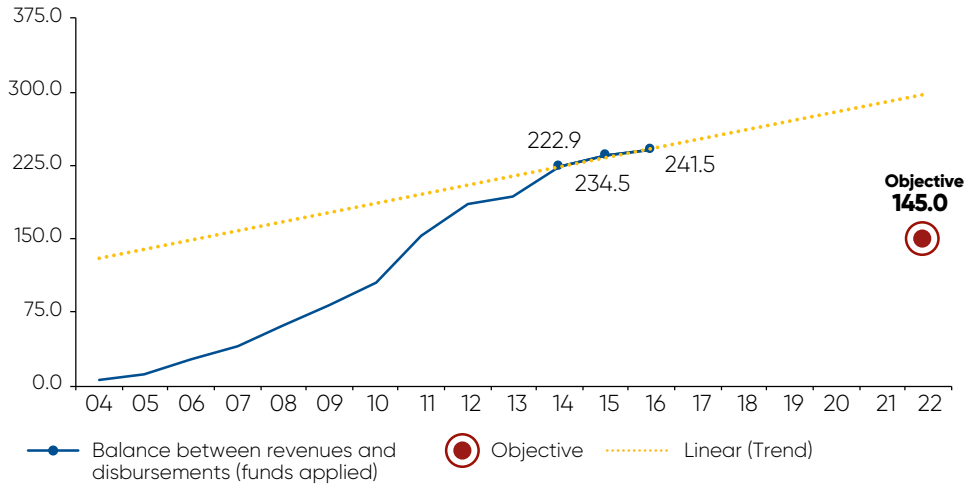
Source: CNI, based on data from the Brazilian Association of the Plastics Industry (ABIPLAST).
Note: Trend cannot be calculated with less than three observations.
Description: Percentage of plastic recycling (amount of applied recycled plastics as a percentage of the amount of thermoplastic resin produced).

Priority topic: Use of Natural Resources

Goal: Improving the management of water resources, ensuring stability in their supply and prices

Objective: Reducing the unused balance of revenues from water bills from R$241.5 million to R$145 million

FIGURE A30 – UNUSED BALANCE OF REVENUES FROM WATER BILLS (R$ MILLION)



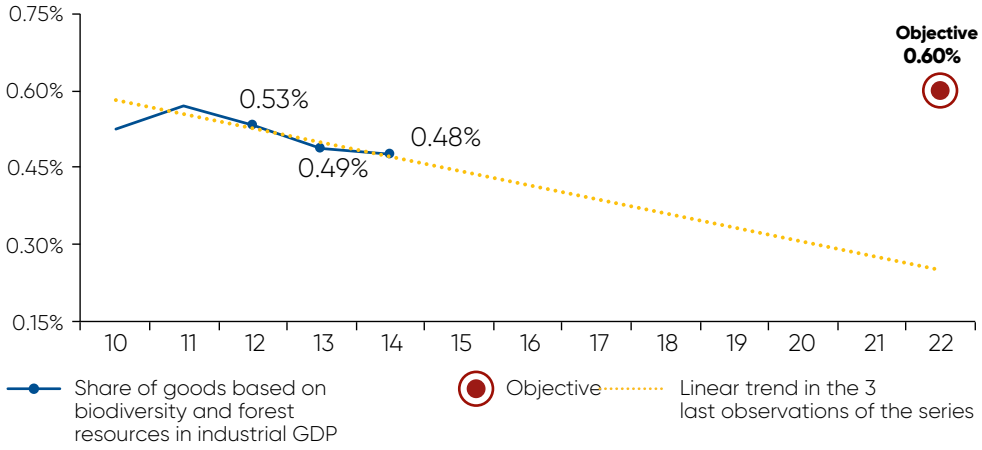
Source: CNI, based on data from the National Water Agency (ANA).
Description: Balance between revenues from water bills and funds applied.

Priority topic: Use of Natural Resources

Goal: Expanding the economic and sustainable use of biodiversity and forest resources

Objective: Increasing the share of biodiversity-based goods in the total production of Brazilian industry from 0.48% to 0.60%

FIGURE A31 – SHARE OF BIODIVERSITY-BASED GOODS IN THE TOTAL PRODUCTION OF BRAZILIAN INDUSTRY (%)



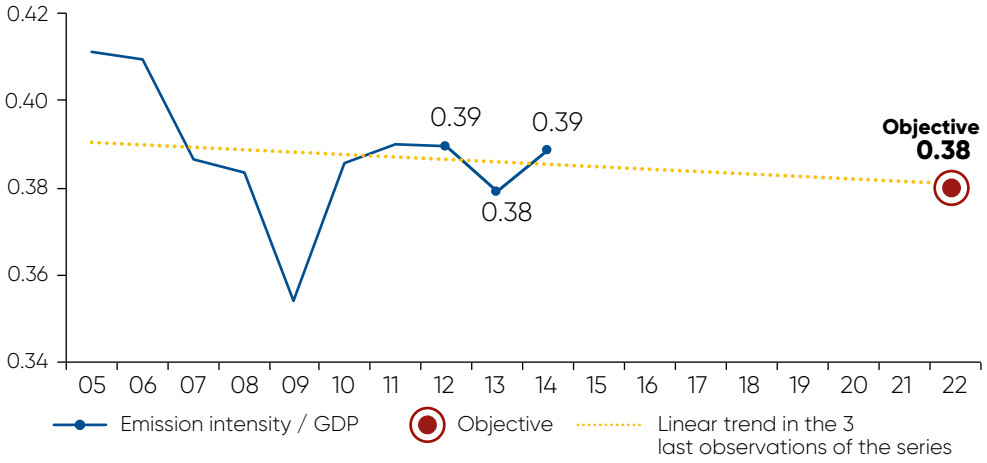
Source: CNI, based on data from the National Accounts and from the Vegetal Extraction and Forestry Production survey (IBGE).
Description: Value of the production of products based on biodiversity and forest resources in relation to the value of the total production of industry.

Priority topic: Low-Carbon Economy

Goal: Reducing the intensity of CO_2 equivalent emissions from Brazilian industrial production processes

Objective: Reducing the ratio between CO_2 equivalent emissions by industry and industrial GDP from 0.39 to 0.38

FIGURE A32 – CO_2 EQUIVALENT EMISSIONS BY INDUSTRY (% OF INDUSTRIAL GDP AT 1995 PRICES)



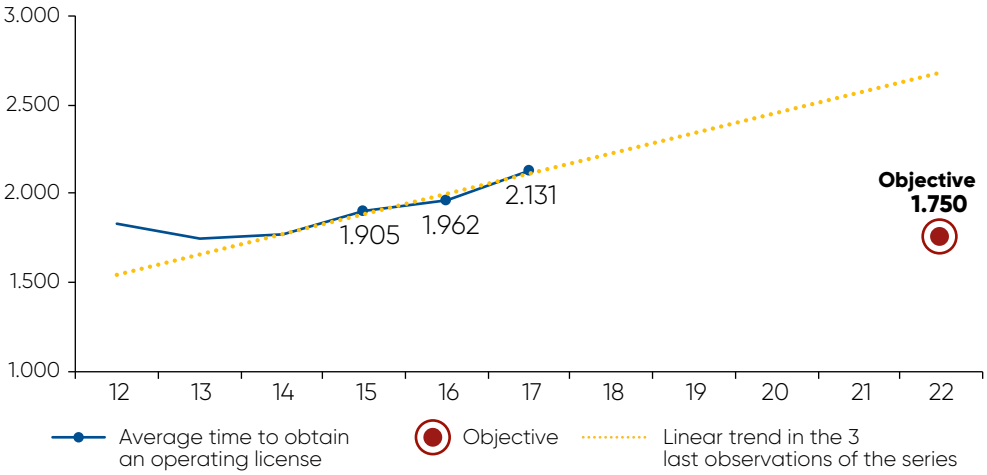
Source: CNI, based on data from the National Emission Registry System - SIRENE (MCTI) and from the National Accounts (IBGE)
Description: CO_2 equivalent emissions from industrial processes and from the use of solvents and other products in relation to industrial GDP (at 1995 prices).

Priority topic: Environmental Licensing

Goal: Improving the environmental licensing system

Objective: Reducing the average time for obtaining environmental licenses from IBAMA from 2,131 days to 1,750 days

FIGURE A33 – AVERAGE TIME FOR OBTAINING ENVIRONMENTAL LICENSES FROM IBAMA (DAYS)



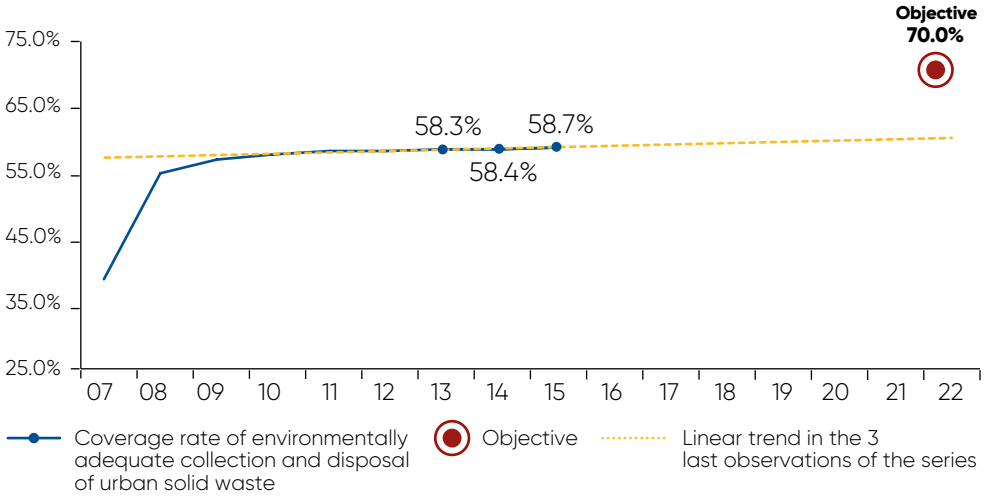
Source: CNI, based on data from the National Environmental Licensing Portal - PNLA (IBAMA).
Description: Five-year moving average of the average time in days between applying for and obtaining an operating license.

Priority topic: Basic Sanitation

Goal: Improving efficiency in the provision of urban solid waste management services

Objective: Increasing the coverage rate of environmentally adequate collection and disposal of urban solid waste from 58.7% to 70.0%

FIGURE A34 – COVERAGE OF ENVIRONMENTALLY ADEQUATE COLLECTION AND DISPOSAL OF URBAN SOLID WASTE (%)



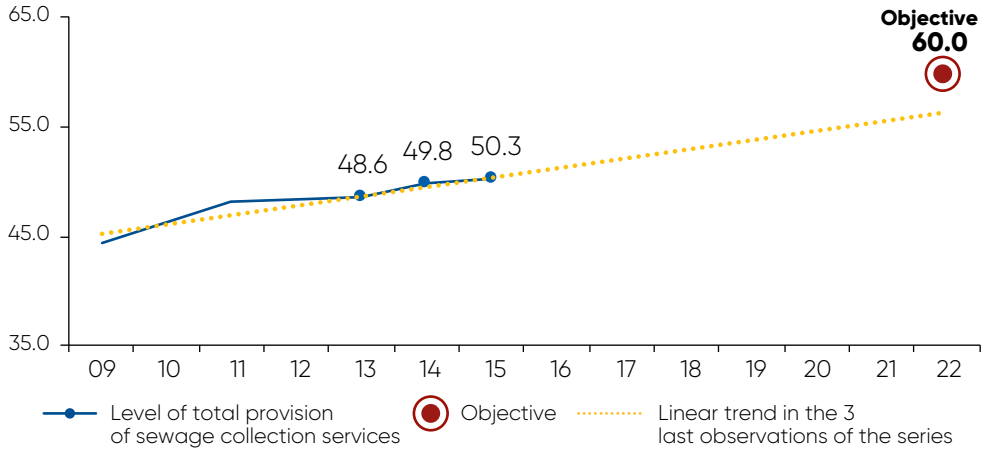
Source: CNI, based on data from the Brazilian Association of Public Cleansing and Waste Management Companies (ABRELPE).
Description: Percentage of municipal urban solid waste collected and disposed of in sanitary landfills.

Priority topic: Basic Sanitation

Goal: Improving the efficiency of services and ensuring universal access to water supply and sewage systems

Objective: Increasing the provision of sewage collection services from 50.3% to 60.0% of the population

FIGURE A35 – LEVEL OF PROVISION OF SEWAGE COLLECTION SERVICES (%)



Source: CNI, based on data from the National Sanitation Information System - SNIS (Ministry of Cities).
Description: Total population served with sanitary sewage systems in relation to the total population living in municipalities with water supply systems.

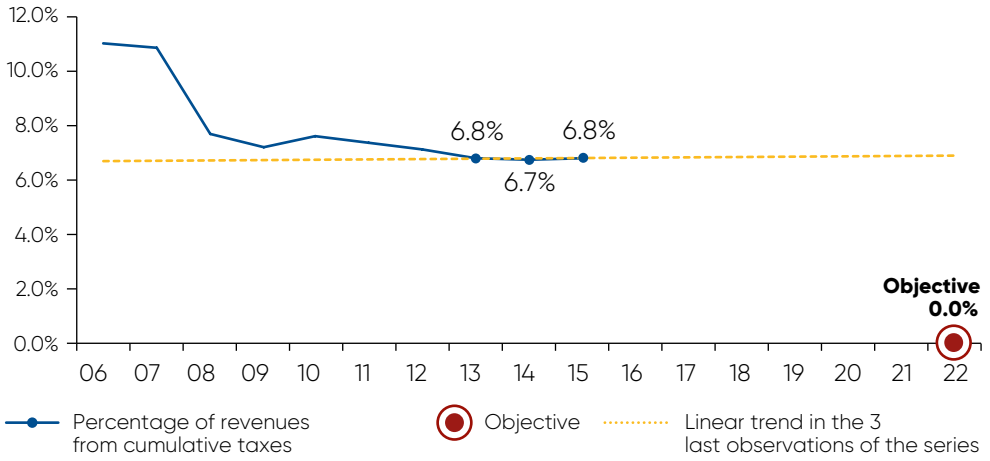
Key factor: **Taxation**

Priority topic: Quality of the Tax System

Goal: Eliminating cumulative taxes and ensuring tax exemptions for exports of goods and services

Objective: Reducing the percentage of revenues from cumulative taxes from 6.8% to 0.0%

FIGURE A36 – PERCENTAGE OF REVENUES FROM CUMULATIVE TAXES (%)



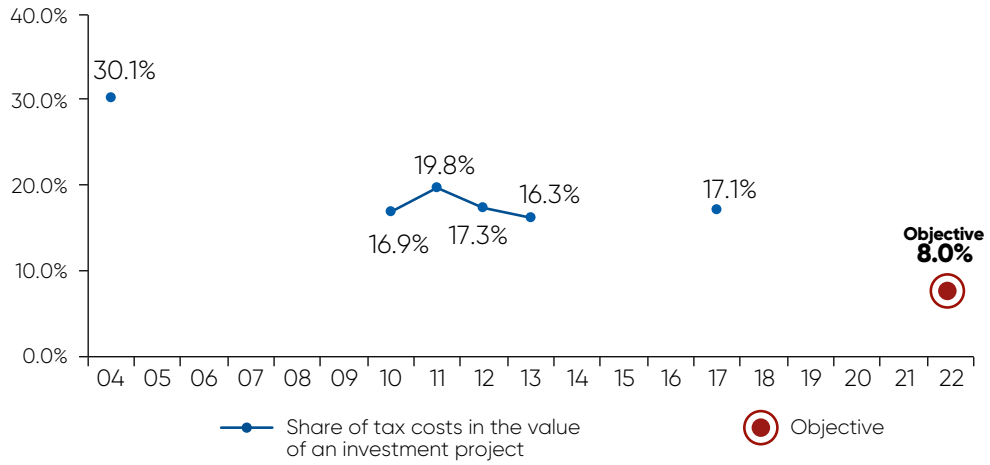
Source: CNI, based on data from the Brazilian Federal Revenue Service and from IBGE.
Description: Percentage of revenues from cumulative taxes in total tax revenue from the following taxes: ICMS (value-added tax), PIS/PASEP (Contribution to Social Integration Program and to the Public Servants' Fund Financing Program), Cofins (Social Security Financing Contribution), IPI (Tax on Industrialized Products), ISS (Tax on Services), CPMF (Provisional Contribution on Financial Operations), CIDE Combustíveis (Contribution for Intervention on the Economic Domain - Fuels) and IOF (Tax on Financial Operations).

Priority topic: Quality of the Tax System

Goal: Exempting investment from taxation

Objective: Reducing the percentage of tax costs in the total value of an investment project from 17.1% to 8.0%

FIGURE A37 – TAX COSTS IN THE TOTAL VALUE OF AN INVESTMENT PROJECT (%)



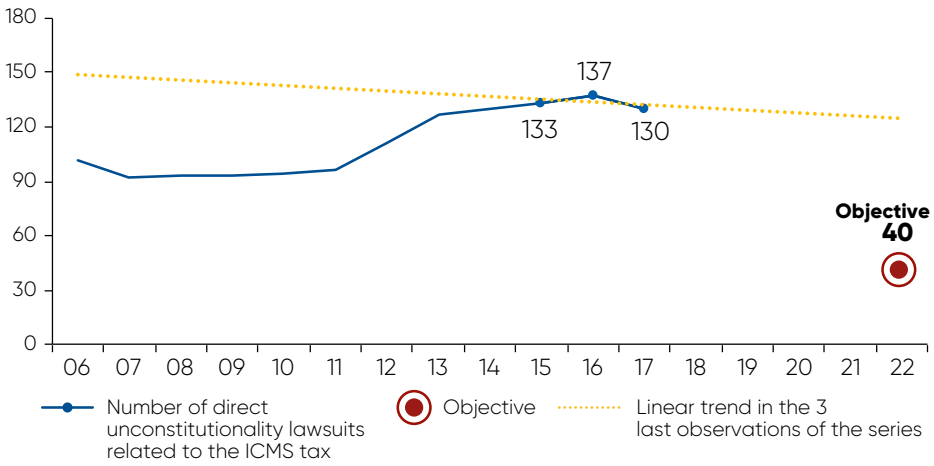
Source: CNI.
Note: It is not possible to calculate the trend line with less than three consecutive observations.
Description: Tax burden on the total cost for setting up a new steel plant in Brazil, considering non-recoverable credits and the financial cost of the long time it takes to recover credits.

Priority topic: Quality of the Tax System

Goal: Eliminating distortions in state taxation on consumption of goods and services

Objective: Reducing the number of direct unconstitutionality lawsuits related to the ICMS tax pending judgment from 130 to 40

FIGURE A38 – NUMBER OF DIRECT UNCONSTITUTIONALITY LAWSUITS RELATED TO THE ICMS TAX PENDING JUDGMENT (%)



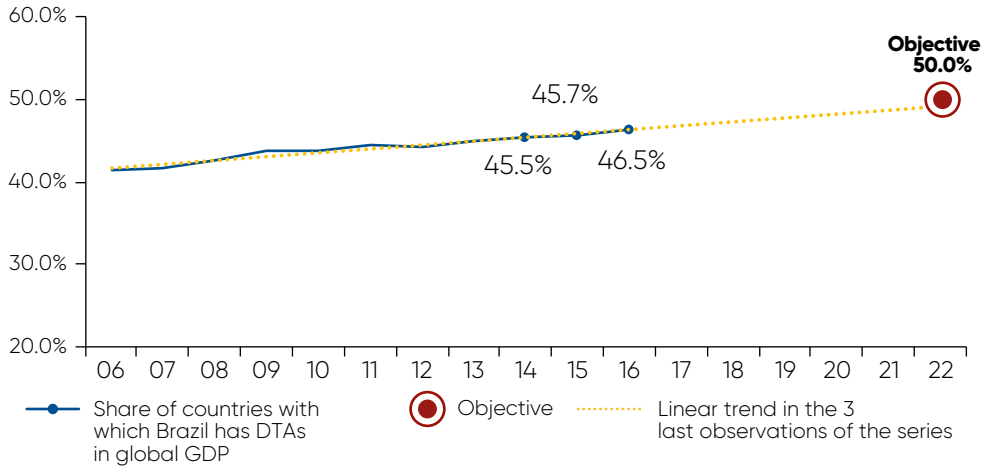
Source: CNI, based on data from the Supreme Federal Court (STF).
Description: Number of direct unconstitutionality lawsuits related to the ICMS tax yet pending judgment.

Priority topic: Taxation on Foreign Trade and International Investment Flows

Goal: Improving tax standards with the aim of expanding international trade and investment flows

Objective: Entering into more double taxation agreements (DTAs), increasing the share in global GDP of countries with which Brazil has DTAs from 46.5% to 50.0%

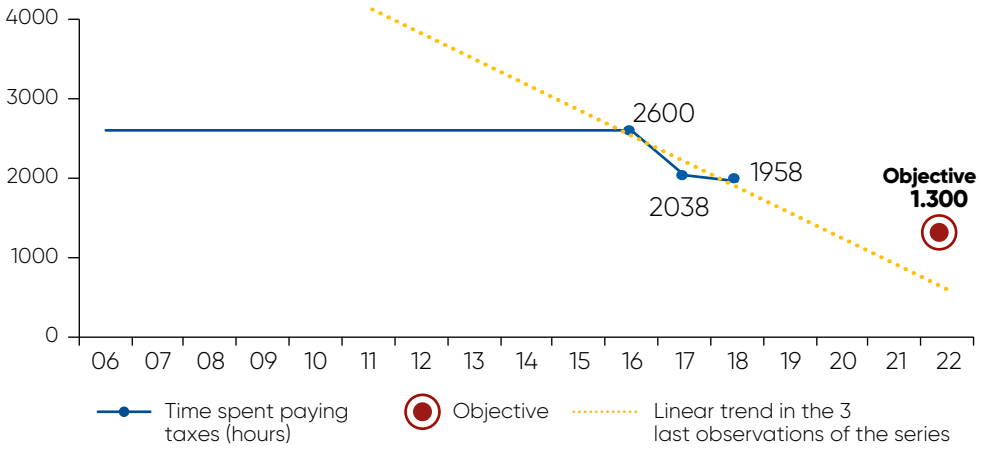
FIGURE A39 – SHARE IN GLOBAL GDP OF COUNTRIES WITH WHICH BRAZIL HAS DTAS (%)



Source: CNI, based on data from the Federal Revenue Service and from the IMF.
Description: Share of the GDP of countries with which Brazil has DTAs in global GDP.

Priority topic: Simplification and Transparency
Goal: Reducing the financial and ancillary costs associated with tax payments
Objective: Reducing the amount of hours spent paying taxes from 1,958 to 1,300 hours

FIGURE A40 – TIME SPENT PAYING TAXES (HOURS)

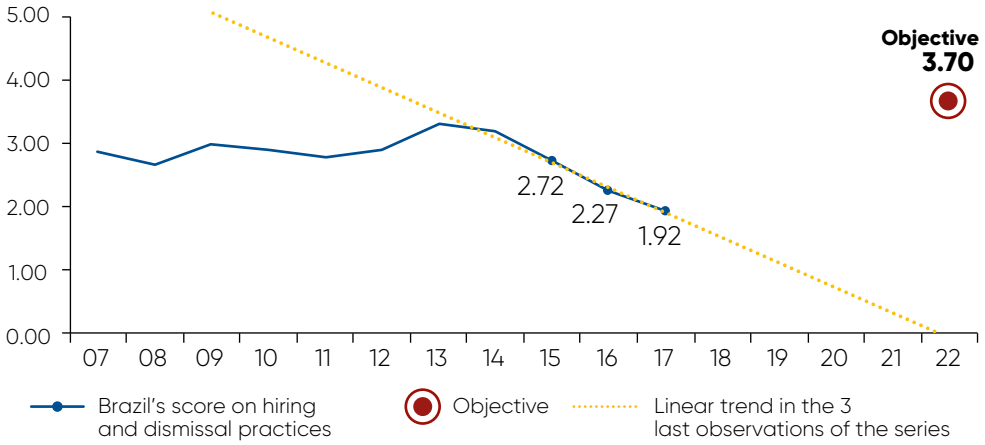


Source: CNI, based on data from the World Bank.
Description: Number of hours spent paying taxes.

Key factor: **Labor Relations**

Priority topic: Modernization of Labor Relations
Goal: Ensuring the effectiveness and continuity of measures to modernize labor regulations
Objective: Improving Brazil's score on hiring and dismissal practices, from 1.92 to 3.70

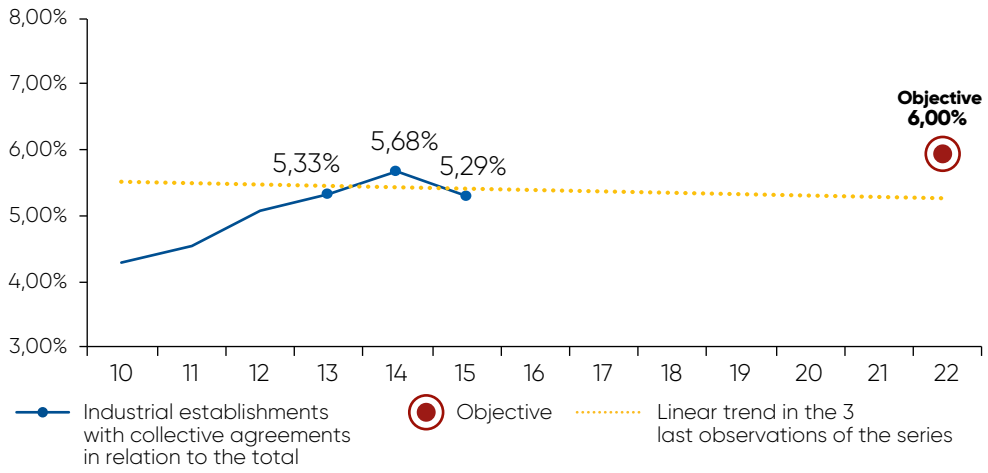
FIGURE A41 – BRAZIL'S SCORE ON HIRING AND DISMISSAL PRACTICES



Source: CNI, based on data from the Global Competitiveness Report (World Economic Forum).
Description: Average score weighted by the frequency of answers to the question "How would you characterize the hiring and dismissal of workers in your country?" (1 = made very difficult by regulations; 7 = extremely flexible).

Priority topic: Modernization of Labor Relations
Goal: Stimulating negotiations between workers and employers
Objective: Increasing the percentage of industrial establishments that enter into collective agreements from 5.29% to 6.00%

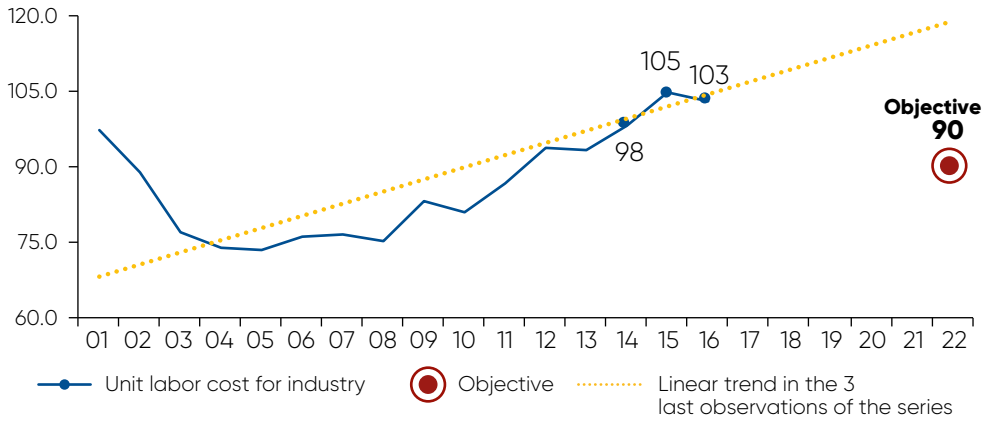
FIGURE A42 – PERCENTAGE OF INDUSTRIAL ESTABLISHMENTS THAT ENTER INTO COLLECTIVE AGREEMENTS (%)



Source: CNI, based on data from the Mediator System and from the Annual Social Information List (RAIS) of the Ministry of Labor and Employment (MTE).
Description: Number of collective agreements concluded by industrial establishments in relation to the total number of industrial establishments.

Priority topic: Labor Cost
Goal: Reducing indirect labor costs
Objective: Reducing the unit labor cost for Brazilian industry from 103 to 90

FIGURE A43 – UNIT LABOR COST FOR BRAZILIAN INDUSTRY



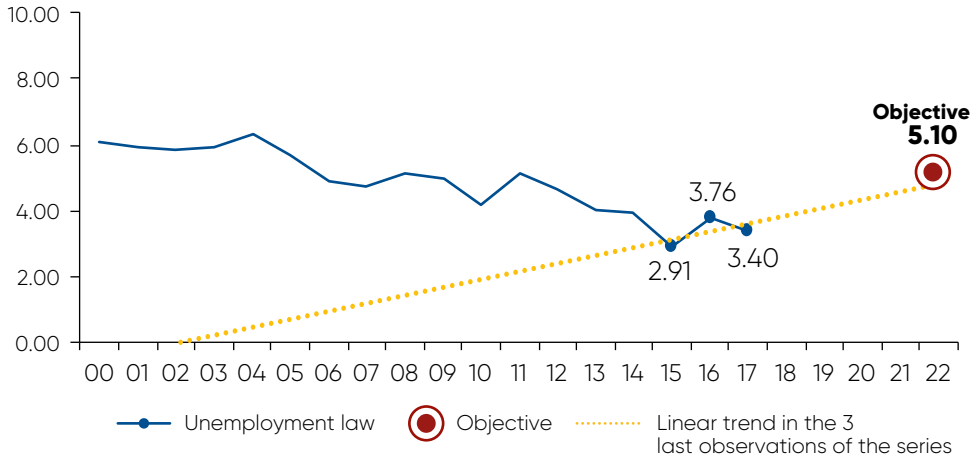
Source: CNI, based on its own data and on data from IBGE and from the Central Bank of Brazil.
Description: Unit labor cost in industry in constant reals.

Priority topic: Social Protection Mechanisms

Goal: Improving social protection mechanisms to reduce negative impacts on productivity

Objective: Improving Brazil's score on incentives provided for in the unemployment law for people to look for a job from 3.40 to 5.10

FIGURE A44 – BRAZIL'S SCORE ON INCENTIVES PROVIDED FOR IN THE UNEMPLOYMENT LAW FOR PEOPLE TO LOOK FOR A JOB



Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on legal incentives for people to look for a job from 0 (no legal incentives for people to look for a job) to 10 (the law encourages people to look for a job).

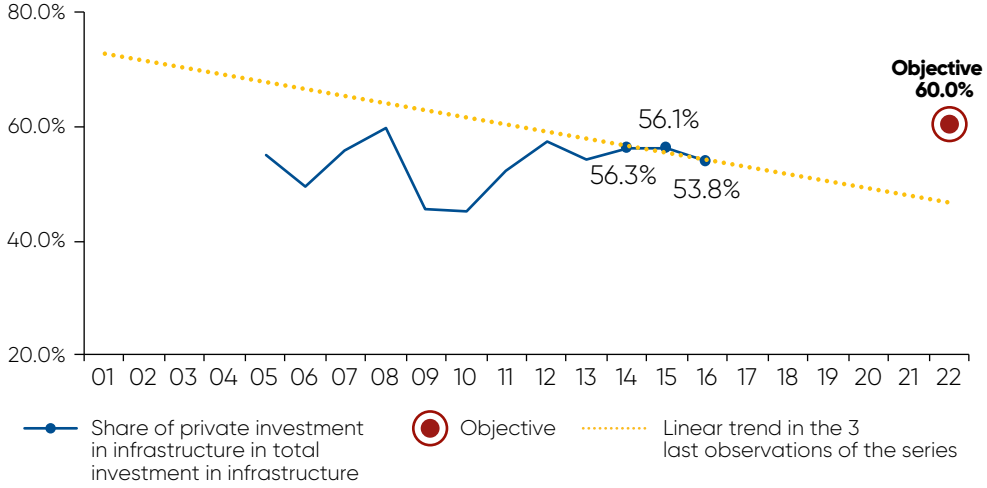
Key factor: **Infrastructure**

Priority topic: Privatizations and Concessions

Goal: Expanding private sector participation in investment in infrastructure and in its management

Objective: Increasing the share of private investment in infrastructure in total investment in infrastructure from 53.8% to 60.0%

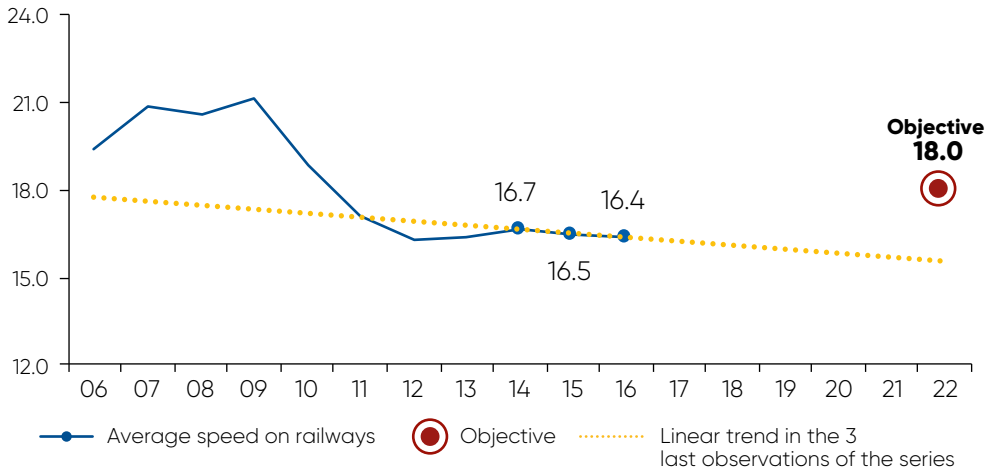
FIGURE A45 – SHARE OF PRIVATE INVESTMENT IN INFRASTRUCTURE IN TOTAL INVESTMENT IN INFRASTRUCTURE (%)



Source: CNI, based on data from Inter B.
Description: Share of private investment in total investment in infrastructure.

Priority topic: Logistics and Transportation
Goal: Increasing the supply and efficiency of transportation modes
Objective: Increasing the average speed on railways from 16.4km/h to 18.0km/h

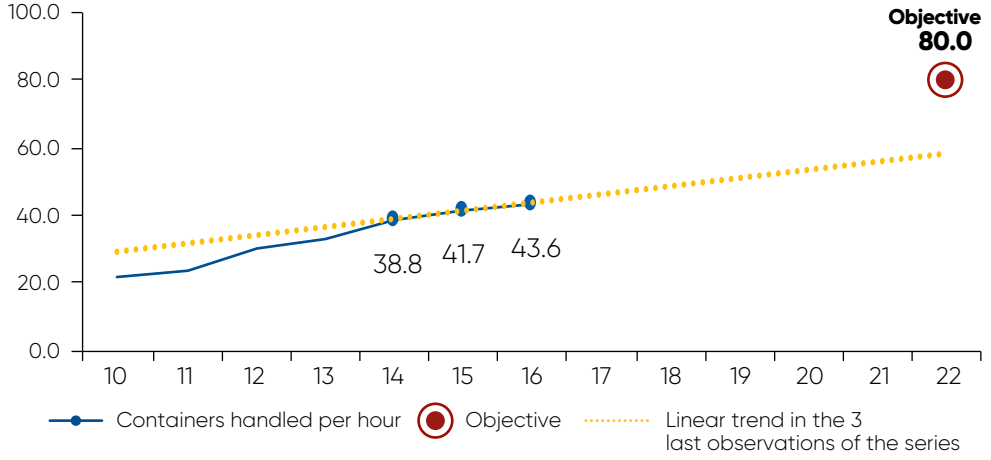
FIGURE A46 – AVERAGE SPEED ON RAILWAYS (KM/H)



Source: CNI, based on data from the National Land Transportation Agency (ANTT).
Description: Average speed of commercial trains.

Priority topic: Logistics and Transportation
Goal: Reducing the logistics costs of foreign trade
Objective: Increasing container handling capacity per hour from 43.6 to 80.0

FIGURE A47 – AVERAGE HANDLING CAPACITY OF PORTS (CONTAINERS PER HOUR)



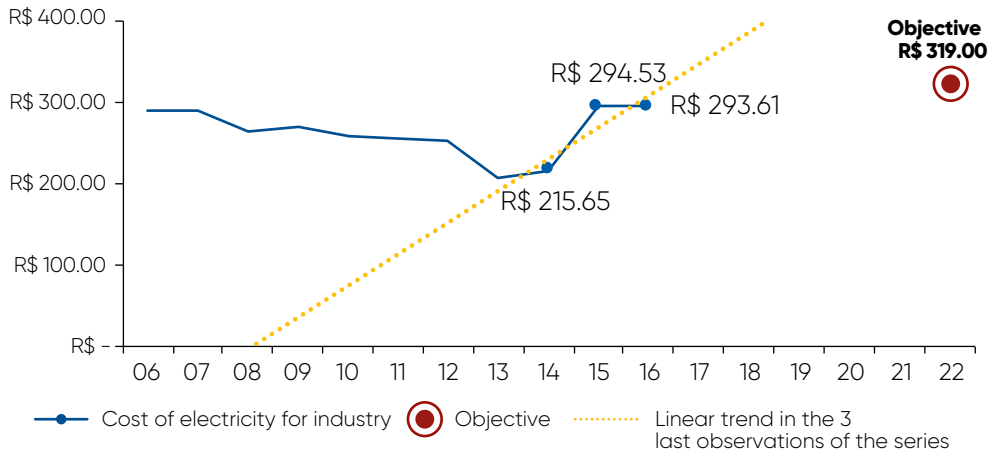
Source: CNI, based on data from the National Waterway Transportation Agency (ANTAQ).
Description: Container loading/discharging rate in units/hour.

Priority topic: Energy

Goal: Ensuring electricity supply with improved quality and at lower costs

Objective: Keeping the cost of electricity below R$319.00 (in reals in 2006 per MW/h)

FIGURE A48 – COST OF ELECTRICITY (REALS IN 2006 PER MW/H)



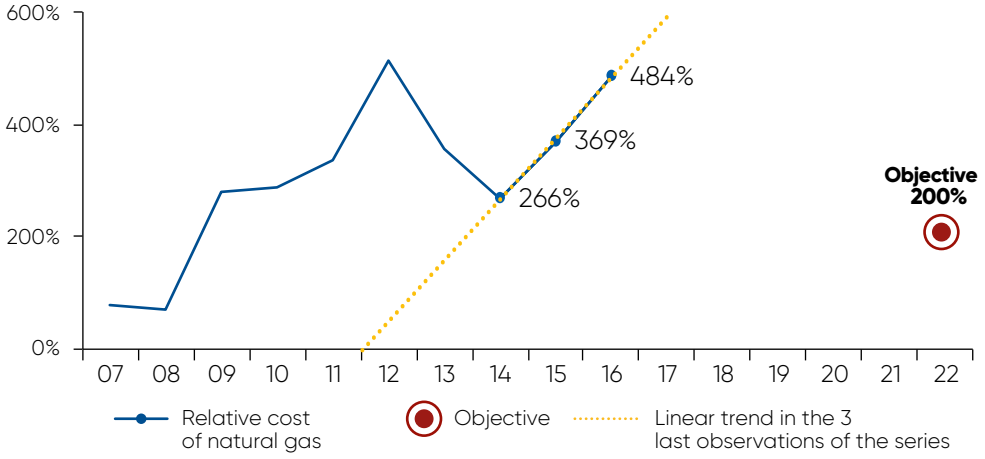
Source: CNI, based on data from the Brazilian Electricity Regulatory Agency (ANEEL) and IBGE.
Description: Average electricity rate with taxes, amounts deflated by the Expanded Consumer Price Index (IPCA).

Priority topic: Energy

Goal: Increasing the supply of natural gas and reducing its cost to international competitive levels

Objective: Reducing the difference between the price of natural gas in Brazil and the average price as measured by the Henry Hub index from 484% to 200%

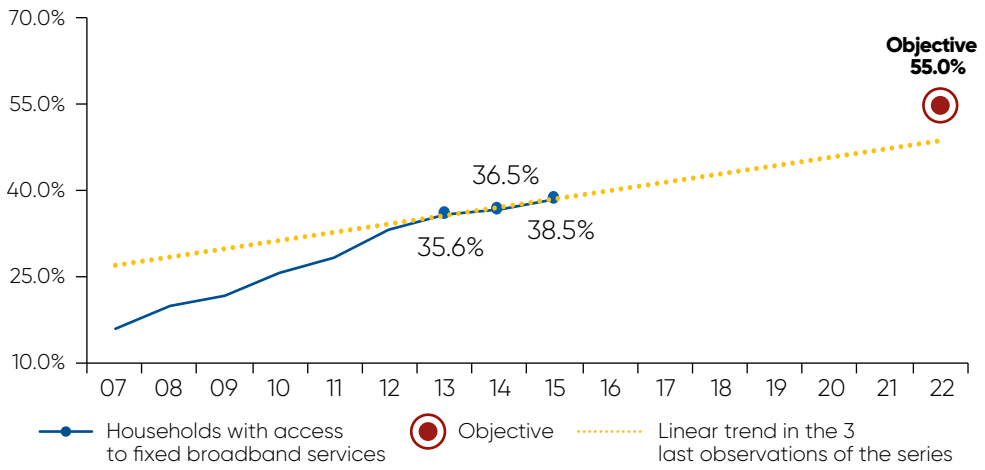
FIGURE A49 – DIFFERENCE BETWEEN THE PRICE OF NATURAL GAS IN BRAZIL AND THE AVERAGE PRICE AS MEASURED BY THE HENRY HUB INDEX (%)



Source: CNI, based on data from the Ministry of Mines and Energy (MME) and Environmental Impact Studies (EIA).
Description: Cost of natural gas in Brazil in relation to the average international price as measured by the Henry Hub index.

Priority topic: Telecommunications
Goal: Expanding the access to faster and lower-cost broadband services
Objective: Increasing the percentage of Brazilian households with fixed broadband access from 38.5% to 55.0%

FIGURE A50 – PERCENTAGE OF BRAZILIAN HOUSEHOLDS WITH ACCESS TO FIXED BROADBAND SERVICES (%)

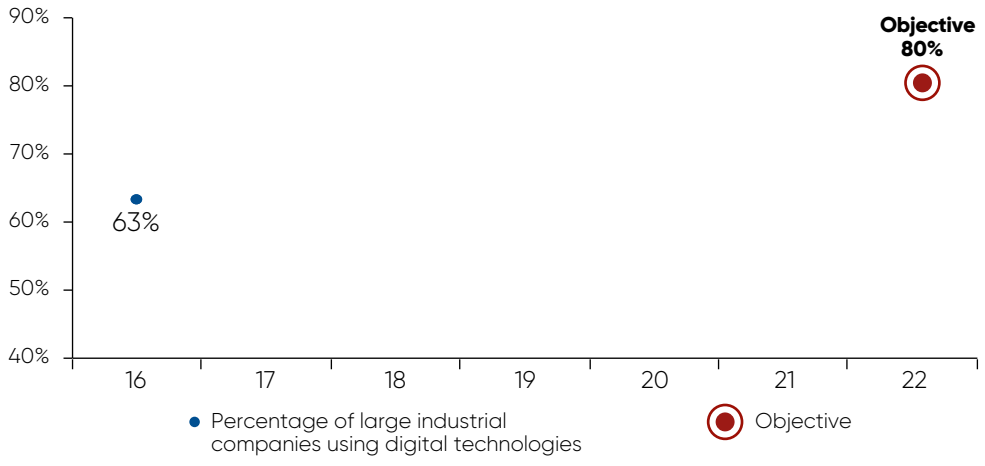


Source: CNI, based on data from the National Telecommunications Agency (ANATEL).
Description: Households with access to fixed broadband services in relation to the total number of households in Brazil.

Key factor: **Industrial, Innovation and Foreign Trade Policy**

Priority topic: Industrial and Innovation Policy
Goal: Increasing the use of technologies associated with Industry 4.0 and the Internet of Things (IoT)
Objective: Increasing the percentage of large industrial companies employing digital technologies from 63% to 80%

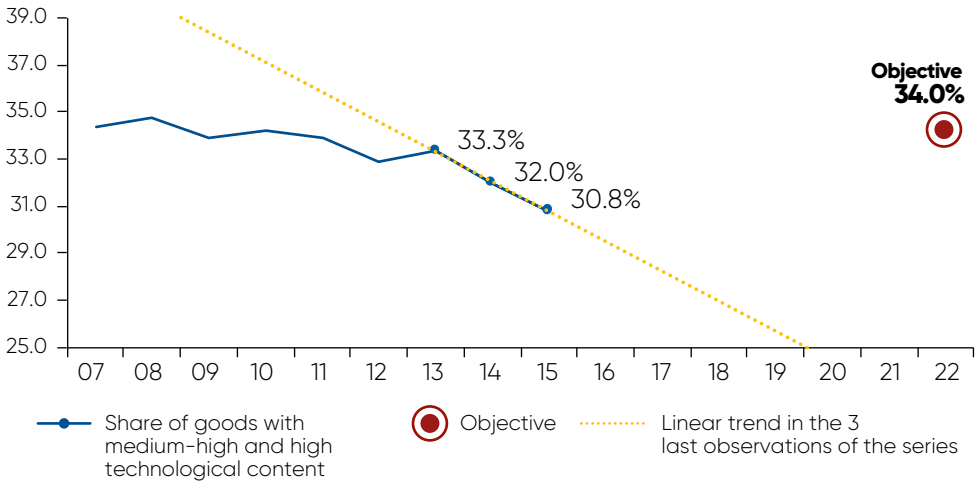
FIGURE A51 – LARGE INDUSTRIAL COMPANIES EMPLOYING DIGITAL TECHNOLOGIES (%)



Source: CNI, based on data from CNI's Special Survey 66.
Note: it is not possible to establish a trend with less than three consecutive points in the series.
Description: Percentage of large companies using at least one of the digital technologies listed in the survey.

Priority topic: Industrial and Innovation Policy
Goal: Increasing the share of highly technological goods in industrial production
Objective: Increasing the share of goods with medium-high and high technological content in industry from 30.8% to 34.0%

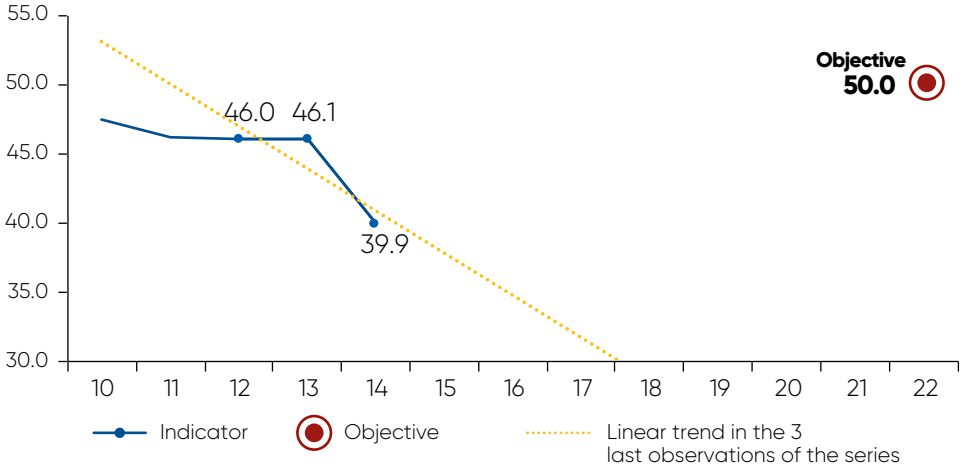
FIGURE A52 – SHARE OF GOODS WITH MEDIUM-HIGH AND HIGH TECHNOLOGICAL CONTENT IN INDUSTRY (%)



Source: CNI, based on data from the IBGE's Annual Industrial Survey (PIA).
Description: Share of goods with medium-high and high technological content in the Value of Industrial Transformation of the manufacturing industry.

Priority topic: Industrial and Innovation Policy
Goal: Increasing private investment in innovation
Objective: Increasing the share of corporate investment in R&D in total investment from 39.9% to 50.0%

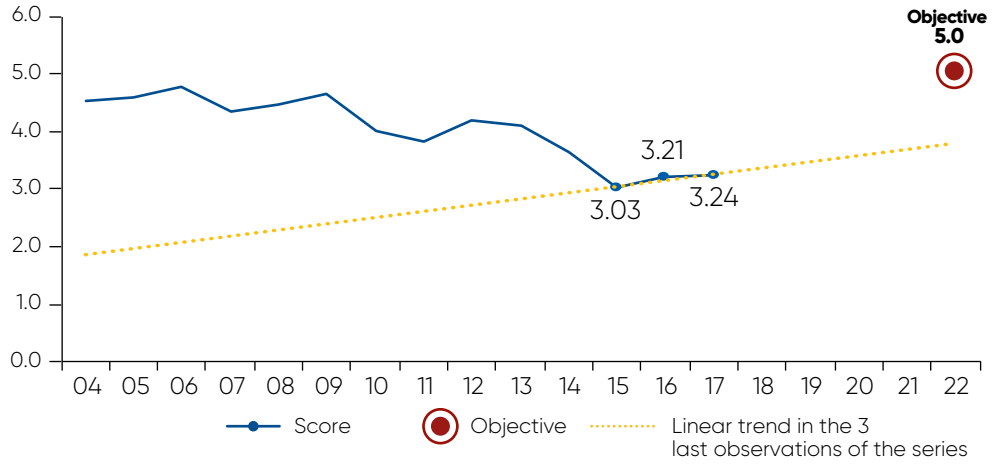
FIGURE A53 – SHARE OF CORPORATE INVESTMENT IN R&D IN TOTAL INVESTMENT (%)



Source: CNI, based on data from the National Accounts (IBGE).
Description: Share of corporate investment in R&D in total R&D investment. Producing units of the corporate sector include Petrobras, Embrapa and other public research companies and institutions. Without a method for estimating it, this R&D is not considered as belonging to the public sector.

Priority topic: Industrial and Innovation Policy
Goal: Increasing the effectiveness of public RD&I policies
Objective: Improving Brazil's score on the capacity of R&D law to promote innovation from 3.24 to 5.0

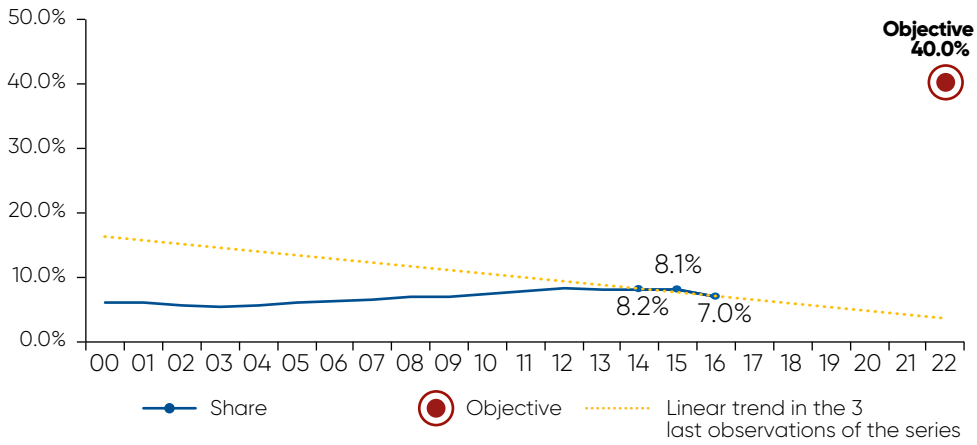
FIGURE A54 – BRAZIL'S SCORE ON THE CAPACITY OF R&D LAW TO PROMOTE INNOVATION



Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on the capacity of R&D law to promote innovation, considering that score 0 = "R&D law does not promote innovation" and score 10 = "R&D law promotes innovation."

Priority topic: Foreign Trade Policy
Goal: Expanding access to foreign markets for Brazilian goods, services and investments
Objective: Increasing the share of markets with which Brazil has trade agreements in the global market from 7.0% to 40.0%

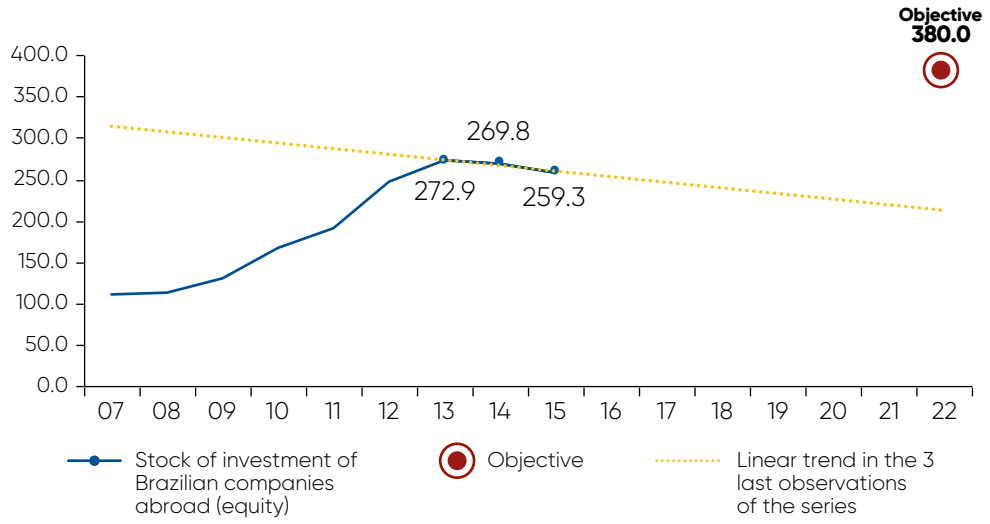
FIGURE A55 – SHARE OF MARKETS WITH WHICH BRAZIL HAS TRADE AGREEMENTS IN THE GLOBAL MARKET (%)



Source: Source: CNI, based on WTO data.
Description: Imports from countries with which Brazil has trade agreements/total global imports.

Priority topic: Foreign Trade Policy
Goal: Expanding Brazilian investments abroad
Objective: Increasing the stock of investments of Brazilian companies abroad from US$259.3 billion to US$380.0 billion

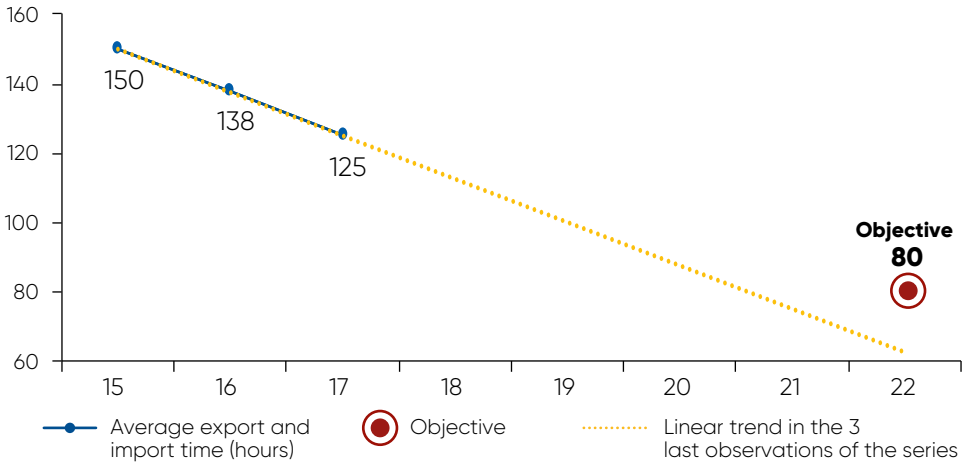
FIGURE A56 – STOCK OF INVESTMENT OF BRAZILIAN COMPANIES ABROAD (US$ BILLION)



Source: CNI, based on data from the Central Bank of Brazil.
Description: Stock of investment of Brazilian companies abroad (equity).

Priority topic: Foreign Trade Policy
Goal: Facilitating Brazilian foreign trade
Objective: Reducing the average export and import time from 125 hours to 80 hours

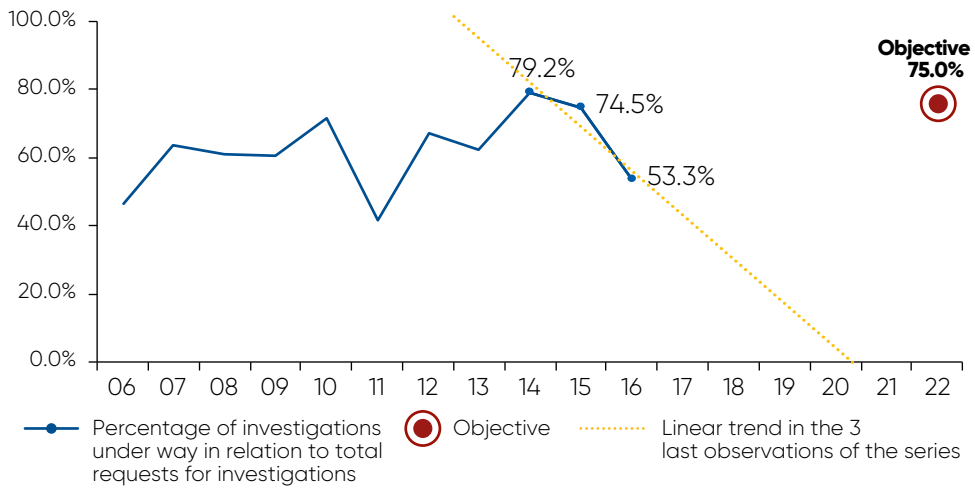
FIGURE A57 – AVERAGE EXPORT AND IMPORT TIME (HOURS)



Source: CNI, based on data from the Doing Business Report (World Bank).
Description: Average export and import time (hours).

Priority topic: Foreign Trade Policy
Goal: Improving the Brazilian trade defense system
Objective: Increasing the success rate of investigations of new trade defense measures from 53.3% to 75.0%

FIGURE A58 – SUCCESS RATE OF INVESTIGATIONS OF NEW TRADE DEFENSE MEASURES (%)

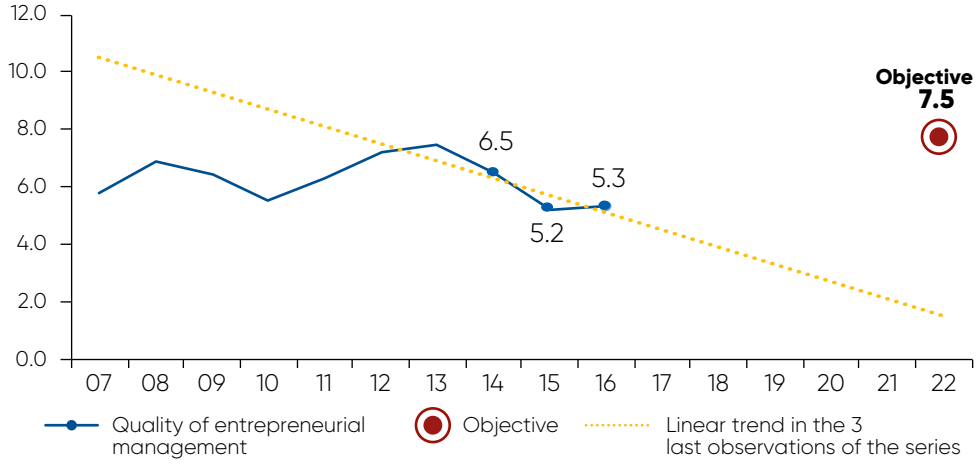


Source: CNI, based on data from the Ministry of Industry, Foreign Trade and Services.
Description: Percentage of investigations under way in relation to total requests for investigations.

Key factor: **Productivity and Innovation within Companies**

Priority topic: Entrepreneurial Management
Goal: Improving the quality of entrepreneurial management and of innovation management
Objective: Improving Brazil's score on management quality from 5.3 to 7.5

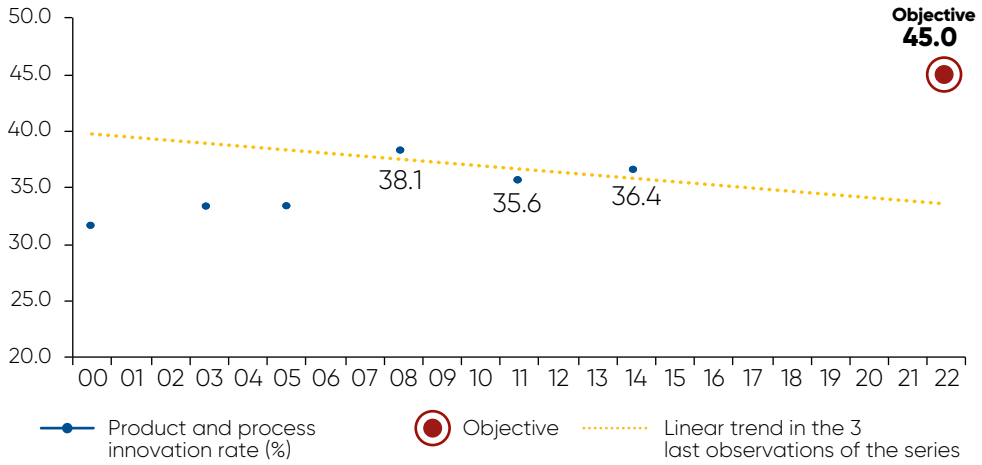
FIGURE A59 – BRAZIL'S SCORE ON MANAGEMENT QUALITY (%)



Source: CNI, based on data from the Global Competitiveness Report (World Economic Forum).
Description: Average score on the indicators Confidence in professional management and attraction and retention of talent, considering that score 0 = worst performance and score 10 = best performance.

Priority topic: Innovation in Industry
Goal: Increasing innovation in products, processes and business models
Objective: Increasing the innovation rate from 36.4% to 45.0%

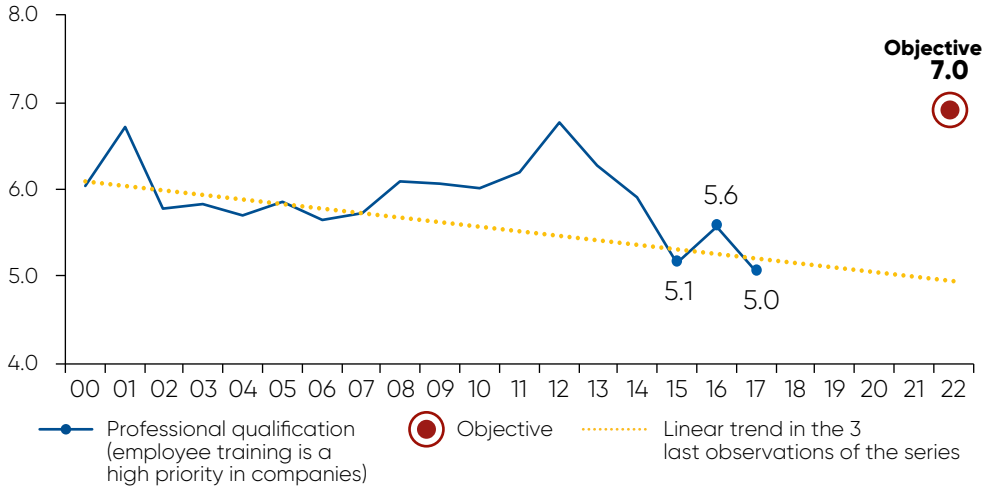
FIGURE A60 – INNOVATION RATE (%)



Source: CNI, based on data from the Innovation Survey - PINTEC (IBGE).
Description: Number of companies that innovated in products or processes in relation to the total number of companies.

Priority topic: Professional Qualification
Goal: Promoting the qualification of industry professionals
Objective: Improving Brazil's score on workers' qualification by companies from 5.0 to 7.0

FIGURE A61 – BRAZIL'S SCORE ON WORKERS' QUALIFICATION BY COMPANIES



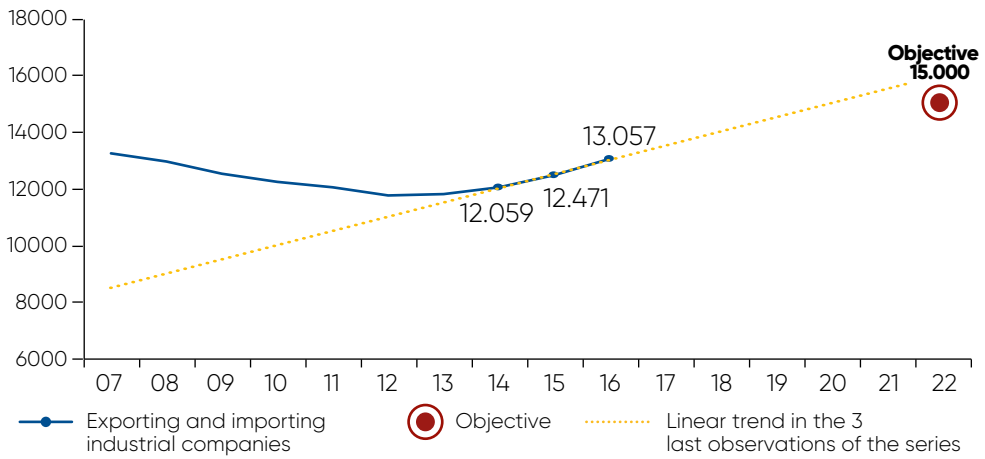
Source: CNI, based on data from the World Competitiveness Yearbook (IMD).
Description: Brazil's score on the question on workers' qualification by companies, considering that score 0 = "qualifying workers is not a priority for companies" and score 10 = "qualifying workers is a priority for companies."

Priority topic: Internationalization

Goal: Expanding the presence of Brazilian companies in the international market

Objective: Increasing the number of industrial companies engaged in foreign trade from 13,057 to 15,000

FIGURE A62 – NUMBER OF INDUSTRIAL COMPANIES ENGAGED IN FOREIGN TRADE



Source: CNI, based on data from the Center for Studies on Foreign Trade (FUNCEX).
Description: Number of exporting companies in the mining and manufacturing industries.

APPENDIX B

ACKNOWLEDGMENTS

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NATIONAL FORUM OF INDUSTRY

Permanent Thematic Councils - CNI

Conselho Temático de Assuntos Legislativos (CAL)

Conselho Temático da Agroindústria (COAGRO)

Conselho Temático de Educação (COED)

Conselho Temático de Infraestrutura (COINFRA)

Conselho Temático de Integração Internacional (COINTER)

Conselho Temático de Integração Nacional (CIN)

Conselho Temático de Meio Ambiente e Sustentabilidade (COEMA)

Conselho Temático de Micro e Pequena Empresa (COMPEM)

Conselho Temático de Política Econômica (COPEC)

Conselho Temático de Política Industrial e Desenvolvimento Tecnológico (COPIN)

Conselho Temático de Relações do Trabalho e Desenvolvimento Social (CRT)

Conselho Temático de Responsabilidade Social (CORES)

Industry Federations

FIEAC – Federação das Indústrias do Estado do Acre

FIEA – Federação das Indústrias do Estado de Alagoas

FIAP – Federação das Indústrias do Amapá

FIEAM – Federação das Indústrias do Estado do Amazonas

FIEB – Federação das Indústrias do Estado da Bahia

FIEC – Federação das Indústrias do Estado do Ceará

FIBRA – Federação das Indústrias do Distrito Federal

FINDES – Federação das Indústrias do Estado do Espírito Santo

FIEG – Federação das Indústrias do Estado de Goiás

FIEMA – Federação das Indústrias do Estado do Maranhão

FIEMT – Federação das Indústrias do Estado de Mato Grosso

FIEMS – Federação das Indústrias do Estado de Mato Grosso do Sul

FIEMG – Federação das Indústrias do Estado de Minas Gerais

FIEPA – Federação das Indústrias do Estado do Pará

FIEP – Federação das Indústrias do Estado da Paraíba

FIEP – Federação das Indústrias do Estado do Paraná

FIEPE – Federação das Indústrias do Estado de Pernambuco

FIEPI – Federação das Indústrias do Estado do Piauí

FIRJAN – Federação das Indústrias do Estado do Rio de Janeiro

FIERN – Federação das Indústrias do Estado do Rio Grande do Norte

FIERGS – Federação das Indústrias do Estado do Rio Grande do Sul

FIERO – Federação das Indústrias do Estado de Rondônia

FIER – Federação das Indústrias do Estado de Roraima

FIESC – Federação das Indústrias do Estado de Santa Catarina

FIESP – Federação das Indústrias do Estado de São Paulo

FIES – Federação das Indústrias do Estado de Sergipe

FIETO – Federação das Indústrias do Estado do Tocantins

National Industry Associations

ABAL – Associação Brasileira do Alumínio

ABCE – Associação Brasileira de Concessionária de Energia Elétrica

ABCP – Associação Brasileira de Cimento Portland

ABDIB – Associação Brasileira da Infraestrutura e Indústria de Base

ABIA – Associação Brasileira das Indústrias de Alimentação

ABICALÇADOS – Associação Brasileira das Indústrias de Calçados

ABIEC – Associação Brasileira das Indústrias Exportadoras de Carne

ABIFA – Associação Brasileira de Fundição

ABIFER – Associação Brasileira da Indústria Ferroviária

ABIFINA – Associação Brasileira das Ind. de Química Fina, Biotecnologia e suas Especialidades

ABIGRAF – Associação Brasileira da Indústria Gráfica

ABIMAQ – Associação Brasileira das Indústrias de Máquinas e Equipamentos

ABIMDE – Associação Brasileira das Indústrias de Materiais de Defesa e Segurança

ABIMOVEL – Associação Brasileira das Indústrias do Mobiliário

ABINEE – Associação Brasileira da Indústria Elétrica e Eletrônica

ABIOVE – Associação Brasileira das Indústrias de Óleos Vegetais

ABIP – Associação Brasileira da Indústria de Panificação e Confeitaria

ABIPEÇAS – Associação Brasileira da Indústria de Autopeças

ABIPLA – Associação Brasileira de Produtos de Limpeza e Afins

ABIPLAST – Associação Brasileira da Indústria do Plástico

ABIQUIM – Associação Brasileira da Indústria Química

ABIROCHAS – Associação Brasileira da Indústria de Rochas Ornamentais

ABIT – Associação Brasileira da Indústria Têxtil e de Confecção

ABITAM – Associação Brasileira da Indústria de Tubos e Acessórios de Metal

ABRABE – Associação Brasileira de Bebidas

ABRAMAT – Associação Brasileira da Indústria de Materiais de Construção

ABRINQ – Associação Brasileira dos Fabricantes de Brinquedos

AÇO BRASIL – Instituto Aço Brasil

AEB – Associação do Comércio Exterior do Brasil

ANFAVEA – Associação Nacional dos Fabricantes de Veículos Automotores

ANICER – Associação Nacional da Indústria Cerâmica

CBIC – Câmara Brasileira da Indústria da Construção

CICB – Centro das Indústrias de Curtumes do Brasil

ELETROS – Associação Nacional de Fabricantes de Produtos Eletroeletrônicos

FARMABRASIL – Associação Grupo FARMABRASIL

IBÁ – Indústria Brasileira de Árvores

IBP – Instituto Brasileiro de Petróleo, Gás e Biocombustíveis

IBRAM – Instituto Brasileiro de Mineração

IEDI – Instituto de Estudos para o Desenvolvimento Industrial

ONIP – Organização Nacional da Indústria do Petróleo

SINICON – Sindicato Nacional da Indústria da Construção Pesada

TELEBRASIL – Associação Brasileira de Telecomunicações

UNICA – União da Indústria de Cana-de-Açúcar

FNS – Fórum Nacional Sucroenergético

Experts interviewed

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