

STAGNATION AND REGRESSION: MEXICO IN THE WORLD



March 2022

SIGNOS VITALES
EL PULSO DE MÉXICO



Is a non–profit, non governmental organization that is structured by a Council built up of people with an outstanding track record, with high ethical and professional level, which have national and international recognition and with a firm commitment to democratic and freedom principles.

The Council is structured with an Executive Committee, and Advisory Committee of Specialists and a Communication Advisory Committee, and a Executive Director coordinates the operation of these three Committees.

One of the main objectives is the collection of reliable and independent information on the key variables of our economic, political and sociocultural context in order to diagnose, with a good degree of certainty, the state where the country is located.

Vital Signs intends to serve as a light to show the direction that Mexico is taking through the dissemination of quarterly reports, with a national and international scope, to alert society and the policy makers of the wide variety of problems that require special attention.



Weak or absent pulse can have many causes and represents a medical emergency.

The more frequent causes are the heart attack and the shock condition. Heart attack occurs when the heart stops beating. The shock condition occurs when the organism suffers a considerable deterioration, which causes a weak pulse, fast heartbeat, shallow, breathing and loss of consciousness. It can be caused by different factors.

Vital signs weaken and you have to be constantly taking the pulse.

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1

AFTER THREE YEARS OF GOVERNMENT



AFTER THREE YEARS OF GOVERNMENT

«

Since the beginning of 2020, the COVID-19 pandemic has become the most crucial change factor in all world countries. It is likely that, since the Second World War, there has not been an element that impacts each one of the components that give shape and meaning to the lives of millions of women and men. Issues such as democratic fatigue, insecurity and corruption, decreased learning, domestic violence, poverty and food insecurity, the collapse of health systems and shortages of medical supplies, economic decline, and unemployment are just some cases where the pandemic's effects have been felt most noticeably.

The ways in which dozens of countries have faced the ravages of the health crisis are different and, in many cases, under the institutional capacities that each of them possesses. Although there is no ideal strategy that allows for unified and positive results, there are differences between the countries that put their political and ideological projects first and those that gave continuity to the policies

that proved to be effective in responding to the needs and demands that were presented during the passage of the pandemic. The latter demonstrated optimal performance in managing the challenges that arose before, during, and after the pandemic.

The idea that all countries in the world had a negative or failed performance during the COVID-19 crisis is false and groundless. The governments that were able to address the health crisis in a timely and pertinent manner were those that managed to create a new government agenda, whose priorities focused on those situations that were being most affected. Likewise, the monitoring of public policies based on similar cases or previous experiences whose results were successful was decisive in facing the various scenarios.

Despite being part of select groups worldwide, such as the OECD, APEC, or the G20, Mexico is one of many countries that has lacked orderly planning to face the current context derived from the pandemic. In fact, a recent publication by The Economist's Intelligence

Unit indicates that Mexico was previously listed as a country with characteristics of an imperfect democracy, and now it's been demoted to a "hybrid" that is closer to the authoritarian category. Mexico has ceased to be in the select group of democratic governments where it remained for many years. The country's decline to this category is partly due to how political and ideological interests have been prioritized in its government agenda before focusing on the State's power to address both the current scenario's problems and those that it had already been carrying over time.

After more than three years of government, the evidence shows that the current administration has not yet been able to define the route to face the health crisis, which has consequently left limitations and delays in many sectors that determine the growth and development of the country. Embedded in an ideological strategy, whose aims are based on the implementation of projects and programs that have little to do with the national context or with the real needs that the country demands, the data shows that the Mexican government does not seem to be in a position to solve the problems. On the contrary, many of the indicators evidenced in this report show stagnation and retrogression, which is expected to impact many future generations negatively.

While the challenge faced by the current government from the outset was not easy and involved improving many of the actions and policies that led to the stagnation of the country, the solution definitely did not involve the destruction, dismantling, division, and

animosity to everything that could have been done in previous administrations. One of the clearest examples is that, in Mexico, in more than 25 years, it was possible to have a positive alternation in which four presidents and three different political parties participated. Unfortunately, in today's Mexico, there is no room to assert the virtuous routes that led to progress in the country.

The delay caused by the government of the self-proclaimed 4T (4th transformation for its acronym in Spanish) is not only noticeable when analyzing data and indicators in practically all areas, but the characteristic features with which the country is being governed is already evident, positioning it in categories such as authoritarianism, militarization, and misrule. López Obrador administration has tried to destroy and overthrow everything that had already been built and, in its obsession with doing so, has left in doubt the government's capacity to replace or improve what has been criticized or, where appropriate, to create new routes and institutions that do a better job from the previously done.

Since the beginning of the current administration, it showed a way of governing that broke with all traditional schemes; however, the essential components of the design of public policies that can give results and achieve the promised goals were never contemplated. In this way, it is not surprising that it is difficult to find some result or achievement of this administration since its goals are instead based on a change of regime based on the form of government and not on the results that it can give to the population.

This first report of Vital Signs in 2022 gives an account of the state that the country keeps now, just over half of the six-year term of President López Obrador. Due to the imminent weight that the COVID-19 pandemic has had in the world, this research is accompanied by various comparisons with other countries. This, to place Mexico both in the positions it has been occupying in the past, as well as those it currently holds in issues such as attacks against journalists, human rights compliance, administration of vaccines for COVID-19, learning in mathematics and reading, increase in people in poverty, increase in food prices, water stress or private financing for science and technology.

From this perspective, the report allows us to ascertain the dynamics of our vital signs compared to other countries to detect gaps that require urgent attention by the government, private initiative, or civil society. In this way, it is possible to influence the discovery, containment, or solution of many public problems raised in this report by decision-makers and designers of public policies.

The issues analyzed in the report consider five matters: those GOVERNANCE-RELATED, which include the destruction and dismantling of institutions, security matters, the rule of law, corruption, and transparency, among others. A second section considers SOCIAL ISSUES ranging from health deficiencies, the management of the pandemic, the increase in poverty in the country, the tragedy of educational progress, and the neglect of vulnerable groups, among others. The

following section deals with the country's lack of economic growth issues and their consequences for the population, Mexico's positioning implications in the face of clean energy, the impact of tourism, and the contexts of international trade or inflation in the economy, among others. Finally, two key issues are considered to be able to cover the balance of the three years of Mexican government; the advances and setbacks in terms of the ENVIRONMENT, CLIMATE CHANGE, AND NATURAL RESOURCES, as well as the orphanhood that the impetus and promotion of SCIENCE, TECHNOLOGY, AND INNOVATION in Mexico have been left.



2

DRIFTING DEMOCRACY:

Institutions at risk, concentration of power, cancellation of counterweights, and attacks on freedom

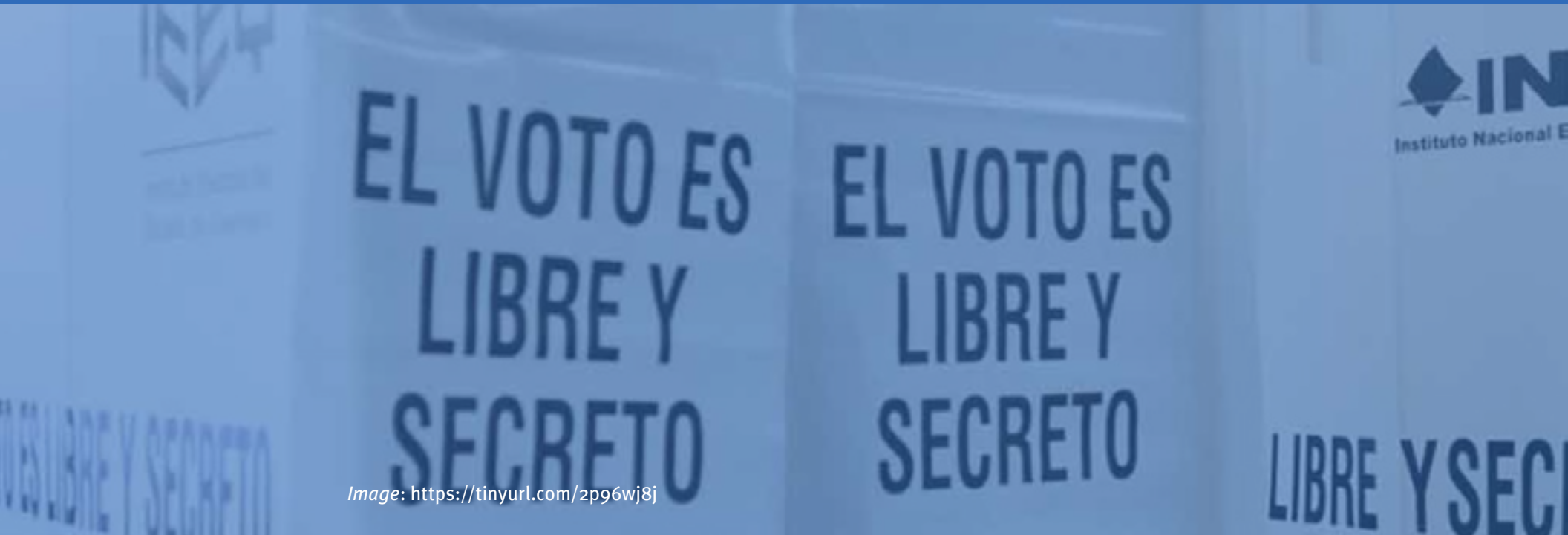


Image: <https://tinyurl.com/2p96wj8j>



MEXICO FOR MORE THAN THREE DECADES has been building solid institutions to establish checks and balances to the state power; right now this balance is being threatened after the dismantling and disappearance of many of these institutions.

«

Liberal democracies possess specific characteristics necessary to be considered as such. The population representation in institutions of public power, the power division, freedom of speech, the unrestricted right to human rights, the right of citizens to differ in thought, as well as to organize and participate in the public life of the country and, finally, the political control of the institutions of power by the citizens, are among the essential requirements. While no country fully meets these conditions, coun-

tries that consider themselves democratic must meet high standards in each criterion.

Mexico's case has been the subject of debate because, with the loss of the majority in the Chamber of Deputies experienced by the PRI (Institutional Revolutionary Party for its acronym in Spanish) in 1997, as well as the party alternation in the presidency of the republic in 2000, the traditional one-party regime ended, which led several scholars and analysts to

consider Mexico as a democracy. This is even though the other requirements mentioned were not necessarily met. The Mexican left precisely was highly critical of the democracy operational at the beginning of the 21st century, arguing that democratic rules were more a simulation among political and economic elites than a genuine democratic system. In contrast to these criticisms, the indicators in this regard have not improved with the arrival of the current supposedly leftist administration, and, even in certain aspects, there have been significant institutional and democratic setbacks.

As reported by Vital Signs,¹⁵ this government's tactics to concentrate power have gone against many democratic principles. Some of the anti-democratic strategies that have been used are, for example, interference in powers other than the executive (mainly the leadership of the Judiciary), colonization and reduction of empowerment of constitutionally autonomous bodies, attacks on organized civil society, the public assault against the freedom of speech of journalists and the media, as well as against educational, academic and intellectual institutions. Obviously, all

¹⁵ For more details check: Mexico sick with signs of a totalitarian regime. <https://tinyurl.com/auawa2ru>

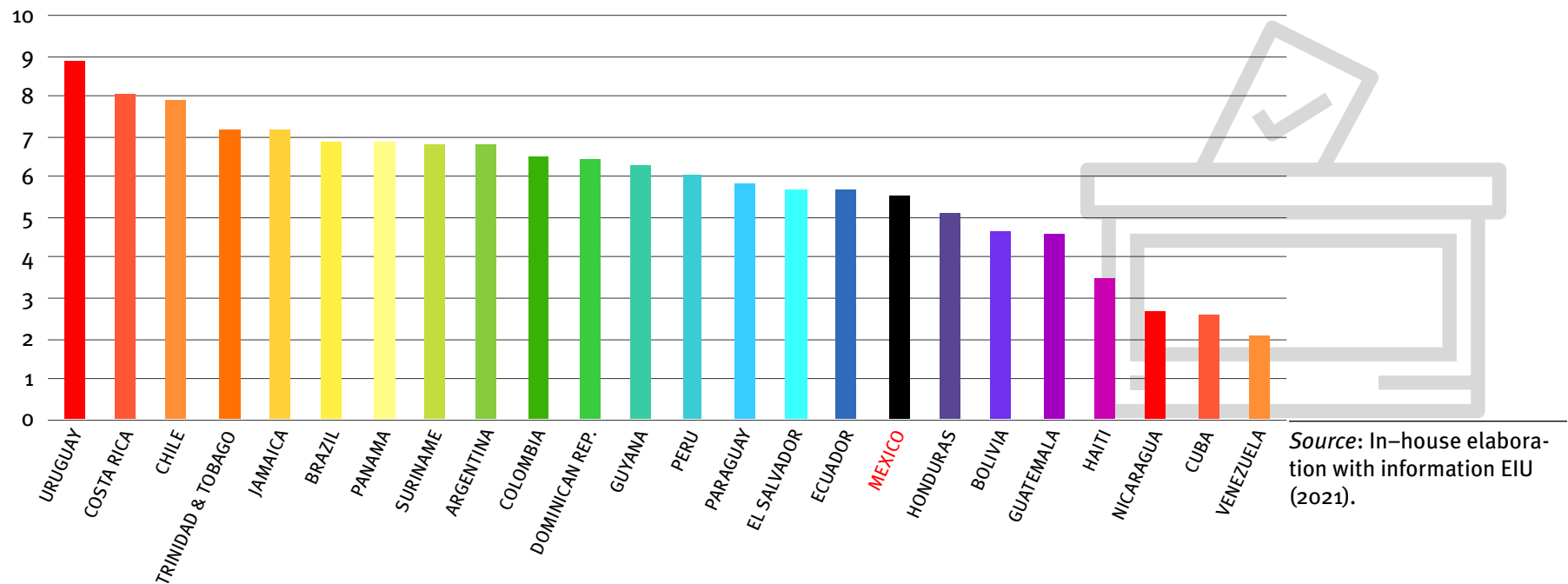
this has led Mexico to be poorly qualified in comparative studies on democratic strength in the world.

The democracy index carried out by The Economist's Intelligence Unit (2021) no longer considered Mexico as an imperfect democracy to classify it as a hybrid regime, that is, that the country went from the *democratic* pole to the *authoritarian* one. It now shares a station with Bolivia, Paraguay, Zambia, Tanzania, Kenya, and Madagascar. Among Latin America and the Caribbean, Mexico is the eighth-worst qualified country, behind countries such as Paraguay, El Salvador, Peru, Guyana, and the Dominican Republic. The region suffered a democratic regression, where Mexico is no exception. In fact, the index ranked the country with the worst rating since the index was launched (2006). It is essential to clarify that, since 2013, Mexico's rating on this index has plummeted.

The countries in America that most eroded the democracy were Venezuela, Cuba, Nicaragua, and Haiti, so an anti-democratic wave has been warned in certain parts of Latin America. According to the report, the only countries considered full democracies in the Latin American region are Uruguay and Costa Rica. Chile, which was regarded as a full democracy, was now classified as imperfect democracy (EIU, 2021).

GRAPH 1. DEMOCRACY INDEX: LATINAMERICA AND THE CARIBBEAN

2021



On the other hand, the Freedom House organization (2021), dedicated to measuring freedoms in the world, also placed Mexico in an unflattering place in terms of freedoms by granting 61 points on a scale of 100, where 0 represents total absence of freedom and 100 the existence of absolute freedom. The reasons why Mexico is ranked as countries such as Albania,

Bhutan, Bolivia, or the Dominican Republic are the penetration of organized crime in local and national governmental spheres, high levels of insecurity, lack of governmental transparency, judicial inefficiency and corruption, loss of autonomy of powers, such as the judiciary, and the critical situation in the field of freedom of speech and non-governmental organiza-



Image: “Totalitarianism and authoritarianism in Mexico”. Photo: Quadratr / etcetera.com.mx at <https://tinyurl.com/46bcuvw5>

tions, mainly those related to the protection of human rights, to be able to carry out their tasks without fear. Although the country has never had high levels of democratic health, it is worth reviewing the main facts that have hindered democratic development in Mexico.

CONSEQUENCES AND UNDEMOCRATIC RISKS:

THE INSTITUTIONAL RUIN IN MEXICO



More than three years of government and in the field of separation of powers, an unusual partisan alignment has been observed that had not been seen in the entire twenty-first century. In addition to controlling the presidency of the Republic, the ruling party owns the majority in both federal chambers, most of the local congresses, and governorships and has managed to interfere in various tasks of autonomous powers (Vital Signs, 2020c). As previously reported, the Court has attracted most of the attention because its rulings or the absence of them on the country's crucial issues have aroused doubts about its independence from the federal executive power.

In principle, it was the president of Mexico himself who mentioned that he intervened in a decision of the Court to prevent 35 Billion Pesos (Bp) from being returned to the Modelo company (Expansión, 2019), which is already an indication of the executive's interference in areas of the judiciary. But as the Court's work is more closely approached, it is observed that some of the constitutional actions and disputes against what can be considered the heart of the cur-

rent administration's project have not even been resolved since 2019, and in some of the cases in which the Court has made a ruling it has done so partially.

Fernández (2022) reported that from December 1, 2018, to January 2022, 113 disputes and actions of unconstitutionality have been filed in the Court, of which only 44 have been resolved. Among the pending cases to be decided by the Court are ones such as the disputes against the Reform of the Fiscal Coordination Law, the extinction of Public Trusts, the Reform to the Electricity Industry Law, and the Reform to the Transparency Law, as well as actions of unconstitutionality such as those promoted against the Federal Law of Public Servants Regime, the Reform of the Organic Law of the Federal Public Administration, the National Guard Law, the National Law for the Registry of Detentions, the Reform on the militarization of Ports and the Reform of the Informal Preventive Prison. High-ranking presidential decrees and agreements such as the one published on May 11, 2020, which provides for the permanent Armed Forces to carry out public security tasks, are also pending and are challenged.

**THE SUPREME COURT
OF JUSTICE:**

**HAS RECEIVED 113
CONTROVERSIES AND
UNCONSTITUTIONAL
ACTIONS.**

HAS RESOLVED 44.

Nor has the Court ruled on necessary injunctions such as those against electricity reform or in the field of merchant shipping, and in some of the affairs it has ruled on, it has done so partially without necessarily going through the essential facts of the matters. There, the National Law on the Use of Force stands out, which will have to be corrected by the legislature since the Court overruled the sixth article of the same, which intended to categorize the use of firearms or lethal weapons against certain alleged aggressors as the use of semi-lethal force. The Court did validate this law in general, enabling the public security forces, including the Armed Forces (at least until 2024), to use firearms against participants of demonstrations that are considered violent, unilaterally, by security agents (SCJN, 2021b). They also highlight the General Law of the National Public Security System that gives the National Guard the power to: carry out investigations in matters of crime prevention, carry out verification tasks to prevent administrative infractions, request the georeferencing of mobile equipment, ask the intervention of communications, collect information in public places, request and collect information from authorities and people, as well as analyze and process information (Vital Signs, 2021e). In the same case is the National Law on Seized Assets which, al-

though it suffered the overruling of its article 1, of section XIX of its article 2, the second paragraph of article 5, the second section of article 7 and article 9; there are still many doubts about the effects and scope of said ruling (Monroy, 2021).

Perhaps the most recent case that got the media attention was the partial suspension of the presidential agreement by which the dependencies and entities of the Federal Public Administration (APF for its acronym in Spanish) were instructed to carry out actions indicated about the projects and works of the Government of Mexico considered of public interest and national security. As well as imperative and strategic ones for national development, with which the government intends to make exceptions in the bidding process to grant permits, concessions, and licenses for practically all the works that the federal government decides to carry out, as well as withhold information as national security (Vela, 2021). Faced with this, the Federal Institute for Access to Public Information and Data Protection (INAI for its acronym in Spanish) filed a constitutional dispute that was admitted by the Court and partially suspended said agreement; it withheld the pertaining to the generalized reservation of information of the infrastructure works as of public interest and national security.

However, the section that exempts the federal government from following the law's bidding processes was maintained (Pérez, 2021).

There are also other particularly controversial rulings, such as the question to be asked at the mandate revocation consultation. Although article five of the Federal Law on Revocation of Mandate, published in the Official Journal of the Federation on September 14, 2021, clearly establishes that it will be understood as removal from office that the citizenry determines the early termination of the charge that the person holding the Presidency of the Republic performs, originating from the loss of trust in them. Article 19 of the same law, in its fifth section, states that "The question that is the subject of the process must be: Do you agree that the President of the United Mexican States, be revoked for loss of trust or remain in the Presidency of the Republic until the end of his term?" (Segob, 2021a).

That is to say, the latter provision does not limit itself to asking about the removal from office but extends the question to its ratification. This fact gave rise to the action of unconstitutionality 151/2021 filed by legislators of the opposition, which was turned to the minister Jorge Mario Pardo who, in his capacity

IN FAVOR TO MODIFY THE QUESTION



JORGE MARIO PARDO REBOLLEDO
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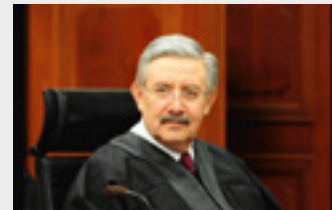
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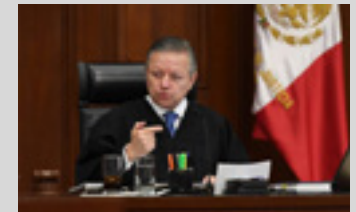


MARGARITA RÍOS FARJAT
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ALBERTO PÉREZ DAYÁN
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AGAINST MODIFYING THE QUESTION



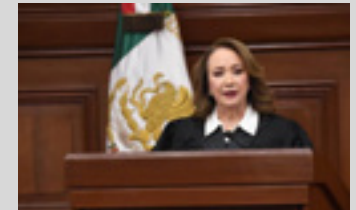
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<https://tinyurl.com/4vh73usj>



YASMÍN ESQUIVEL MOSSO
<https://tinyurl.com/yck2jt6c>

as a speaker, formulated a project that proposed to modify the question so that it only included the part related to the revocation. Although the Court session vote tipped the balance in favor of the project of Minister Pardo, it was suspended due to failures in the room's air conditioning in which the ministers were sitting. When the session was resumed the next day, the voting trend had changed (SCJN, 2021a).

This fact was read in public opinion as an act of support for President López Obrador since it was precisely Minister Arturo Zaldívar, whose attempted extension of the mandate as president of the Court was unconstitutionally initiated by AMLO and three ministers appointed by himself who refused to modify the query in question. It is noteworthy that one of the arguments used by Arturo Zaldívar to defend the initial wording of the question on the revocation of the mandate is that its modification would make it incomprehensible to citizens. That is, for the presiding minister, the question “Do you agree that Andrés Manuel López Obrador, president of the United Mexican States, be revoked for loss of trust in him?” (SCJN, 2021a) would introduce much confusion in the majority of citizens. However, he considered that another question, written by himself for the popular consultation held on August 1, 2021, was appropriate



Images: Ballot to vote for the revocation of mandate.

“Blind enquiry” Crisanta Espinosa /Cuartoscuro in El País at <https://tinyurl.com/3htytxav>



despite its evident lack of clarity. The question of that consultation was:

“Do you or do you not agree that the relevant actions should be carried out, in accordance with the constitutional and legal framework, to undertake a process of clarification of the political decisions taken in recent years by the political actors, aimed at guaranteeing justice and the rights of potential victims?” (Blanco, 2020).

All of this together has raised red flags about the independence the National Supreme Court of Justice should exercise and leaves many doubts about the reasons why this institution has not resolved crucial issues for the country, or why has it ruled in dubious ways on transcendental topics such as the ratifica-

tion of the question that will be asked in the mandate revocation consultation.

The federal government has also made a significant effort to downplay another vital counterweight in the Mexican political system, exercised by constitutionally autonomous bodies (OCA for its acronym in Spanish). The main ways to weaken the counterbalancing role that these institutions have before the federal executive are three: the colonization of the OCA by appointing people related to the president in positions of great hierarchy within these organizations and sometimes through openly illegal channels, subtracting their powers, and reducing their budgets.

So far this six-year period, members of govern–executive bodies have been renewed in: the Energy Regulatory Commission (CRE for its acronym in Spanish), the National Human Rights Commission (CNDH for its acronym in Spanish), the National Institute for Transparency, Access to Information and Protection of Personal Data (INAI), the Bank of Mexico, the National Institute of Statistics and Geography (INEGI for its acronym in Spanish), the National Institute for the Evaluation of Education (INEE for its acronym in Spanish), the Federal Economic Competition Commission (Cofece for its acronym in Spanish), the Attor-



Image: Ballot to vote in favor to judge expresidents at El Economista.mx.

ney General's Office (FGR for its acronym in Spanish), the Federal Telecommunications Institute (IFT for its acronym in Spanish), the National Electoral Institute (INE for its acronym in Spanish) and the National Supreme Court of Justice. Some of these appointments have been challenged or pointed out by the opposition or civil society organizations, who have accused the processes that were followed of being illegal. The cases that got the most media attention were the appointment of the head of the National Human Rights Commission, the selection of four commissioners of the Energy Regulatory Commission, and the appointment of the new governor of the Bank of Mexico.

It should be noted that this year's appointments are still pending to occupy a seat on the Board of the National Institute of Statistics and Geography (INEGI). Two commissioners of the plenary of the Federal Institute of Telecommunications (IFT), three commissioners of the plenary of the Federal Commission of Economic Competition (Cofece), three members of the governing body of the National Hydrocarbons Commission (CNH for its acronym in Spanish), a commissioner of the Energy Regulatory Commission (CRE), three judges of the Court of Administrative Justice (TJA for its acronym in Spanish), a judge of the Agrarian Court and a counselor of the Judiciary who

PENDING APPOINTMENTS IN 2022:

2 IFT COMMISSIONERS	1 CRE COMMISSIONERS
1 INEGI SEAT	3 TJA JUDGES
3 COFECE COMMISSIONERS	1 JUDICIARY COUNSELOR
3 CNH MEMBERS	1 AGRARIAN COURT JUDGE

will replace Loreta Ortiz, who was appointed minister of the National Supreme Court of Justice.

Reductions have been observed for some of these bodies In the budgetary area, sometimes jeopardizing their operation, as in the case of the National Electoral Institute. INAI, Cofece, IFT, and CNDH experienced budget reductions compared to 2018, the last year of Enrique Peña Nieto's government. Likewise, most have had reductions in their budget concerning the Federation Expenditure Budget Project (PPEF for its acronym in Spanish) for one or more years, that is, with the amounts that these institutes requested from the Department of Finance and Public Credit

**TABLE 1. COMPARISON BETWEEN AMOUNTS REQUESTED IN THE FEDERATION EXPENDITURE BUDGET PROJECTS
AND THE AMOUNTS APPROVED IN THE FEDERATION EXPENDITURE BUDGET 2018–2022**
MILLIONS OF PESOS (REAL TERMS, BASE = JANUARY, 2018)

SECTION	PPEF 2018	PEF 2018	VARIATION %	ANNUAL VARIATION %	PPEF 2019	PEF 2019	VARIATION %	ANNUAL VARIATION %
INE	25,015.3	24,215.3	–3.2%	–	15,630.7	14,720.4	–5.8%	–39.2%
INAI	1,098.5	1,098.5	0.0%	–	898.0	862.5	–3.9%	–21.5%
COFECE	618.1	618.1	0.0%	–	558.4	558.4	0.0%	–9.7%
IFT	1,998.0	1,998.0	0.0%	–	1,705.5	1,437.3	–15.7%	–28.1%
INEGI	7,588.9	7,788.9	2.6%	–	12,101.4	11,622.3	–4.0%	49.2%
CNDH	2,033.0	2,033.0	0.0%	–	1,888.8	1,733.7	–8.2%	–14.7%
SECTION	PPEF 2020	PEF 2020	VARIATION %	ANNUAL VARIATION %	PPEF 2021	PEF 2021	VARIATION %	ANNUAL VARIATION %
INE	16,457.7	15,463.1	–6.0%	5.0%	24,821.8	24,041.9	–3.1%	55.5%
INAI	860.8	814.4	–5.4%	–5.6%	823.6	811.6	–1.5%	–0.3%
COFECE	547.1	539.4	–1.4%	–3.4%	536.7	536.7	0.0%	–0.5%
IFT	1,605.6	1,430.5	–10.9%	–0.5%	1,353.6	1,353.6	0.0%	–5.4%
INEGI	15,381.5	15,381.5	0.0%	32.3%	6,943.8	6,943.8	0.0%	–54.9%
CNDH	1,773.8	1,739.5	–1.9%	0.3%	1,505.9	1,505.9	0.0%	–13.4%
SECTION	PPEF 2022	PEF 2022	VARIATION %	ANNUAL VARIATION %				
INE	20,637.4	16,524.1	–19.9%	–31.3%				
INAI	822.9	822.9	0.0%	1.4%				
COFECE	515.8	515.8	0.0%	–3.9%				
IFT	1,306.1	1,306.1	0.0%	–3.5%				
INEGI	9,306.1	9,306.1	0.0%	34.0%				
CNDH	1,442.0	1,442.0	0.0%	–4.2%				

Source: In-house elaboration with information from SHCP (Secretariat of Finance and Public Credit for its acronym in Spanish) (2018b; 2019b; 2020b; 2021a; 2022c).

(SHCP for its acronym in Spanish, 2018b;2022c). The case of the INE is particularly illustrative since it is the body with which President López Obrador has had the most conflict and is the one that has suffered a budget reduction in each year compared to the PPEF.

Finally, during these three years of government, the President of Mexico has also tried to squelch some institutions, either by disappearing them or changing their legal status. The most extreme case was the disappearance of the National Institute for the Evaluation of Education (INEE) on May 15, 2019, due to the approval of the new educational reform, although it is not the only one (Moreno, 2019). On August 19, 2020, an agreement was published in the Official Journal of the Federation (DOF for its acronym in Spanish) formalizing the accession of different administrative units and decentralized bodies to the Ministry of Health, including (COFEPRIS, Federal Commission for the Protection against Sanitary Risks for its acronym in Spanish) (Signos Vitales, 2020c).

Recently, the president warned to send an initiative to Congress in order to compact 16 decentralized and deconcentrated bodies in Secretariats of State or other government entities, which will lose their technical and management autonomy (Fuentes,



Image: website of INEE that it is still on-line at <https://www.inee.edu.mx/>

**TABLE 2. 16 DECENTRALIZED AND DECONCENTRATED BODIES THAT WILL BE ATTACHED TO SECRETARIATS OF STATE
OR OTHER GOVERNMENT ENTITIES**

DECENTRALIZED DECONCENTRATED BODIES	SECRETARIAT OR ENTITY TO WHICH IT WILL BE ATTACHED
(Conapred) National Council for the Prevention of Discrimination	Ministry of the Interior
National Institute for Older Persons (Inapam)	Welfare Secretariat
(Conadis) National Council for the Development and Inclusion of Persons with Disabilities	Welfare Secretariat
Mexican Youth Institute (Imjuve for its acronym in Spanish)	Secretary of Labor.
(INECC) National Institute of Ecology and Climate Change	Secretariat of Environment and Natural Resources (Semarnat for its acronym in Spanish)
National Committee for the Sustainable Development of Sugarcane	Secretariat of Agriculture and Rural Development (Sader for its acronym in Spanish).
Mexican Institute of Water Technology (IMTA for its acronym in Spanish)	National Water Commission (Conagua for its acronym in Spanish)
General Secretariat of the National Population Council (Conapo for its acronym in Spanish)	National Institute of Statistics and Geography (INEGI)
General Coordination of the National Aid Commission	National Migration Institute
National Commission on Nuclear Safety and Safeguards	Secretariat of Energy
National Commission for Efficient Energy Use (CONUEE for its acronym in Spanish)	Secretariat of Energy
Agri-Food and Fisheries Information	Sader
Seed Inspection and Certification	Sader
Mexican Agency for International Development Cooperation	Ministry of Foreign Affairs
Executive Secretariat of the National System for the Comprehensive Protection of Children and Adolescents	National System for Integral Family Development (DIF for its acronym in Spanish).
National Institute of Social Economy	Welfare Secretariat

Source: In-house elaboration with information from Fuentes (2022).

2022). These bodies include the National Council for the Prevention of Discrimination (Conapred for its acronym in Spanish), the National Institute for the Elderly (INAPAM for its acronym in Spanish), and the National Council for the Development and Inclusion of Persons with Disabilities (Conadis for its acronym in Spanish), the National Institute for Ecology and Climate Change (INECC for its acronym in Spanish), among others. In addition, according to the information revealed by the newspaper Reforma, the president also intends to disappear the Executive Secretariat of the National Anti-Corruption System (SNA for its acronym in Spanish).

It is worth remembering that the president has also publicly threatened to disappear or end the autonomy of 200 autonomous bodies –it is not known how he reached that figure– among which are the INAI, the IFT, the (Cofece, Federal Economic Competition Commission for its acronym in Spanish) (Gutiérrez, 2021). Their functions would be carried out by the Secretariat of the Public Function, the Secretariat of Communications and Transport, and the Secretariat of Economy, respectively. The INE, currently facing the federal government, has also been threatened with disappearance. In the latter case, it is worth commenting that the four routes that the majority

force has used to decrease the reputation and performance of the INE have been: budgetary reductions, warnings to disappear the INE General Council or to the INE itself, threats of impeachment to the counselors and the indirect threats to the integrity of the INE counselors, as happened with the threats from Felix Salgado Macedonio against Lorenzo Córdoba and Ciro Murayama (Primera Plana, 2021).

These threats have not been innocuous since, as already mentioned, they have had significant budgetary and political implications. Several of these institutions are autonomous branches that play counterweights to the federal government. At the same time, the Mexican government has made radical administrative transformations that put the capacities of the Mexican state at risk. On the one hand, institutes, agencies, and government entities have disappeared or have been threatened to disappear, and on the other hand, the government bureaucracy, including the most specialized bureaucracy that occupies essential areas of public administration, has been unprotected.

Another worrying action in democratic matters carried out by the president has been the concentration of power in his person. This attempt to attract more

4 MORENA ROUTES TO DAMAGE INE'S REPUTATION AND PERFORMANCE:

1. BUDGETARY REDUCTIONS
2. WARNINGS TO DISAPPEAR INE'S GENERAL COUNCIL OR INE ITSELF
3. THREATS OF IMPEACHMENT TO THE COUNSELORS
4. INDIRECT THREATS TO THE INTEGRITY OF INE COUNSELLORS

**TABLE 3. UNDERSECRETARIES, DECENTRALIZED BODIES, AND CONSTITUTIONALLY AUTONOMOUS BODIES DISAPPEARED
OR THREATENED TO DISAPPEAR 2019–2021**

AUTONOMOUS CONSTITUTIONAL BODY	STATUS	DECONCENTRATED BODY/PARASTATAL ENTITY/TECHNICAL BODY	STATUS
National Institute for the Evaluation of Education	DISSOLVED	Criminal Investigation Agency	DISSOLVED
National Institute of Transparency, Access to Information and Protection of Personal Data	ACTIVE, BUT THREATENED TO DISAPPEAR	Trust Evaluation and Control Center	DISSOLVED
Federal Institute of Telecommunications	ACTIVE, BUT THREATENED TO DISAPPEAR	Federal Center for People Protection	DISSOLVED
Federal Commission for Economic Competition	ACTIVE, BUT THREATENED TO DISAPPEAR	National Planning Center	DISSOLVED
UNDER-SECRETARIATS	STATUS	Analysis and Information for the Fight against Crime	DISSOLVED
Undersecretary of Communications and Technological Development	DISSOLVED	ProMéxico	DISSOLVED
Undersecretary of Tourism Planning and Policy	DISSOLVED	National Institute of the Entrepreneur	DISSOLVED
Undersecretary of North America	DISSOLVED	Presidential General Staff	DISSOLVED
Undersecretary of Employment and Labor Productivity	DISSOLVED	Center for Research and National Security	DISSOLVED
Undersecretary of Management for Environmental Protection	DISSOLVED		
Undersecretary of Income Treasury	DISSOLVED		
Undersecretary of government	DISSOLVED		
Undersecretary of Mining	DISSOLVED		

Source: In-house elaboration with Signos Vitales information (2021e).

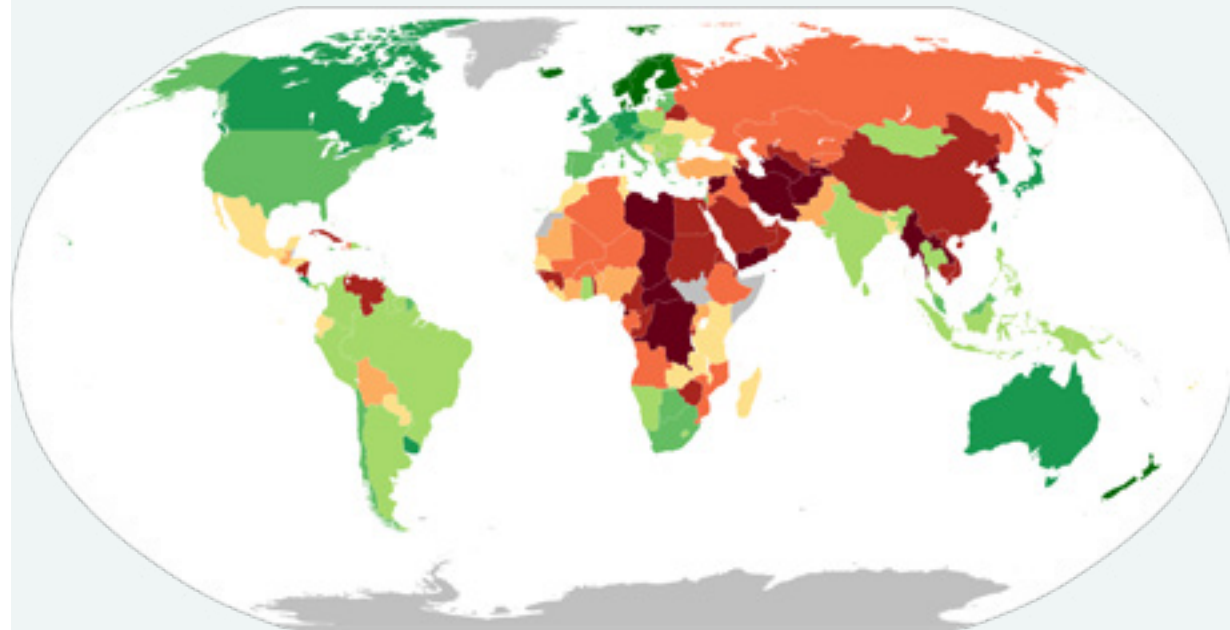
and more attributions has been widely reported by Signos Vitales and other organizations such as The Economist. Naturally, all the heads of government and state in the world are inclined to increase their capacities to carry out the political project they lead. However, a democratic system is designed to curb those impulses that often lead to undemocratic regimes and, in extreme cases, personalist authoritarianism.

President López Obrador managed, during the first three years of his government, to carry out a set of modifications to the legal and constitutional framework that give him unusual capacities in democratic countries. These capacities span the budget in penal, labor, and security domains.

Perhaps the most extreme example has been the amendment of article 61 of the Federal Law on Budget and Fiscal Responsibility (LFPRH for its acronym in Spanish). That empowered the President of Mexico, so the savings obtained as a result of the rationality of spending established in the Republican Austerity Law (LAR for its acronym in Spanish), can be directed, by presidential decree, to any site of the federal administration. At the same time, the previous legislation obliged the executive to justify before the Ministry of Finance why the budgetary reorientations



Democracy Index 2021



MEXICO FELL FROM DEFICIENT DEMOCRACY (2020)
TO HYBRID REGIME (2021)

Image: 2021 Democracy Index at The Economist, February 6 2022. At es.wikipedia.org.

TABLE 4. NEW LEGAL CAPACITIES OF THE FEDERAL EXECUTIVE 1/2

FEDERAL LAW ON BUDGET AND FISCAL RESPONSIBILITY	It empowers the president of Mexico to redirect the savings obtained from the budget allocation unilaterally.	Article 61
FEDERAL REPUBLICAN AUSTERITY LAW AND DECREE ESTABLISHING THE AUSTERITY MEASURES TO BE OBSERVED BY THE AGENCIES AND ENTITIES OF THE FEDERAL PUBLIC ADMINISTRATION UNDER THE CRITERIA INDICATED THEREIN	The president can redirect and spend in a unidirectional way 75% of sub-exercises of the items of materials and supplies and general services of all administrative branches due to the COVID health crisis	Article 2 (Decree)
NATIONAL GUARD LAW	<p>Invading responsibilities that were typical of various powers and levels of government. The President, through the National Guard, can now:</p> <ul style="list-style-type: none"> » Address illicit federal and local jurisdiction activity » The National Guard (GN for its acronym in Spanish) can investigate crimes, » Carry out crime prevention research, carry out verification tasks to prevent administrative infractions, request the georeferencing of mobile equipment, ask the intervention of communications, collect information in public places, order and collect information from authorities and individuals, analyze and process information 	Articles 7 and 9
NATIONAL FORFEITURE PROCEEDING LAW	Seize assets of private properties under assumptions that they may violate the constitution, such as when an individual can not thoroughly verify the legitimate origin of the goods in dispute.	Article 7 and Article 9 numeral 4
FEDERAL LAW OF PUBLIC SERVANT COMPENSATIONS) (LFRSP FOR ITS ACRONYM IN SPANISH	Violate labor rights through the reduction of public officials' salaries	Article 6

TABLE 4. NEW LEGAL CAPACITIES OF THE FEDERAL EXECUTIVE 2/2

FEDERAL PENAL CODE	Penalize officials who receive salaries that exceed the salary that corresponds to the president of the republic.	Articles 217 and 217 bis (Declared unconstitutional by the SCJN, Supreme Court for its acronym in Spanish)
NATIONAL LAW ON THE USE OF FORCE	<ul style="list-style-type: none"> » Use of semi-lethal force, allowing the use of less-lethal weapons or firearms to neutralize aggressors and protect the well-being of law enforcement personnel and bystanders, with a high probability of seriously injuring the aggressor » Using weapons against those who participate in public protests or meetings classified by the authority as without clear grounds, as not peaceful, or lacking a lawful purpose. » The entities in charge of guaranteeing public safety are allowed to use all levels of the public force, among which are the use of firearms and the use of lethal force in cases where, at the judgment of the executors of the force, the demonstrations are violent. 	Art. 6, fraction VI Art. 27 Art. 28
NATIONAL LAW ON THE REGISTRY OF DETENTIONS	The permanent Armed Forces are authorized to carry out and have a log of arrests	Art. 19 5th transient

Source: In-house elaboration with information from the Chamber of Deputies of the H. Congress of the Union (2019a; 2019b; 2019c; 2019d; 2019e; 2019f; 2021a; 2021b; 2021c).















would help the compliance of the National Development Plan (Signos Vitales, 2020b). The President already has full discretion in executing the expenditure in this sense. This occurred when Mexico's presidents already enjoyed great budgetary power. As reported by Núñez (2016), Mexico was the only country of the OECD members in which any type of expenditure (investment, operation, and discretionary), except the

mandatory one, can be increased without a limit and any other institution being involved in its approval or ratification.

This anomaly has allowed the Mexican presidents to count on not insignificant budget surpluses. Between 2013 and 2020, the federal government has exerted 1 trillion 905 Bp more than was planned to

TABLE 5. ABILITY OF THE EXECUTIVE TO INCREASE SPENDING AFTER THE LEGISLATURE APPROVED THE BUDGET 1/3

MA: MANDATORY, D: DISCRETIONARY, OP: OPERATION, I: INVESTMENT ● EX ANTE APPROVAL ● EX POST APPROVAL ● NO APPROVAL REQUIRED

	COUNTRY	NOT ALLOWED	ALLOWED WITHOUT CAP AND OTHER APPROVAL	ALLOWED WITHOUT CAP AND REQUIRES APPROVAL	ALLOWED WITH CAP AND WITHOUT APPROVAL, BUT THE CAP CAN BE EXCEEDED WITH APPROVAL	ALLOWED WITH CAP AND WITH APPROVAL	OTHER	APPROVAL OF THE MINISTER OF FINANCE/ECONOMY	APPROVAL OF THE LEGISLATURE	OTHER APPROVAL TYPE
	GERMANY						MA, D, OP, I	●	●	●
	AUSTRALIA	D		OP, I			MA	●	●	●
	AUSTRIA				OP, I	MA, D		●	●	●
	BELGIUM	MA, OP, I		D				●	●	●
	CANADA						MA, D, OP, I	●	●	●
	CHILE	MA, D, OP, I								
	KOREA	MA, D, OP, I								
	DENMARK	D, OP	MA	I				●	●	●
	SLOVAKIA		I				MA, D, OP	●	●	●
	SLOVENIA						MA, D, OP, I	●	●	●
	SPAIN			MA, I		D, OP		●	●	●
	UNITED STATES	D, OP, I	MA							
	ESTONIA		MA				D, OP, I	●	●	●
	FINLAND	D, OP, I		MA				●	●	●

Fuente: Elaboración propia con información de OECD (2014).

TABLE 5. ABILITY OF THE EXECUTIVE TO INCREASE SPENDING AFTER THE LEGISLATURE APPROVED THE BUDGET 2/3

MA: MANDATORY, D: DISCRETIONARY, OP: OPERATION, I: INVESTMENT ● EX ANTE APPROVAL ● EX POST APPROVAL ● NO APPROVAL REQUIRED






















COUNTRY	NOT ALLOWED	ALLOWED WITHOUT CAP AND OTHER APPROVAL	ALLOWED WITHOUT CAP AND REQUIRES APPROVAL	ALLOWED WITH CAP AND WITHOUT APPROVAL, BUT THE CAP CAN BE EXCEEDED WITH APPROVAL	ALLOWED WITH CAP AND WITH APPROVAL	OTHER	APPROVAL OF THE MINISTER OF FINANCE/ECONOMY	APPROVAL OF THE LEGISLATURE	OTHER APPROVAL TYPE
 FRANCE	MA, D, OP, I								
 GREECE				MA, D, OP, I			●	●	●
 HUNGARY	MA		I	D, OP			●	●	●
 IRELAND	MA		D, OP, I				●	●	●
 ICELAND									
 ISRAEL	MA, D, OP, I								
 ITALY					MA, D, OP, I		●	●	●
 JAPAN			MA, D, OP, I				●	●	●
 LUXEMBOURG	D		MA, OP, I				●	●	●
 MEXICO		D, OP, I	MA				●	●	●
 NORWAY	MA, D	OP, I							
 NEW ZEALAND			MA, D, OP, I				●	●	●
 NETHERLANDS	D, OP, I	MA							

TABLE 5. ABILITY OF THE EXECUTIVE TO INCREASE SPENDING AFTER THE LEGISLATURE APPROVED THE BUDGET 3/3

MA: MANDATORY, D: DISCRETIONARY, OP: OPERATION, I: INVESTMENT ● EX ANTE APPROVAL ● EX POST APPROVAL ● NO APPROVAL REQUIRED

	COUNTRY	NOT ALLOWED	ALLOWED WITHOUT CAP AND OTHER APPROVAL	ALLOWED WITHOUT CAP AND REQUI- RES APPRO- VAL	ALLOWED WITH CAP AND WITHOUT APPROVAL, BUT THE CAP CAN BE EX- CEDED WITH APPROVAL	ALLOWED WITH CAP AND WITH APPROVAL	OTHER	APPROVAL OF THE MINISTER OF FINANCE/ ECONOMY	APPROVAL OF THE LEGISLA- TURE	OTHER APPROVAL TYPE
	POLAND	MA, D, OP, I								
	PORTUGAL	MA					D, OP, I	●	●	●
	UNITED KINGDOM			D, OP, I		MA		●	●	●
	CZECH REPUB- LIC	MA, D			OP, I			●	●	●
	RUSSIA			I			MA, D, OP	●	●	●
	SWEDEN				MA, D, OP, I			●	●	●
	SWITZER- LAND			MA, D, OP, I				●	●	●
	TURKEY	OP		MA, D, I				●	●	●

Source: In-house elaboration with OECD information (2014).

be spent, i.e., an excess of 7.7%. Between 2019 and 2020, the current government spent 148.961 Bp more than budgeted.¹⁶ Although this behavior was strongly

criticized by AMLO when he was an opponent, now as president, he, although the amount is decreased, continues with these over-expenditures.

¹⁶ In-house calculations with information from the SHCP (2013–2020). For more details check <https://tinyurl.com/3rmmyt97>

TABLE 6. APPROVED BUDGET VS. PUBLIC EXPENDITURE EXECUTED
BILLIONS

YEAR	APPROVED	MODIFIED	NET DIFFERENCE	PERCENT DIFFERENCE
2013	2,865.1	3,058.6	193.5	6.7
2014	3,245.4	3,336.7	913.6	2.8
2015	3,407.8	3,661.8	254.0	7.5
2016	3,551.3	4,118.3	567.0	1.6
2017	3,674.5	4,065.1	390.6	1.1
2018	3,961.1	4,289.6	328.4	8.3
2019	4,361.3	4,442.0	806.2	1.8
2020	4,515.2	4,583.5	683.4	1.5

Source: In-house elaboration with information from SHCP (2013; 2014; 2015; 2016; 2017; 2018a; 2019a; 2020a).

ATTACKS AND MISTREATMENT OF CIVILIAN COUNTERWEIGHTS: ORGANIZED SOCIETY, MEDIA, ACADEMICS, AND UNIVERSITIES



Since the current administration's beginning, the public and non-public attacks that this government has undertaken against those who do not unconditionally support its regime have been a hallmark of this administration. There is no day when the president of Mexico does not throw himself against some media outlet, journalist, columnist, civil society organization, university, or academic. Their aggressions have been perceived worldwide as a clear threat to freedom of speech, association, and academia.

The media not related to the government of López Obrador have been branded as corrupt, neoliberal, and independent of the people. In fact, since June 30, 2021, a section was inaugurated at the morning conference called "Who is Who in Lies," where the government exposes what it considers fake news (Arista, 2021). Without contrasting the information with official data nor presenting greater evidence on most occasions to support their claims, those who partially or totally oppose the policies and actions of their government are disqualified. According to the

SPIN organization (2022), the most attacked media in this section up to January 14, 2022, have been: *El Diario Reforma* (63), *El Financiero* (42), *El Universal* (30), *Latinus* (10 times) and *El País* (9 times). In general, during his first 740 morning conferences (held between December 2018 and December 2021), the president has vehemently attacked media outlets, including *El Diario Reforma* (649 times), *El Universal* (274 times), and *Televisa* (107 times).

This section of the presidential conferences merited that various national and international organizations related to the defense of freedom of speech, such as Article 19 and the Inter-American Commission on Human Rights (IACHR), will urge the Mexican government to immediately end this exercise that, in their opinion, is harmful to freedom of speech. The Office of the President not only did not respond to the request but maintained the "Who's Who in Lies" section (Political Expansion, 2022c).

The president has also directly attacked journalists he considers to be adversaries. The most recent cas-

es are those of Carlos Loret de Mola and Carmen Aristegui. The former presented on the news site he directs (*Latinus*) an investigation in which he raises questions about the possible conflict of interest that could have arisen in López Obrador's family after his eldest son, José Ramón López Beltrán, lived for one year (between 2019 and 2020) in a house located in Texas. At that time, the house belonged to Keith Schilling, a senior executive of the Baker Hughes company, which has had important contracts with different Mexican governments, including the current one, with which it has concluded contracts for at least 151 million dollars in works for Pemex. Later, Carmen Aristegui gave extensive coverage to the report, which gave it a relevant media boost and resulted in a strong, and in certain aspects illegal, attack by the president against journalists (Aristegui Noticias, 2022).

At the morning conference on February 11, 2022, López Obrador presented data on the annual income of Carlos Loret de Mola, whose source is not known. The head of the executive mentioned that he would request a report from the Tax Administration Service (SAT for its acronym in Spanish) to investigate whether Loret de Mola has paid taxes. This fact could constitute a crime because, as the Court ruled in 2012,

tax secrecy cannot be violated when it comes to an individual whose income or tax benefits are unrelated to the scrutiny of the authorities' actions. In addition, the Federal Institute for Access to Public Information and Data Protection (INAI for its acronym in Spanish) reported that the journalist could file a complaint if he considers that the General Law on the Protection of Personal Data Held by Obligated Persons was violated after the president could have disclosed personal data (Expansión Política, 2022a).

These attacks take place in a brutally violent context for journalists in Mexico. The organization Article 19 (2021) reported that in the first half of 2021 (last available data), 362 attacks against journalists were accredited. Most of these were intimidation, harassment, and threats from civil servants, political parties, and civilian security forces.

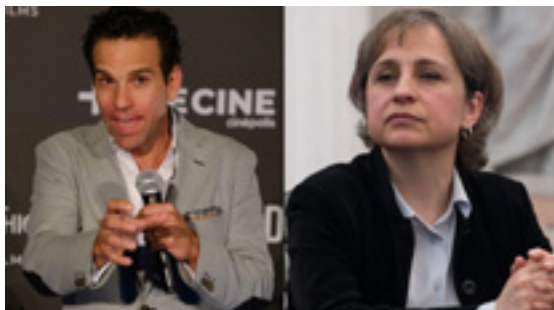


Image: López Obrador attacked Carlos Loret and Carmen Aristegui, among other journalists, in the Mañanera/Photos: Graciela López/Andrea Murcia/Cuartoscuro/Infobae.com at <https://tinyurl.com/36yz-npc2>

TABLE 7. TYPE OF AGGRESSIONS AGAINST THE PRESS DURING THE FIRST HALF OF 2021

TYPE OF AGGRESSION	WOMEN	MEN	MEDIA /COLLECTIVE	TOTAL
ILLEGAL ACCESS	3	5	2	10
TRESPASSING	4	3	0	7
THREAT	15	37	2	54
MURDER	0	3	0	3
ATTACK ON TANGIBLE PROPERTY	11	6	0	17
ASSAULT	9	26	0	35
DENIAL OF SERVICE ATTACK (DOS, DDOS)	0	0	6	6
BLOCKING OR ALTERING CONTENT	11	20	1	32
ENFORCED DISAPPEARANCE	0	1	0	1
DISPLACEMENT	1	1	0	2
FAKE DOMAINS OR FAKE ACCOUNTS	1	2	6	9
INTIMIDATION AND HARASSMENT	50	54	9	113
DEPRIVATION OF LIBERTY	8	8	0	16
REMOVING CONTENT	2	10	8	20
ILLEGITIMATE USE OF PUBLIC POWER	6	21	8	35
UNLAWFUL COMMUNICATION SURVEILLANCE	1	1	0	2
TOTAL	122	198	42	362

Source: In-house elaboration with information from Article 19 (2021).

In addition, homicidal violence against journalists remains at alarming levels. From December 1, 2018, to March 14, 2022, the organization recorded 31 journalists murdered for work-related reasons (Article 19, 2022). In the first 31 days of 2022 alone, five journalists were killed. One of them, Lourdes Maldonado, had already asked the president of Mexico for help in a morning conference because she feared for her life due to a legal confrontation with the former Governor of Baja California, Jaime Bonilla. It is worth mentioning that, until March 15, 2022, 8 murders against journalists have been registered in the national media, but the Article 19 organization has only confirmed that six of these have been related to their professional work.¹⁷

Comparatively, Mexico is the worst-rated country in terms of homicides against journalists. UNESCO (2021b) reported that in 2021 Mexico was the most lethal country for journalists, as its database confirms the murder of nine journalists. In addition, the organization Reporters Without Borders, since 2020 already considered Mexico the most dangerous country for journalists in the world (Gómez, 2020).

¹⁷ At the time of writing, Article 19 has not counted this death as one related to journalistic work.

TABLE 8. NUMBER OF JOURNALISTS KILLED
IN MEXICO PER YEAR
2000–2022

JOURNALISTS MURDERED IN MEXICO	YEAR
3	2000
3	2001
2	2002
1	2003
4	2004
3	2005
10	2006
3	2007
10	2008
9	2009
10	2010
8	2011
7	2012
4	2013
5	2014
7	2015
11	2016
12	2017
9	2018
10	2019
7	2020
7	2021
6	2022

Source: In-house elaboration with information from Article 19 (2022).

TABLE 9. NUMBER OF JOURNALISTS KILLED, INTERNATIONAL COMPARISON 2021

COUNTRY	NUMBER OF JOURNALISTS KILLED IN 2021	COUNTRY	NUMBER OF JOURNALISTS KILLED IN 2021
 MEXICO	9	 ISRAEL	0
 UNITED STATES OF AMERICA	0	 AZERBAIJAN	2
 ARGENTINA	0	 IRAN	0
 BRAZIL	1	 IRAQ	0
 CANADA	0	 TURKEY	1
 COLOMBIA	1	 KENYA	1
 CHILE	0	 NIGERIA	0
 EL SALVADOR	0	 DEMOCRATIC REPUBLIC OF CONGO	3
 VENEZUELA	0	 SOMALIA	2
 CHINA	0	 YEMEN	1
 INDIA	5	 FRANCE	0
 JAPAN	0	 ITALY	0
 INDONESIA	0	 CROATIA	0
 VIETNAM	0	 GERMANY	0
 AFGHANISTAN	7	 RUSSIA	0

Source: In-house elaboration with information from UNESCO (2021b).

As the media and journalists, Organized Civil Society has been constantly attacked. In addition to the traditional slanderous expressions and attacks coming directly from the president of Mexico in the morning conferences, the government has taken decisions that affect the work that thousands of civil society organizations have been doing for years. Some of the actions that stand out are the disappearance of social programs such as children's stays that various women's organizations operated. The budget for women's shelters also operated by social organizations was also reduced. In addition, in 2021, the tax miscellaneous that restricts the deductibility of donations made by natural persons to social organizations was approved (SEGOB, 2021c).¹⁸ According to the Federal Registry of Civil Society Organizations, as of December 31, 2021, there were 43,690 organizations in the said registry, of which 5,100 receive almost all their

¹⁸ Until 2021, the Income Law allowed a person to deduct either 15% of their cumulative income or up to 163,000 pesos per year, whichever is less. At the same time, the law allowed a person who donated to a civil society organization to deduct this amount as long as it did not exceed 7% of their total annual income. This is known as the Global Limit for Personal Deductions. The new income law mandates that deductions from donations that a person makes to a social organization will be contemplated within the aforementioned Global Limit, so an incentive was generated for donors to stop contributing to civil society organizations (SEGOB, 2021c).

income as donations from individuals (Government of Mexico, 2021a).

The last guild that the federal government has heavily besieged is academics. The public animosity that the president has expressed against several universities, which he has accused of neoliberals who bowed their heads to the looting regimes, is not new. The institutions that have been attacked the most by the head of State are the Monterrey Institute of Technology, the National Autonomous University of

Image: "students from CIDE, UDLAP and UdeG walk towards the Senate to defend their university autonomy, this Tuesday in Mexico City"
Photo: Mosiés Pablo/El País at <https://tinyurl.com/42cty6zu>



Mexico (UNAM for its acronym in Spanish), and more recently, the Economic Research and Teaching Center (CIDE for its acronym in Spanish). However, at least four research centers have been possible to impose directors related to the head of the National Council for Science and Technology (Conacyt for its acronym in Spanish) through sometimes doubtful and sometimes openly illegal¹⁹ mechanisms.

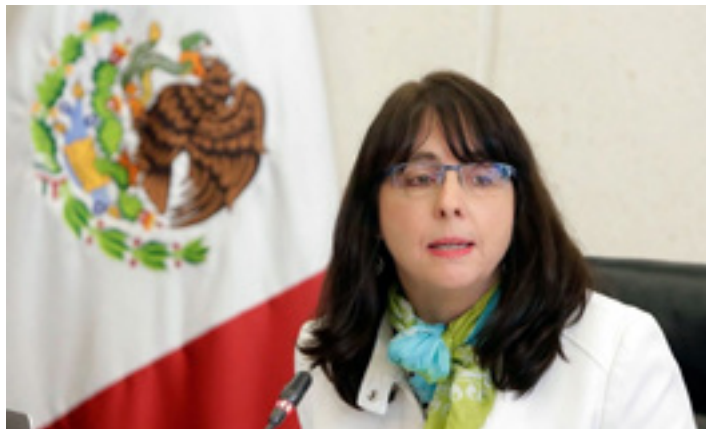
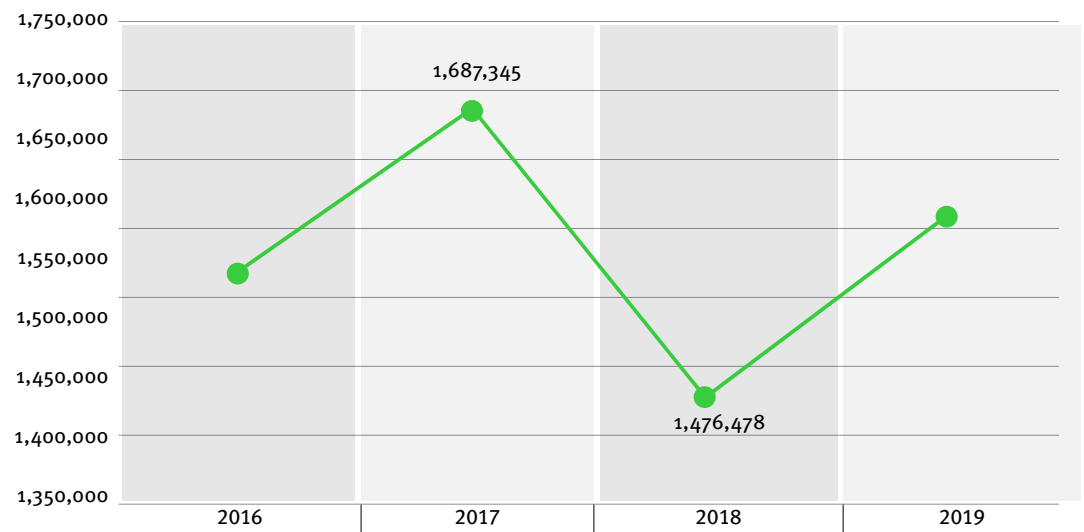


Image: Dr. Ma. Elena Álvarez Buylla, Conacyt director / Noticiasnrt.com at <https://tinyurl.com/yfaaxkck>.

This procedure for imposing directors in public research centers is another example of this administration's lack of respect for the law. Previously, Si-

¹⁹ For more information see Álvarez-Buylla and the control of research centers. <https://tinyurl.com/2p8h74xu>

GRAPH 2. STAFF IN THE FEDERAL CIVIL SERVICE BY YEAR



Source: In-house elaboration with information from INEGI (2021c).

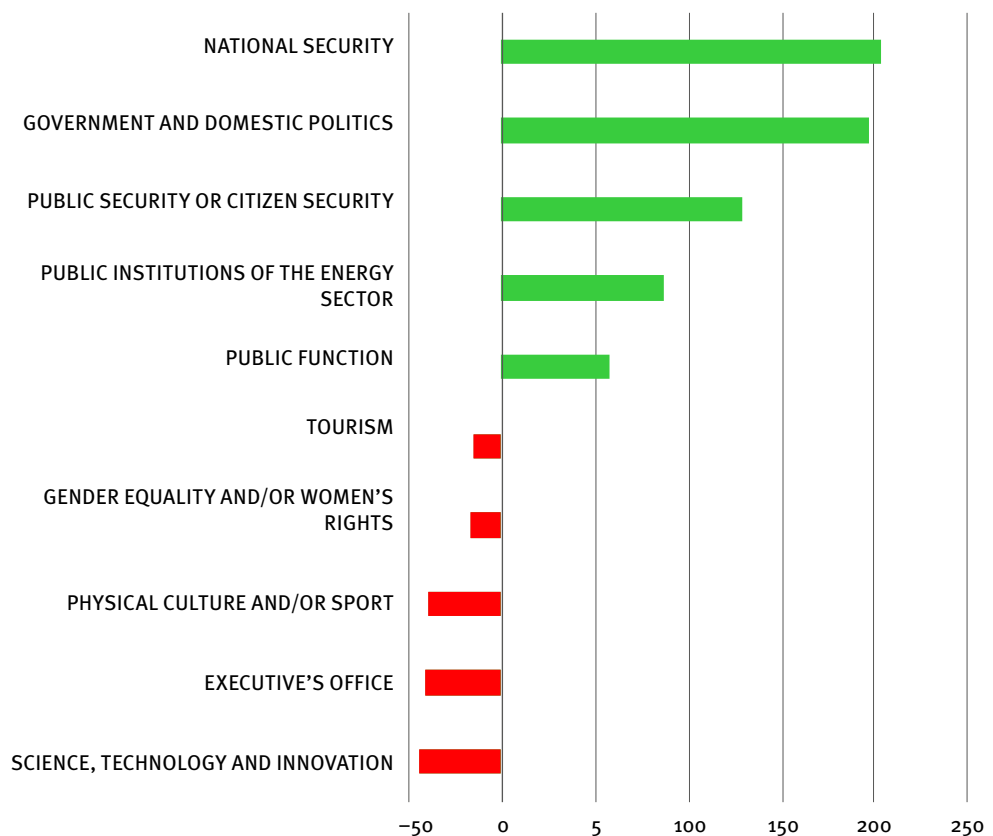
gnos Vitales had already reported multiple flagrant violations of the Mexican regulatory framework by the president of Mexico in order to impose his decisions.²⁰

This attack against universities and research centers was preceded by the presidential decree published on March 2, 2020, in the Federation Journal (DOF for its acronym in Spanish) in which public trusts were considered extinct with the aim of, according to the president, stopping waste and facing the COVID crisis. The extinction of various trusts destined for Conacyt as a whole exceeded two bp. Although June 30, 2021, was the deadline to return that amount to the Treasury of the Federation, it is not clear if the total amount was returned since the Superior Audit of the Federation reported in November 2021 that about one billion pesos had not yet been returned (Signos Vitales, 2021e).

Another worrying indicator regarding the steering away from science and Technology was that it is precisely in this area that the biggest reduction of personnel in the entire APF was presented during the first year of this government.

²⁰For more information see Constitutional Erosion Alert: <https://tinyurl.com/ctz9pbhf>

GRAPH 3. PERCENTAGE VARIATIONS FROM 2018 TO 2019
BY FUNCTION



Source: In-house elaboration with information from INEGI (2021c).

HUMAN RIGHTS



Another essential element of a democracy, human rights, have been systematically violated in Mexico for decades, and that reality has not changed. Many organizations have suffered from an extremely serious situation in Mexico in this regard. In addition, as shown by the universal human rights index of the United Nations High Commissioner for Human Rights, Mexico is the second country with the highest number of recommendations received by this body since 2007, amounting to 1,209. The year 2018 was the year in which most recommendations were made to the Mexican government, a total of 375 (OHCHR, 2022) (Table 10).

According to the report presented by Global Witness (2021) on homicides against activists, in 2020, Mexico was the second most dangerous country for land and environmental activists around the world, only behind Colombia. The report details that in 2020, 30 lethal attacks against ecological activists were documented in Mexico, representing an increase of 67% compared to 2019. 95% of these murders have not faced any legal action, so they remain unpunished²¹ (Table 11).

²¹ For detailed information about the state of human rights in Mexico, check the Negative Balance Report of Human Rights In Mexico: <https://tinyurl.com/vjdn6cdv>

MEXICO WAS THE SECOND MOST DANGEROUS COUNTRY OF THE WORLD IN 2020 FOR LAND AND ENVIRONMENTAL ACTIVISTS WITH 30 HOMICIDES. IT REPRESENTS AN INCREASE OF 67% COMPARED TO 2019.
GLOBAL WITNESS, 2021

TABLE 10. RECOMMENDATIONS BY YEAR FOR AMERICA FROM THE HIGH UN COMMISSIONER FOR HUMAN RIGHTS

PER YEAR 1/2





































	COUNTRY	RECOMMENDATIONS PER YEAR															
		2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	TOTAL
	ANTIGUA & BARBUDA			33		58	115					89				24	319
	ARGENTINA		27		105	233	47		24		177	59	138	14	21		845
	BAHAMAS				204					98	27			24			353
	BARBADOS				137	65				115				21		12	350
	BELIZE				147				51	126				46		20	390
	BOLIVIA		13	260			42	25	193	67		20	79	69	69		837
	BRAZIL		24	8		246	182	103	19		191	7	49	115	24	19	987
	CANADA		28	17	325	56	57	18		162	112		23	89	36	23	946
	CHILE	32		284	70		80	80	246	22				137	40	64	1055
	COLOMBIA		49	31	211	36	109	63		202	26		215	118		38	1098
	COSTA RICA		43	230		25	98	22	242			25	101	15	20	24	845
	CUBA			31	370	20		40		318	25	55		89	11		959
	DOMINICA			140					116				61	5			322
	ECUADOR		14	139		325	20	46	26	18	115	20	125	31	55	26	960
	EL SALVADOR		207	57	95	30	16		233	40		5	221	52	23	48	1027
	UNITED STATES		347			60	82	343	79	84	23	235	36	24	116	15	1444
	GRENADA		148					104			26		126	26			430
	GUATEMALA			53	291	27	40	25	24	29	163	54	71	66	43	55	941

TABLE 10. RECOMMENDATIONS BY YEAR FOR AMERICA FROM THE HIGH UN COMMISSIONER FOR HUMAN RIGHTS
PER YEAR 2/2

	COUNTRY	RECOMMENDATIONS PER YEAR															
		2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	TOTAL
	GUYANA		199	31	29			174		37	29		112	11			622
	HAITI				36		284	17	19			136					492
	HONDURAS		270	78	22	92	145	233	28	3	30	129	55	33		82	1200
	JAMAICA		170			31	25	201		45	25	145					642
	MEXICO			76	375	64		63	30	176	66	123	108	106	6	16	1,209
	NICARAGUA			259			36		209				202	22	66	19	813
	PANAMA		181	14	51	85		125	17	54		137	80		12		756
	PARAGUAY	210		24		27	290	61	17	108	21	207	138		22	5	1130
	PERU			20	87	232	134	65	45	43	182	6	11	32	23	19	899
	DOMINICAN REPUBLIC			191		3	35	76	134	53	24		79		71		666
	SAINT KITTS & NEVIS	165						133				113					411
	SAINT VINCENT & THE GRENADINES				26	39	128	29		6		92			14		334
	SAINT LUCIA	165							33			116					314
	SURINAM				34		186	50				94		16		57	437
	TRINIDAD & TOBAGO						182					118					300
	URUGUAY			266		55	64	65	255	42	1	33	32	96	29	40	978
	VENEZUELA				10		274	49	119	20		148				46	666

Source: In-house elaboration with information from OHCHR (2022).

TABLE 11. MURDERS BY COUNTRY

TOTAL NUMBER OF DOCUMENTED KILLINGS PER COUNTRY						COUNTRIES WITH THE HIGHEST NUMBER OF MURDERS PER CAPITA		
	COLOMBIA	65		SOUTHAFRICA	2		NICARAGUA	12/6.6M
	MEXICO	30		THAILAND	2		HONDURAS	17/9.7M
	PHILIPPINES	29		SAUDI ARABIA	1		COLOMBIA	65/50.3M
	BRAZIL	20		SRI LANKA	1		GUATEMALA	13/16.6M
	HONDURAS	17		NEPAL	1		PHILIPPINES	29/108.1M
	D. R. CONGO	15		CANADA	1			
	GUATEMALA	13		COSTA RICA	1			
	NICARAGUA	12		UGANDA	1			
	PERU	6		IRAQ	1			
	INDIA	4		ARGENTINA	1			
	INDONESIA	3		KIRIBATI	1			

Source: In-house elaboration with information from Global Witness (2021) .

THE FIGHT AGAINST CORRUPTION



Undoubtedly, the fight against corruption has been the main banner of López Obrador throughout his political career. Paradoxically it is also one of the outstanding debts of this government. As reported in the last installment of the corruption perception index prepared by Transparency International (2021), Mexico is among the most corrupt countries in the world. From a list of 180 countries, where rank one represents the lowest perceived corruption and 180 the highest corruption, Mexico ranked 124th. The country scored 31 on a scale of 100, the same score as the previous year.

**OF 180 COUNTRIES,
WHERE RANKING NUMBER ONE
REPRESENTS LEAST CORRUPTION
PERCEIVED AND 180 MOST
CORRUPTION, MEXICO POSITIONS
ON RANK 124.**

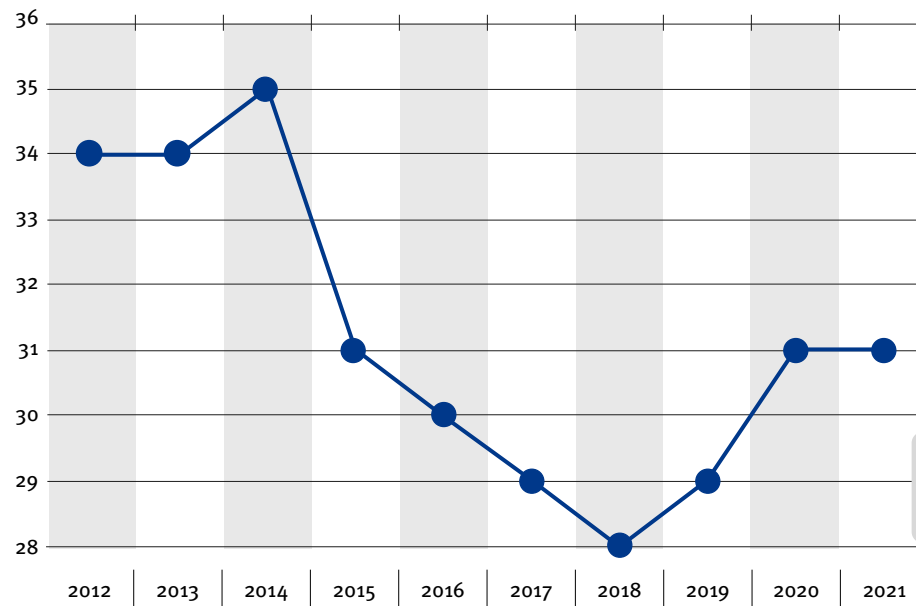
TABLE 12. CORRUPTION PERCEPTION INDEX
INTERNATIONAL COMPARISON 2021

COUNTRY	RANKING	SCORE
SIRIA	178	13
VENEZUELA	177	14
NORTH KOREA	174	16
SUDAN	164	20
IRAQ	157	23
LEBANON	154	24
IRAN	150	25
RUSSIA	136	29
BOLIVIA	128	30
MEXICO	124	31
EL SALVADOR	115	34
TURKEY	96	38
BRAZIL	96	38
ARGENTINA	96	38
COLOMBIA	87	39
INDIA	85	40
CHINA	66	45
ISRAEL	36	59
CHILE	27	67
FRANCE	22	71
JAPAN	18	73
DENMARK	1	88

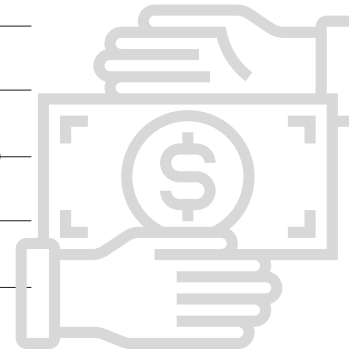
Source: In-house elaboration with information from Transparency International (2021).

GRAPH 4. CORRUPTION PERCEPTION INDEX IN MEXICO

2012–2021



Source: In-house elaboration with information from Transparency International (2021).



In addition to this high perception of corruption, the political use of state institutions has been observed in Mexico. Among the various cases of political corruption that have had a high media impact, one can observe a very different treatment by the government and the Prosecutor's Office. While in cases such as that of former National Action Party (PAN for its acronym in Spanish) senator Jorge Luis Lavalle, the Attorney General's Office acted quickly, accusing

the politician of law breakings such as criminal association, bribery, and money laundering, all related to the alleged bribes that were distributed during the government of Enrique Peña Nieto to approve the energy reform. In other cases, such as that of the current Federal Secretary of Public Education, Delfina Gómez, neither the prosecutor's office, nor the Civil Service Secretariat, nor the Morena party, decided to open an investigation related to the ruling of the

Federal Electoral Court of the Judiciary Federation (TEPJF for its acronym in Spanish) in which it is found that the official illegally withheld 10% of the salary of more than one hundred workers of the mayoralty of Texcoco when Delfina Gómez headed it (El Financiero, 2022a). The INE accredited that at least 2,264,612 pesos were used for the ordinary operation of Morena, so it was intended to hide in this way the actual destination of the resources withheld from municipal employees (El Financiero, 2022a).

This asymmetrical behavior of the federal institutions has not been exceptional but constant. While

adversaries or enemies are pursued with all the rigor of the law (sometimes even over it), allies or friends are protected at all costs. There is a supererogatory number of cases such as Bartlett's, Alfonso Romo or Olga Sánchez Cordero's.²²

As far as transparency is concerned, this government has reached truly worrying extremes. It is true that the previous administrations concealed much information of high public value. In the Peña Nieto govern-

²² To delve into cases of alleged corruption during the current administration, review: The Value of Truth: One-third of the Six-Year Period. <https://tinyurl.com/4vhx43p2>



Jorge Luis Lavalle ex senator by PAN. Forbes.com.mx at <https://tinyurl.com/4phhvrzv>



Delfina Gómez, secretary of Education. Cadenapolitica.com at <https://tinyurl.com/2vv42ahu>.

**ASYMMETRICAL
BEHAVIOR OF THE
FEDERAL INSTITUTIONS:

ADVERSARIES OR
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ment alone, more than 12,406,136 files were reserved (Flores, 2017). Despite this, no previous president had been encouraged to issue an agreement whereby he could withhold all the information relating to the public works carried out by various agencies of the federal government, as AMLO did on November 22, 2021, which was partially invalidated by the National Supreme Court of Justice (SCJN for its acronym in Spanish). With this agreement, the government intended not to give information on public multimillion amounts.

It should be noted that López Obrador promised absolute transparency, even saying that he is in favor of “not withholding anything, that everything is transparent.” Mayhap some issues in particular that have to do with state security, but they have to be justified very well, and everything else is transparent, let there be no withholding” (Daen and Aguirre, 2021). In fact, this government has withheld information on matters of significant public interest, such as the airport of Felipe Ángeles de Santa Lucia, the Mayan Train, or contracts related to the purchase of vaccines. Data on COVID deaths, heparin sodium supplies in a Pemex hospital, the Tlahuelilpan case, the presidential plane, and the operation against Ovidio Guzman were also withheld.



**THE DEMOCRATIC REGRESSION
SUFFERED BY MEXICO** can take the
country to a non–returning point.

**It is foreseen that this government period
will close with approximately 200 thousand
intentional homicides, and those committed
against journalists will reach its highest level
in history. Mexican democracy is eroding and
moving towards an authoritarian regime.**

3

MILITARY SECURITY STRATEGY



Image: <https://tinyurl.com/2p9v9vyv>



THE USE OF THE ARMED FORCES IN MEXICO

and in Latin America has become ordinary in the last years. Everyday the military are being integrated to the formal political power, are participating in tasks unrelated to national defense and are devoting, almost completely, to public security.

«

It is nothing new to talk about the militarization of public security in Mexico. As previously reported, the public security approach in the country during virtually the entire 21st century has been characterized by the increasing use of the Armed Forces (FFAA for its acronym in Spanish) (Signos Vitales, 2021g). This government gave the Armed Forces an entire legal framework to carry out almost any security task. Specialists have interpreted this as a decisive act to militarize the country, endorsing the active par-

ticipation of the military and marine in security responsibilities, to the detriment of civil corporations. As previously reported, this government has sharply reduced the budget for subnational police. In this sense, the most brutal blow was the disappearance of the municipal security subsidy fund (Fortaseg for its acronym in Spanish), but this tendency to occupy more military bodies than civilians is not exclusive to Mexico, but, in fact, is a regional trend.

In fact, politically using military institutions as guarantors of public security remains crucial for governance in Latin American countries (Friedrich–ebert–StiFtung, 2021, p.20). As stated in the book *Military and Governance*, the Armed Forces in Latin America have increasingly become a veto power in political matters due to their increasing inclusion in positions and decisions that should theoretically correspond to civilians. Extreme cases are non–democratic countries such as Cuba and Venezuela, where the military has enormous influence on the government, although countries such as Brazil and Mexico have accelerated their strides in that direction (Friedrich–ebert–StiFtung, 2021).

As Ramalho shows (in Friedrich–ebert–StiFtung, 2021), there are currently more military in civilian positions in the Brazilian government than in times of military dictatorship. In the case of Mexico, it is well known that the transition to democracy is not part of a military dictatorship as in most South American countries but instead of a single–party authoritarian regime. Even so, it can be seen that the military has had political positions of great relevance. In the current government, the Armed Forces control at least 55 civilian positions, most of them in matters related to public security and migration (Causa en Común, n.d.).

TABLE 13. NEW CAPACITIES OF THE ARMED FORCES AND THE NATIONAL GUARD IN THE FIELD OF PUBLIC SECURITY

REGULATORY FRAMEWORK	CAPACITIES
GENERAL LAW OF THE NATIONAL PUBLIC SECURITY SYSTEM	<ol style="list-style-type: none"> 1. Withholding in an absolute, indeterminate, and prior manner all the information contained in the databases of the National Information System, in the National Registries 2. Prohibit the public from accessing the information contained in the databases of the National Information System in the national registers.
NATIONAL GUARD LAW	<ol style="list-style-type: none"> 3. Conduct crime prevention research 4. Carry out verification tasks to prevent administrative infractions 5. Request georeferencing of mobile equipment 6. Request communication interception 7. Gather information in public places 8. Require and request information from authorities and people 9. Analyze and process information
NATIONAL LAW ON THE USE OF FORCE	<ol style="list-style-type: none"> 10. Make use of all levels of law enforcement, including the use of firearms and the use of lethal force. 11. Using weapons against those who participate in public protests or meetings that are classified by the authority as without clear grounds, as not peaceful or lacking a lawful purpose.

Source: Signos Vitales. (2021g).

This inclusion of the military institutions in the Government is accompanied by a set of activities not related to national security that they carry out. As it has been shown in the last two years, the Mexican Armed Forces carry out a myriad of tasks in areas ranging from public security to the control of ports and airports through the construction of bank branches and the distribution of social programs. But in contrast to what one might think, in Latin America, several armies perform various tasks other than national security, in part because the war conflicts between states in the region are almost non-existent and most of the problems of governance and territorial control are due to the growing power of organized crime.



Image: “Workers denounce militarization in ISSSTE” Jens Pedro Lohmann takes office as director of finances in ISSSTE/yoinfluyo.com at <https://tinyurl.com/5n954tv2>



Image: “Transfer of management takes place from the General Coordination of Ports and Merchant Navy to Semar”/ mundomarino.cl at <https://tinyurl.com/bdzmwaxj>



Image: “José Luis Urban Ocampo, militar, arrives at Hermosillo State Police” / elimparcial.com at <https://tinyurl.com/muv4pzu8>

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 1/9







STATE	INSTITUTION/DEPENDENCY	NAME		PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
AGUASCALIENTES	National Migration Institute	Pedro León Álvarez Alcacio		Brigadier General Construction Engineer Graduated from the General Staff	Representative office holder	17/03/2020
BAJA CALIFORNIA	Comprehensive Port Administrations	Manuel Fernando Gutiérrez Gallardo	 https://tinyurl.com/2p9yk553	Captain in deep fishing	General Director	14/08/2020
BAJA CALIFORNIA SUR	Directorate of Public Safety, Preventive Police and Municipal Traffic	Russel Rodas Moreno	 https://tinyurl.com/mrxeay45	Captain	Director	03/09/2019
BAJA CALIFORNIA SUR	Secretariat of Public Security	Germán Wong López	 https://tinyurl.com/ycxy76jv	Ship Captain	Secretary	07/02/2018
BAJA CALIFORNIA SUR	La Paz Municipal Police	Armando Valdez	 https://tinyurl.com/yckzwbwn	Lieutenant Commander	Director	12/08/2019
BAJA CALIFORNIA SUR	Directorate of Public Safety, Preventive Police and Municipal Traffic	Carlos Lenin López Torres	 https://tinyurl.com/2p965xr6	Ship Lieutenant	Director	17/10/2019

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 2/9







STATE	INSTITUTION/DEPENDENCY	NAME		PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
BAJA CALIFORNIA SUR	Directorate of Public Security, Preventive Police and Municipal Traffic of Mulegé	Lizandro Castan Melchor	 https://tinyurl.com/2p969x75	Ship Lieutenant	Director	19/02/2019
CAMPECHE	National Migration Institute	Roberto González López	 https://tinyurl.com/4phfkxxy https://tinyurl.com/2p9yk553	Vice admiral	Representative office holder	21/08/2019
CHIAPAS	Comprehensive Port Administrations	Aurelio Antonio Argüelles	 https://tinyurl.com/mrmympxy	Naval Attaché in Sweden and Germany	General Director	18/08/2020
CHIHUAHUA	National Migration Institute	Pedro Alberto Alcalá López	 https://tinyurl.com/3nn7twb7	General	Representative office holder	17/03/2020
COAHUILA	National Migration Institute	José de Jesús Barajas Santos	 https://tinyurl.com/2p9xse85	Division General air staff certified aviator pilot	Representative office holder	21/08/2019
COLIMA	Comprehensive Port Administrations	Salvador Gómez Meillón	 https://tinyurl.com/4a955mpc	Admiral	General Director	02/09/2020

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 3/9






STATE	INSTITUTION/DEPENDENCY	NAME	PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
COLIMA	Secretariat of Public Security	Carlos Jesús Miravete  https://tinyurl.com/yckncjh9	Jurisdictional Analyst of the Fourth Naval Region	Undersecretary of Operations	18/06/2020
COLIMA	Secretariat of Public Security	Fernando Troncoso Torres  https://tinyurl.com/yc89p85zcom/2p9yk553	General Director of Private Security of the State of Puebla	Director-General of Auxiliary Police	18/06/2020
COLIMA	National Migration Institute	Ramón Juárez Suárez  https://tinyurl.com/mrmympxy	Vice Admiral	Representative office holder	17/03/2020
ESTADO DE MÉXICO	National Migration Institute	Efraín Sánchez Velasco  https://tinyurl.com/2p9h8uh9	Brigade General graduated from the general staff	Representative office holder	17/03/2020
ESTADO DE MÉXICO	Secretariat of Public Security	Sergio Hernández Chávez García  https://tinyurl.com/5b67b3a3	Retired Army General.	Undersecretary of State Police	09/02/2018
FEDERATION	National Intelligence Center (CNI)	Audomaro Martínez Zapata  https://tinyurl.com/yc78cpn-3com/4a955mpc	Retired Army General (part of the General Staff, Major General), and Brigadier General).	General Director	01/12/2018

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 4/9

STATE	INSTITUTION/DEPENDENCY	NAME		PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
FEDERATION	Administration and Finance of the Institute for Social Security and Services for State Workers (ISSSTE for its acronym in Spanish)	Jens Pedro Lohmann Iturburu	 https://tinyurl.com/35ck5yzp	Commander of the IV Military Region, in Mty, NL	Director	01/04/2019
FEDERATION	Pension Program for Older Adults in the Veracruz region	José Manuel Solano Ochoa	 https://tinyurl.com/muhukpkp-com/2p9yk553	Vice-Admiral of the Navy until June 2017, when he retired for exceeding the age limit requirement by the Navy Secretariat.	Regional delegate for Wellness programs	S.F.
GUANAJUATO	National Migration Institute	Enrique Aviña Gutiérrez		Brigade General graduated from the general staff	Representative office holder	21/08/2019
GUERRERO	National Migration Institute	Víctor Manuel Martínez Maya	 https://tinyurl.com/5x83rmus	Rear Admiral	Representative office holder	17/03/2020
HIDALGO	National Migration Institute	Francisco Javier Hernández Sánchez	 https://tinyurl.com/2bhc9gua	First Cavalry Captain	Representative office holder	17/03/2020
JALISCO	Comprehensive Port Administrations	Víctor Francisco Uribe Arévalo	 https://tinyurl.com/4ufbm35p3com/4a955mpc	Admiral	General Director	07/08/2020

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 5/9







STATE	INSTITUTION/DEPENDENCY	NAME	PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
JALISCO	National Migration Institute	Pedro Valencia Salcedo  https://tinyurl.com/a672xrp8	Division General	Representative office holder	21/08/2019
MICHOACAN	Comprehensive Port Administrations	Jorge Luis Cruz  https://tinyurl.com/2p8zb4k6 https://tinyurl.com/2p9yk553	Admiral	General Director	02/09/2020
MICHOACAN	National Migration Institute	Salomón Maldonado Silva  https://tinyurl.com/3xzju2dy	Brigade General graduated from the general staff	Representative office holder	21/08/2019
MORELOS	State Public Safety Commission	José Antonio Ortiz Guarneros  https://tinyurl.com/45huc5nz	Vice admiral	Secretary of Public Security of the State	01/10/2018
MORELOS	Executive Secretariat of the State Public Security System	José Manuel Rodríguez Morales  https://tinyurl.com/45huc5nz	Rear Admiral	Executive Secretariat of the State Public Security System	01/10/2018
NAYARIT	National Migration Institute	Miguel Ángel Nophal Baldaras 	Brigade General	Representative office holder	17/03/2020

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 6/9





STATE	INSTITUTION/DEPENDENCY	NAME	PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
PUEBLA	Atlixco Public Security Secretariat	Enrique Jaime Tapia Espinoza  https://tinyurl.com/abgtzkdh	Retired Lieutenant Colonel	Name of holder	27/06/2019
PUEBLA	National Migration Institute	Jose Luis Chávez Aldana  https://tinyurl.com/22asp3t8	Brigade General graduated from the general staff	Representative office holder	17/03/2020
SINALOA	Comprehensive Port Administrations	Mariel Aquileo Ancona  https://tinyurl.com/yv8r42ex	Rear Admiral	General Director	02/09/2020
SINALOA	National Migration Institute	Genaro García Wong  https://tinyurl.com/48f3psdh	Brigade General graduated from the general staff	Representative office holder	17/03/2020
SONORA	Hermosillo Municipal Police	Gilberto Landeros Briseño  https://tinyurl.com/45huc5nz	Retired Major General of the General Staff	Commissioner-General	15/08/2019
SONORA	Secretariat of Public Security of Guaymas	Andrés Humberto Cano Ahuir  https://tinyurl.com/3cv6emr	Captain	Director of Public Safety	21/08/2019

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 7/9







STATE	INSTITUTION/DEPENDENCY	NAME		PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
SONORA	Secretariat of Public Safety of Empalme	Luis Alberto Taylor	 https://tinyurl.com/y5m74w4t	Ship Lieutenant	Commissioner General of Public Security	15/04/2020
SONORA	National Migration Institute	Salvador González Guerrero	 https://tinyurl.com/3c2zdyt-6com/2p9yk553	Rear Admiral	Representative office holder	17/03/2020
TABASCO	Comprehensive Port Administrations	Gregorio Martínez Núñez	 https://tinyurl.com/2p96svj9	Vice admiral	General Director	02/09/2020
TAMAULIPAS	Comprehensive Port Administrations	Miguel Báez Barrera	 https://tinyurl.com/2p82tz2w	Vice admiral	General Director of Port Authority Tampico	10/08/2020
TAMAULIPAS	Comprehensive Port Administrations	Óscar Miguel Ochoa Gorená	 https://tinyurl.com/45huc5nz	Captain in deep fishing	General Director of Port Authority Altamira	10/08/2020
TAMAULIPAS	State Police	Rodrigo Bautista		Lieutenant	Head of State Delegation in the South Zone	27/08/2019

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 8/9














STATE	INSTITUTION/DEPENDENCY	NAME		PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
TAMAULIPAS	Secretariat of Public Security	José Jorge Ontiveros Molina	 https://tinyurl.com/5dmjazj7	Captain	Secretary of Public Security of the State	20/07/2020
TAMAULIPAS	Tampico Traffic and Roads Secretariat	René Naranjo Sánchez	 https://tinyurl.com/2p8cm8c26com/2p9yk553	Ship Lieutenant	Name of holder	27/01/2020
VERACRUZ	Comprehensive Port Administrations	Romel Eduardo Ledezma	 https://tinyurl.com/5yr6bhny	Admiral	General Director	02/09/2020
VERACRUZ	Secretariat of Public Security	Cuahtémoc Zúñiga Bonilla	 https://tinyurl.com/2p82tz2w	Ship Captain	Undersecretary of Operations	17/07/2019
VERACRUZ	Comprehensive Port Administrations	Nicodemus Villagómez Broca	 https://tinyurl.com/45huc5nz	Vice admiral	General Director	10/08/2020
VERACRUZ	Secretariat of Public Security	Juan Sánchez Alvarado	 https://tinyurl.com/yfkrs97d3com/4a95mpc	Rear Admiral	Director of Intermunicipal Operations	S.F.

TABLE 14. MILITARY ELEMENTS IN THE CIVIL SPHERE 9/9

STATE	INSTITUTION/DEPENDENCY	NAME		PREVIOUS RANKING	CURRENT POSITION	DATE OF ENTRY INTO OFFICE
VERACRUZ	Secretariat of Public Security	Laureano Suárez Allen	 https://tinyurl.com/4rzpsjpr	Vice admiral	General Director of Prevention and Social Reintegration	08/05/2019
VERACRUZ	Secretariat of Public Security	Luis Enrique Torres Campos	 https://tinyurl.com/2p8cm8c2	First Master	General Director of the Civil Force	S.F.
VERACRUZ	Secretariat of Public Security	José Antonio Camps Valencia	 https://tinyurl.com/rcdhn6a6	Corvette Captain	General Director of Traffic and Road Safety of the State	25/03/2019
VERACRUZ	Secretariat of Public Security	Evaristo Cruz Cabañas	 https://tinyurl.com/28ej2f7e	Rear Admiral	General Director of the Training Institute "Center for Studies and Research in Security"	S.F.
VERACRUZ	National Migration Institute	Raúl Alberto Paredes Hernández	 https://tinyurl.com/27evav4v	Rear Admiral	Representative office holder	21/08/2019
YUCATAN	National Migration Institute	Juan Saucedo Almazán	 https://tinyurl.com/3cy5paue	Brigadier General Graduated from the General Staff	Representative office holder	21/08/2019
YUCATAN	Comprehensive Port Administrations	Jorge Carlos Tobilla	 https://tinyurl.com/ycksa8kw	General Staff Logistics Administrator Semar, (Secretariat of the Navy for its acronym in Spanish)	General Director	18/08/2020

Source: In-house elaboration with information from Causa en Común, (n.d.).

TABLE 15. POWERS OF THE ARMED FORCES (INCLUDING THE NATIONAL GUARD) 1/2

AREA	RESPONSIBILITIES/ACTIONS/PROJECTS AND THEIR LEGAL SUPPORT
PUBLIC SAFETY, PROTECTION, AND VICTIM ASSISTANCE	Crime prevention. National Guard Law, article 9, section I, and Agreement 11 of May.
	Crimes investigated National Guard Law, article 9, sections III and VIII.
	Carry out arrests and property seizures. National Guard Law, article 9, section XIII.
	Drug seizure. National Guard Law, article 9, section XIII.
	Fighting organized crime.
	Fight against burglary: National Guard Law, article 9, section I.
	Tracking of fugitives. National Guard Law, article 9, section XIII.
	Surveillance of strategic installations (i.e., confrontation in "La Boquilla" dam). National Guard Law, article 9, section II, subsection e.
	Surveillance of roads and highways. National Guard Law, article 9, section II, subsection e.
	Protection of public interest people. National Guard Law, article 9, section XXVII.
	Victim assistance. National Guard Law, article 9, section XXI.
COMBAT FUEL THEFT	Duct surveillance. National Guard Law, article 9, section II, subsection e.
	Protection of goods and fuel. National Guard Law, article 9, section XIII.
	Make arrests. National Guard Law, article 9, section XIII.
MIGRATION	Coordination with migration authorities National Migration Institute (INM for its acronym in Spanish). National Guard Law, article 9, section II, subsection b.
	Safeguarding of migratory stations. National Guard Law, article 9, section II, subsection a.
	Inspection of migration documents. National Guard Law, article 9, section XXXV.
CONTROL OF PORTS AND CUSTOMS	Secretariat of National Defense (Sedena for its acronym in Spanish) will control maritime, border, and inland customs. There is no constitutional basis.
	Semar will control, operationally, the Integral Port Administrations. There is no constitutional basis.
CONSTRUCTION OF WORKS	Santa Lucia Airport. There is no legal basis.
	Banco del Bienestar branches. There is no legal basis.
	Mayan Train. There is no legal basis.
	National Guard barracks. There is no legal basis.
	Ecological Park of Lake Texcoco. There is no legal basis.

TABLE 15. POWERS OF THE ARMED FORCES (INCLUDING THE NATIONAL GUARD) 2/2

AREA	RESPONSIBILITIES/ACTIONS/PROJECTS AND THEIR LEGAL SUPPORT
SUPPORT FOR PROGRAMS TO DISTRIBUTE RESOURCES TO SOCIAL GROUPS	"Sembrando Vida." ("Sowing Life.") There is no legal basis.
	"Young people Building the Future." There is no legal basis.
	"Pension for the Welfare of Older Persons." There is no legal basis.
ATTENTION TO THE HEALTH EMERGENCY DUE TO COVID-19	Safeguarding and conditioning of hospitals and warehouses with medical equipment. National Guard Law, article 9, section II, subsection e.
	Distribution of equipment and medicines. (DN-III Plan)
CIVILIAN PUBLIC CHARGES	Public safety in the states.
	National Migration Institute
	Health sector.

Source: In-house elaboration with information from Causa en Común, (n.d.).

Another striking fact is that Mexican military spending as a proportion of GDP is one of the lowest globally. While most countries in Latin America have military spending ranging from one to two percent of GDP, Mexico barely reaches 0.6% (World Bank, n.d.). In this sense, it can be thought that the budgetary power of the Mexican Armed Forces depends highly on tasks other than defense, as seen above. In fact, the current administration's extreme use of these institutions has been reflected in the budget assigned to them, which, in the case of the Ministry of National Defense (Sedena), went from 81.21 Bp in 2018 to 104.108 Bp in 2022. In the Navy's Secretariat (Semar)

case, its budget went from 31.306 Bp in 2018 to 37.75 Bp in 2022 (Chamber of Deputies, 2021d) (Table 17).

In fact, if only indicators strictly related to a country's military capacity are taken into account, that is, military spending, the size of military personnel compared to the population, or the caliber of weapons available to the military corps, Mexico is not among the countries with the most military power. The 2020 global militarization index does not place Mexico among the first 100 most militarized countries in this sense (BICC, 2020), which does not mean that the military does not have a fundamental weight in the country's

TABLE 16. LEGAL FUNCTIONS OF THE ARMED FORCES IN COUNTRIES OF AMERICA

COUNTRY	PUBLIC SAFETY	ECONOMIC DEVELOPMENT	FOREIGN DEFENSE	CIVIL MINISTER
ARGENTINA			x	x
BOLIVIA	x	x	x	x
BRAZIL	x	x	x	
CHILE			x	x
COLOMBIA	x		x	x
CUBA	x	x	x	
ECUADOR	x	x	x	
EL SALVADOR	x	x	x	
GUATEMALA	x	x	x	
HONDURAS	x	x	x	
MEXICO	x	x	x	
NICARAGUA	x	x	x	x
PARAGUAY	x	x	x	
PERU	x	x	x	
DOMINICAN REPUBLIC	x	x	x	
URUGUAY			x	x
VENEZUELA	x	x	x	

Source: Friedrich–evert–Stiftung. (2021, p. 351).

internal political life, but rather that its influence in the field of global security and war is minor.

In the field of public security, where Sedena and Semar have had the most significant presence, the results have been visibly negative. While in 2007, be-

fore the Calderón government significantly increased the deployment of military personnel in the national territory to combat organized crime, the rate of intentional homicides per hundred thousand inhabitants in Mexico was 8.1, the lowest since 1990. For 2009

MAP OF THE LEGAL FUNCTIONS OF THE ARMED FORCES IN COUNTRIES OF AMERICA (CONT)

- PUBLIC SECURITY
- ECONOMIC DEVELOPMENT
- FOREIGN DEFENSE
- CIVIL MINISTER

Source: Friedrich-ebert-Stiftung. (2021, p. 351).

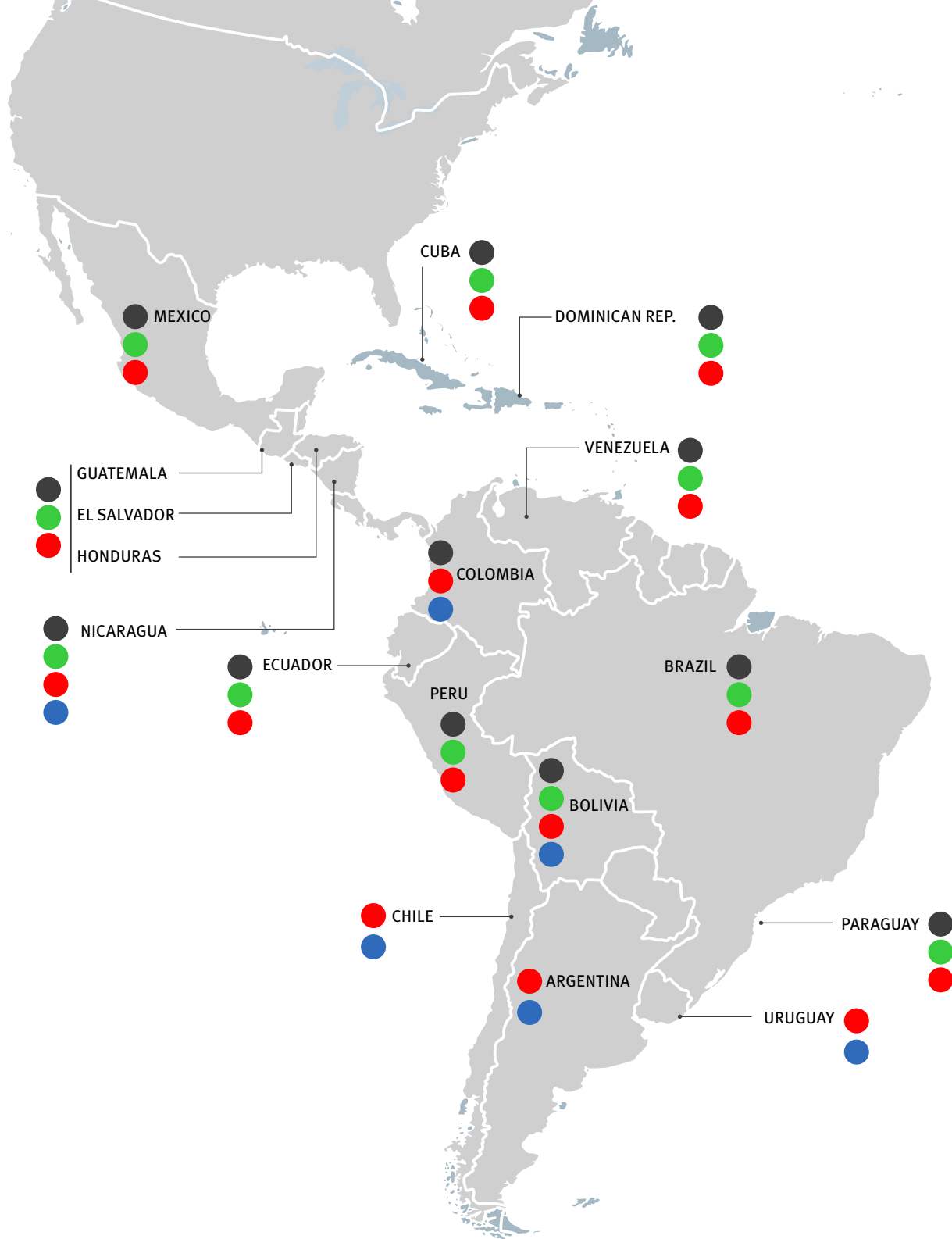



















TABLE 17. COMPARISON OF MILITARY EXPENDITURE (% OF GDP)

	COUNTRY	MOST RECENT YEAR	LATEST VALUE		COUNTRY	MOST RECENT YEAR	LATEST VALUE
	AFGHANISTAN	2020	1.4		COLOMBIA	2020	3.4
	GERMANY	2020	1.4		KOREA	2020	2.8
	SAUDI ARABIA	2020	8.4		CUBA	2018	2.9
	ARGELIA	2020	6.7		ECUADOR	2020	2.4
	ARMENIA	2020	4.9		UNITED ARAB EMIRATES	2014	5.6
	AUSTRALIA	2020	2.1		ERITREA	2003	20.9
	AZERBAIJAN	2020	5.4		SPAIN	2020	1.4
	BAHRAIN	2020	4.1		UNITED STATES	2020	3.7
	BOLIVIA	2020	1.6		RUSSIAN FEDERATION	2020	4.3
	BRAZIL	2020	1.4		IRAQ	2020	4.1
	BURKINA FASO	2020	2.7		ISRAEL	2020	5.6
	CAMBODIA	2020	2.4		JORDAN	2020	5
	CANADA	2020	1.4		KUWAIT	2020	6.5
	CHAD	2020	3.1		LIBIA	2014	15.5
	CHILE	2020	1.9		MEXICO	2020	0.6
	CHINA	2020	1.7				

Source: In-house elaboration with World Bank data, (n.d.).

TABLE 18. GLOBAL MILITARIZATION INDEX
2020

	COUNTRY	RANK
	MEXICO	143
	UNITED STATES	25
	CANADA	96
	COLOMBIA	61
	BRAZIL	114
	CHILE	62
	VENEZUELA	39
	ANGOLA	49
	GERMANY	103
	ARGELIA	12
	CONGO DEMOCRATIC REPUBLIC	140
	MALI	53
	ETHIOPIA	127
	CHINA	97
	RUSSIA	10
	JAPAN	126
	AUSTRALIA	68

Source: In-house elaboration with information from BICC (2020).

it increased to 18, and for 2011 it was 24. Although the years 2014 and 2015 showed decreases (16.6 and 17 homicides per hundred thousand inhabitants, respectively) (INEGI, 2021a), homicides continue to place Mexico among the most violent and dangerous countries in the world.

With the arrival of the current government, this reality remained unchanged. In fact, 2018, 2019, 2020, and 2021 have been the years with the most intentional homicides in the history of Mexico (33,739, 34,690, 34,554, and 33,308 intentional homicides, respectively) (INEGI, 2021a). This indicator puts Mexico in a poor comparative position vis-à-vis countries in the region and the world. In the Global Homicide Study presented in 2019 by the Information Center of the United Nations Organization (the most recent available), Mexico ranked 12th among the countries with the most homicides in the world. Despite this, the country maintains spending on security close to 0.7% of GDP, the lowest among all OECD countries (Institute for Economics and Peace, 2021).

Similarly, the 2021 Global Peace Index ranked Mexico among the countries with little peace due to the num-

**MEXICO RANKED
THE 12TH POSITION
OF THE COUNTRIES
WITH MORE
INTENTIONAL
HOMICIDES IN THE
WORLD:**

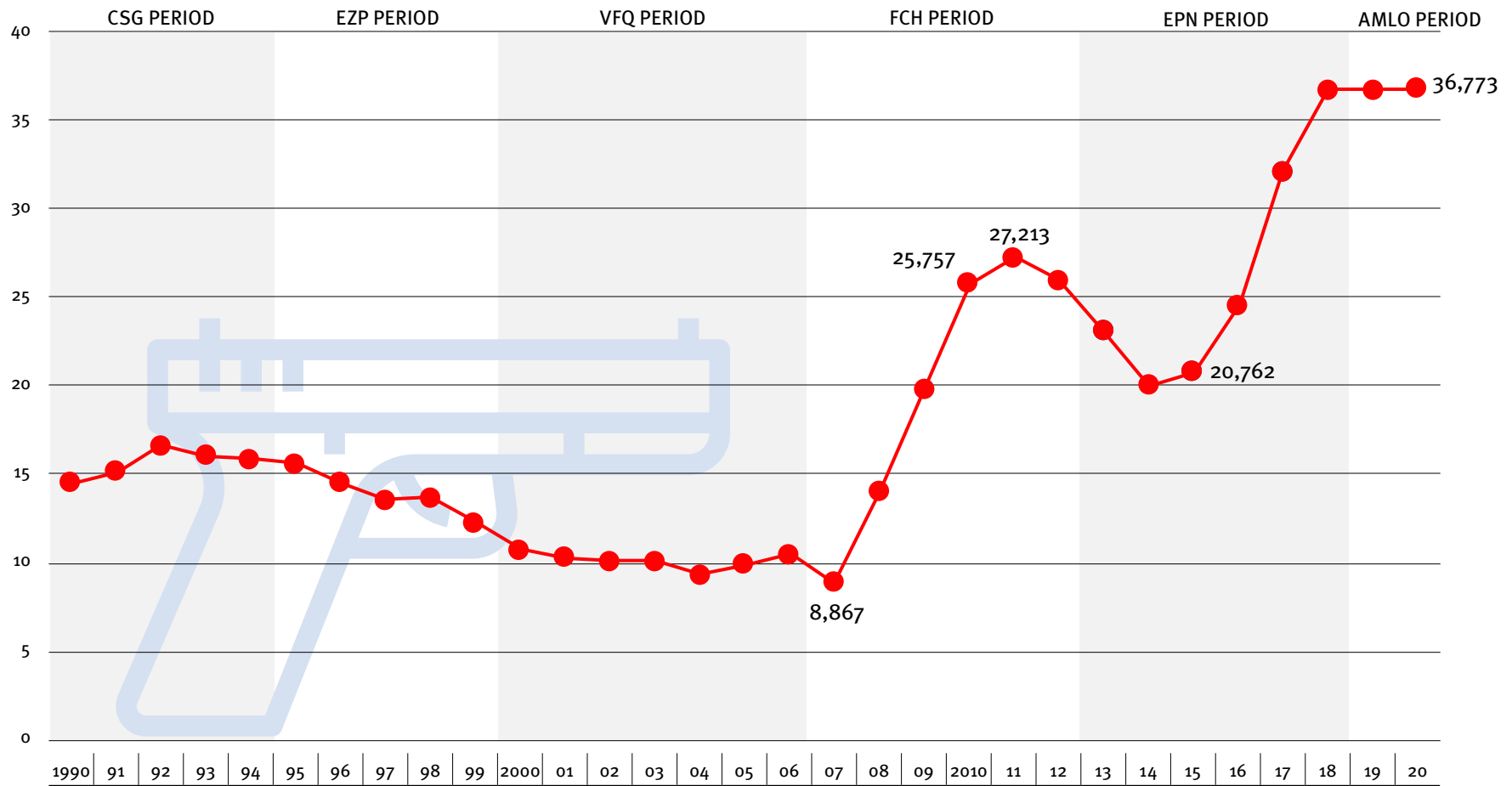
2018 33 THOUSAND 739

2019 34 THOUSAND 690

2020 34 THOUSAND 554

2021 33 THOUSAND 308

GRAPH 5. HOMICIDES AT THE NATIONAL LEVEL
ANNUAL SERIES 1990–2020



Source: In-house elaboration with information from INEGI (2021a).

ber of homicides recorded, as well as the incidence of crime and the growing power of organized crime.

This does not mean that all types of insecurity in Mexico behave in the same way. While homicides have increased significantly in the country, other crimes such as kidnapping, theft of auto parts, or muggings have decreased by significant percentages starting from before the beginning of the pandemic. Since August 2019, kidnapping crimes have shown a downward trend, from 1,629 cases between January and December 2019 to 813 in the same period from 2021. Grand theft auto with use of violence went from 70,002 cases in 2019 to 51,013 cases in 2021. Finally, violent muggings went from 66,902 cases in 2019 to 56,442 in 2021 (Causa en Común, 2022) (Tables 20 and 21).

The variation in crime incidence is also presented by region. While states such as Guerrero, Tabasco, and Yucatan have managed to reduce their murders, other entities such as Zacatecas, Morelos, and Campeche have worsened yearly since 2019. This may be due, in part, to the type of relationship that local authorities have with the federal security forces. It has been observed that the governments of Veracruz and Guerrero have received significant support from the National

TABLE 19. INTERNATIONAL COMPARISON
GLOBAL PEACE INDEX 2021

COUNTRY	RANK	SCORE
GERMANY	17	1.48
THE NETHERLANDS	21	1,506
SPAIN	31	59
INDONESIA	42	1,783
CHILE	49	1,831
FRANCE	55	1,868
PANAMA	64	1,919
ARGENTINA	68	1,945
ECUADOR	88	2,044
CHINA	100	2,114
EL SALVADOR	110	2,184
GUATEMALA	111	2,195
REPUBLIC OF THE CONGO	119	2,291
UNITED STATES	122	2,337
BRAZIL	128	2.43
INDIA	135	2,553
PALESTINE	138	2.61
MEXICO	140	2.62
COLOMBIA	144	2,694
LEBANON	147	2,797
PAKISTAN	150	2,868
VENEZUELA	152	2,934
RUSSIA	154	2,993
IRAQ	159	3,257
SYRIA	161	3,371
AFGHANISTAN	163	3,631

Source: In-house elaboration with information from the Institute for Economics and Peace (2021).

Guard, while governments such as that of Guanajuato have not necessarily managed to coordinate their actions with the federal authorities (Graphs 6 and 7).

Within the scope of security, it is worth taking a brief tour of the security situation maintained at the country's border. Arms migration and trafficking are two of the crucial matters in this area. As Signos Vitales have widely reported, migration has been one of the most controversial issues generated in the last three years since the militarization approach with which the governments of Mexico and the United States approached the migration phenomenon was relatively unexpected. This is mainly in the case of the government of López Obrador, as well as criticized by numerous national and international organizations related to the defense of human rights and migration.²³

The other uncomfortable border security issue is arms trafficking. This challenge is not new and has been a point of high tension between different Mexican and US governments. While U.S. governments have been putting strong pressure on Mexicans to take confrontational action against the illegal sale of drugs, which boosted the homicide rate in Mexico,

²³ To delve deeper into the topic, review the Migration Containment, a military cut-off policy. <https://tinyurl.com/2p97s-f5m>

TABLE 20. KIDNAPPING

TERM	NUMBER OF KIDNAPPING VICTIMS REGISTERED	THE AVERAGE DAILY NUMBER OF KIDNAPPING VICTIMS RECORDED
JANUARY–DECEMBER 2019	1,629	4
JANUARY–DECEMBER 2020	1,047	3
JANUARY–DECEMBER 2021	813	2

Source: In-house elaboration with information from Causa en Común (2022).

TABLE 21. GRAND THEFT AUTO WITH USE OF VIOLENCE

TERM	GRAND THEFT AUTO WITH USE OF VIOLENCE INSTANCES RECORDED	GRAND THEFT AUTO RATE RECORDED PER 100,000 INHABITANTS	AVERAGE DAILY GRAND THEFT AUTO WITH USE OF VIOLENCE INSTANCES RECORDED
JANUARY–DECEMBER 2019	70,002	56	192
JANUARY–DECEMBER 2020	56,799	45	156
JANUARY–DECEMBER 2021	51,013	40	140

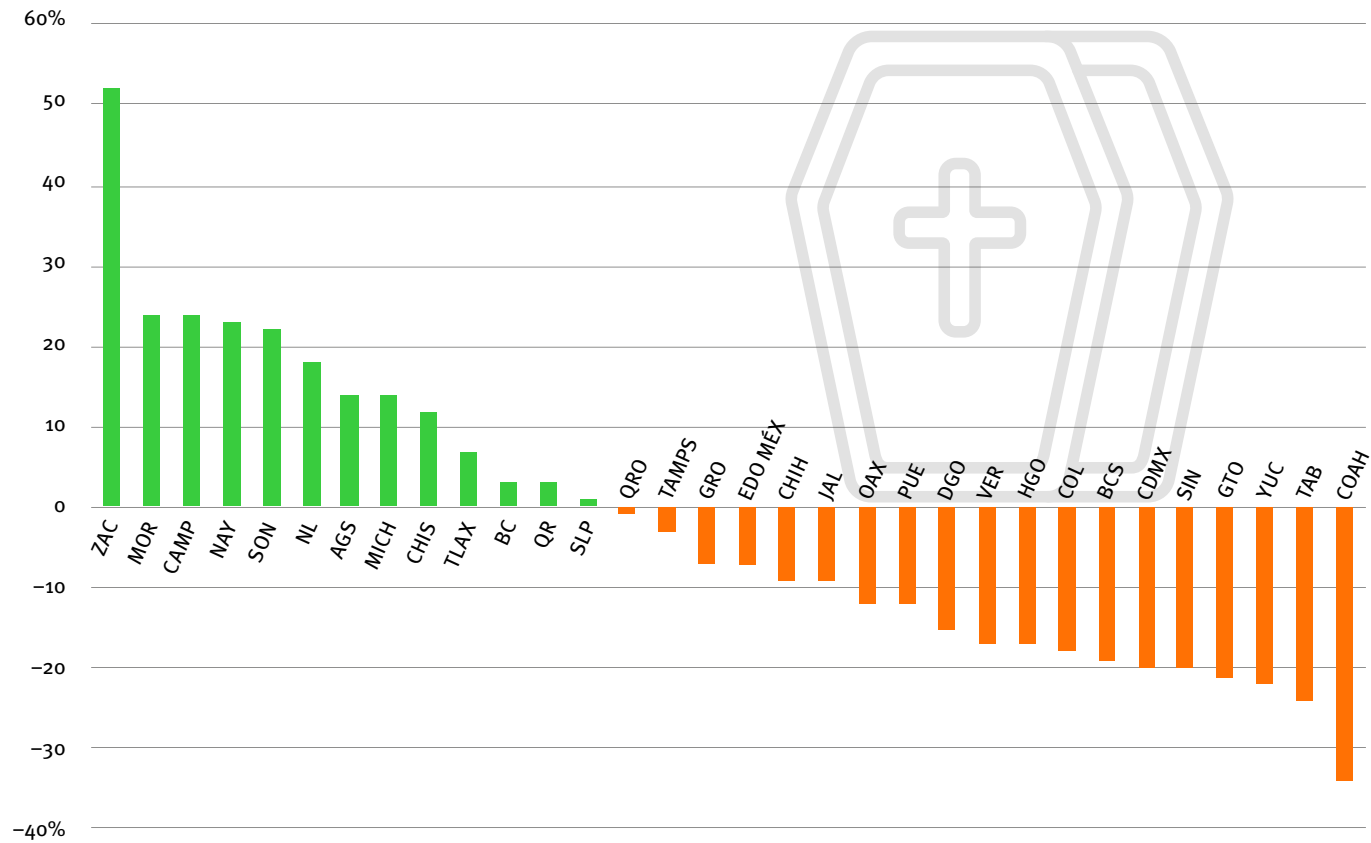
Source: In-house elaboration with information from Causa en Común (2022).

TABLA 22. MUGGINGS WITH USE OF VIOLENCE

TERM	MUGGINGS WITH THE USE OF VIOLENCE INSTANCES RECORDED	RATE OF MUGGINGS WITH USE OF VIOLENCE INSTANCES RECORDED PER 100,000 INHABITANTS	AVERAGE DAILY NUMBER OF MUGGINGS WITH USE OF VIOLENCE INSTANCES
JANUARY–DECEMBER 2019	66,902	53	183
JANUARY–DECEMBER 2020	53,150	42	146
JANUARY–DECEMBER 2021	56,442	45	155

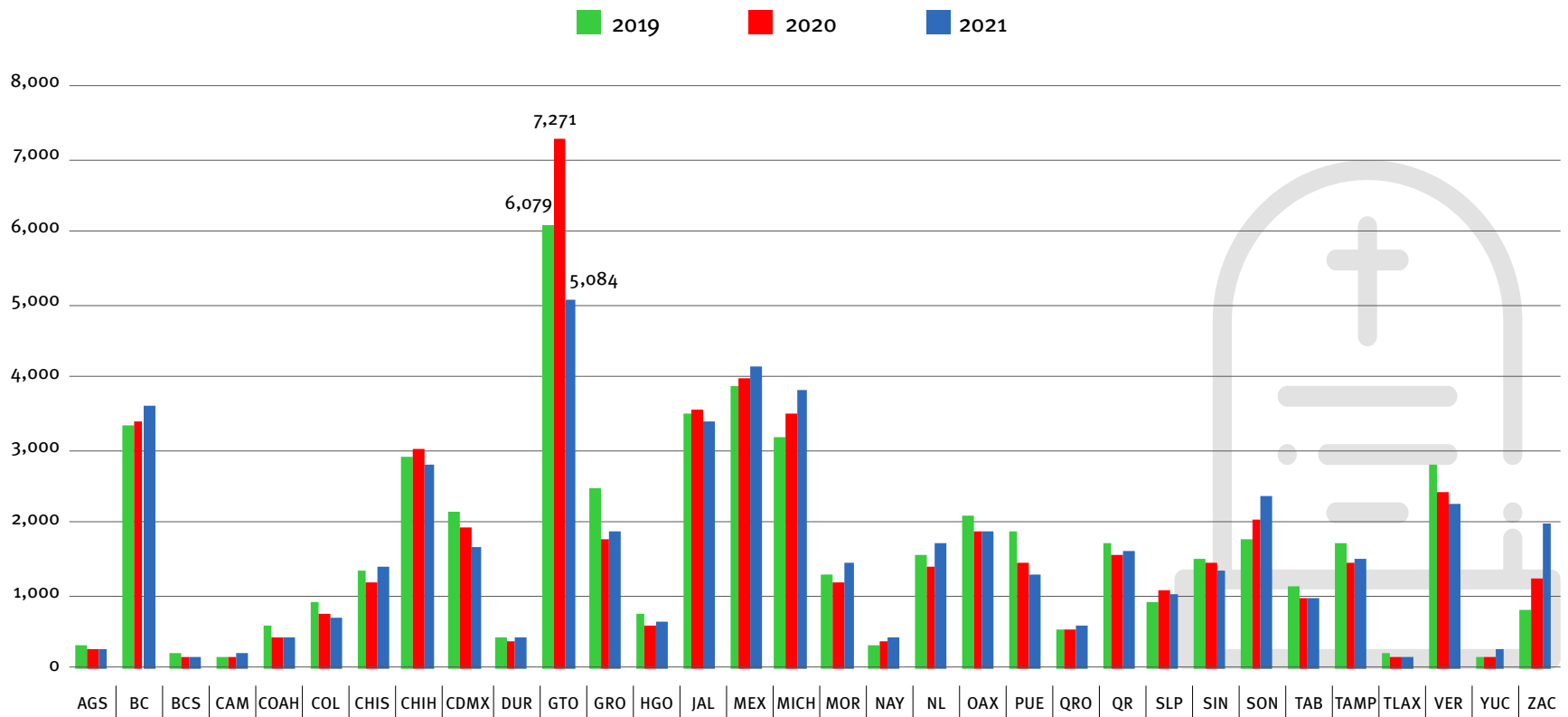
Source: In-house elaboration with information from Causa en Común (2022).

GRAPH 6. PERCENTAGE CHANGE IN THE NUMBER OF RECORDED MURDER VICTIMS
JANUARY-DECEMBER, 2021 VS. JANUARY-DECEMBER, 2020



Source: In-house elaboration with information from Causa en Común (2022).

GRAPH 7. VARIATION IN THE NUMBER OF HOMICIDE VICTIMS BY STATE



Source: In-house elaboration with information from Executive Secretariat of the National Public Security System (SESNSP for its acronym in Spanish) (2019; 2020b; 2021).

at the same time, the firepower of Mexican criminal groups has increased due to the fact that most of the weapons they possess come from the United States.

The World Survey on Firearms Trafficking 2020, prepared by the United Nations Office on Drugs and Crime, shows that between 2016 and 2017, North America was the region where the largest number of seized firearms came from, followed at a considerable distance by Europe and Western Asia. The countries in the Americas where most weapons were seized were: the United States, Colombia, Argentina, Costa Rica, Canada, Mexico, Chile, Guatemala, and Honduras; while the countries where the least weapons were seized were Suriname, Bolivia, Guyana, Saint Lucia, Paraguay, Antigua and Barbuda, Grenada and Cuba (UNODC, 2020).²⁴

According to the report, the main transnational arms trafficking routes involving the Americas are:

- » From North America to Western Asia
- » From the rest of the world to South America
- » West and Central Africa to North America

Starting from the six-year period of Felipe Calderón, when the “Fast and Furious” scandal arose, a bilater-

²⁴ For more information see <https://tinyurl.com/2p92pcxe>

TABLE 23. MAIN EVENTS IN BINATIONAL
MIGRATION POLICY

1	The signing of the agreement on migration on June 7, 2019
2	Massive deployment of the NG towards the Mexican borders to prevent the passage of migrants to the United States
3	Tacit acceptance of Mexico as a safe third country
4	Violations of human rights of migrants
5	The president announced to send an initiative that includes the subordination of the Mexican Commission for Refugee Aid (Comar for its acronym in Spanish) to the INM.

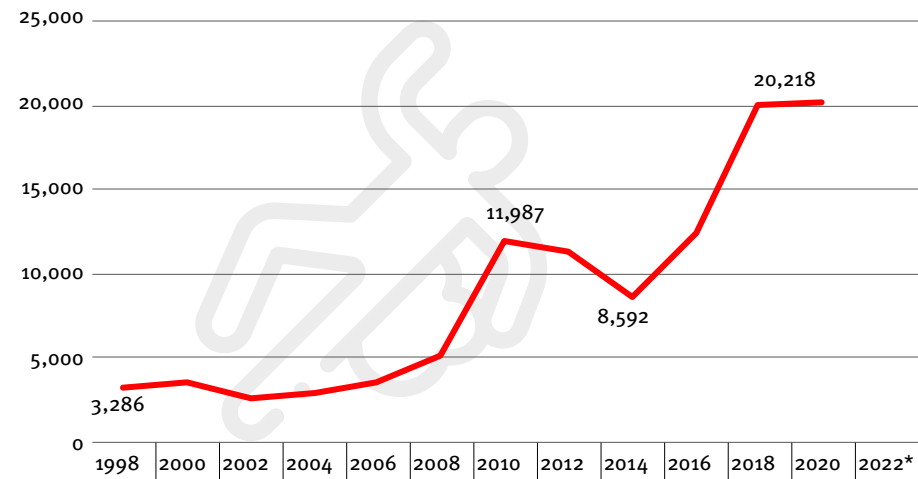
Source: In-house elaboration with information from Signos Vitales (2021d).

al program between the Mexican and American governments that consisted in allowing the illegal entry into Mexico of thousands of firearms with tracking chips that allowed the governments involved to discover the arms trafficking routes. The result was catastrophic, as criminal groups used the illegal weapons that entered in various homicides, including those of two U.S. agents. In fact, Calderón’s anti-drug strategy coincides with the country’s radical increase in gun killings.

Despite calls from various specialists and organizations to strengthen the anti-war policy, it wasn't until this current administration that the decision was made to undertake a legal strategy in this regard. Faced with this shared problem, the Mexican government, through the Foreign Ministry, filed a lawsuit at a federal court in Massachusetts on August 4, 2021, against U.S. companies dedicated to the sale of weapons, many of which come into the hands of criminals in Mexico due to the negligence with which these companies act (El Financiero, 2021a). Although in principle this initiative did not seem to have much future, at the beginning of February, four attorneys general from various states, as well as dozens of district attorneys from all over the United States, along with the most important non-governmental organizations in the field of arms trafficking, joined the legal case in support of Mexico (La Jornada, 2022).

A potential legal victory for the Mexican government, beyond impacting or not on the levels of violence that Mexico experiences, would serve as an important precedent for several countries to follow the same route to integrate one more tactic in the fight against illegal arms trafficking.

GRAPH 8. INTENTIONAL HOMICIDES WITH FIREARMS
1998–2022



Source: In-house elaboration with information from SESNSP (1998; 2000; 2002; 2004; 2006; 2008; 2010; 2012; 2014; 2016; 2018; 2022).



THE RELATION BETWEEN THE FEDERAL GOVERNMENT AND THE ARMED FORCES
will influence the structure of a new democracy, in which the army and the navy win political power capable of subordinate civilians in a long term.

4

THE PANDEMIC THAT CAME TO STAY: REALITIES AND CONSEQUENCES



Image: <https://tinyurl.com/mr44pvdj>



MEXICO PRESENTS THE LOWEST CONDITION

to face the pandemic: very low social expenditure, fewer number of doctors, nurses and hospital beds. Life expectancy at birth has fallen 2.5 years for women and 3.6 years for men. Mexico is the country with the largest excess number of deaths reported during the pandemic.

«

The passage of the COVID–19 pandemic has shown that many of the health systems around the world remain highly vulnerable to risks that impact local, national and global health. The crisis has weakened the responsiveness of health systems and eliminated previous gains in health outcomes and social and economic development (PAHO, n.d. 1).

Mexico has been no exception. Although the Mexican health system's shortcomings, deficiencies, and needs are senescent, the current government's promises to improve it have not been fulfilled. The destruction of institutions by the current government, of which the health sector has not been the exception, already threatens the quality of life of millions

of Mexicans. The most notorious example is the dismantling of vital components of the health system, which resulted in capacity limitations and left more than 15 million Mexicans without social security.

The elimination of the “Seguro Popular” (Popular Insurance) and the implementation of Health Institute for Wellness (“Insabi” for its acronym in Spanish), far from involving health services like that of the Nordic countries, as assured by President Andrés Manuel (El Financiero, 2019), has become, according to the opinion of experts such as Dr. Julio Frenk,²⁵ a public monopoly system with regressions that: reduces benefits by covering only first and second level services, weakens the governing capacity of the Ministry of Health, hinders the purchase and distribution of medicines in the public sector, reduces social protection in health, and deteriorates health conditions in Mexico.

The effects of the pandemic, together with the actions of the federal executive in the destruction of institutions, show the poor performance, the enormous limitations, and the collapse of Mexico’s current health model. With a total of 300,386 COVID

²⁵ Julio Frenk is a physician and former secretary of health of Mexico. Interview at a press conference of the “Foro Nexos” Mexico (González-Márquez, 2021)

deaths officially confirmed²⁶ (Government of Mexico, 2022), we ranked fifth globally, where 20% of deaths from COVID–19 have been in health workers (the highest percentage in the world). Similarly, there is an excess of deaths of 54.8% compared to those reported from 2015 to 2019, the highest percentage among OECD countries (OECD, 2021d) where COVID–19 was the first cause of death in 2020 2021. According to official figures, the number of deaths above the average of previous years reached 4.456 per million inhabitants, which places Mexico as the country with the highest surplus of deaths globally (OECD, 2021d.). The latter, not considering the shortage of treatments, medicine, and medical supplies (Cero Desabasto, 2021a), are elements that together leave short–, medium– and long–term consequences for the health and life of Mexicans.

²⁶ Week 52 of 2021.

**THE NUMBER OF EXCESS OF DEATHS
GOT UP TO 4,456 PER MILLION INHABITANTS ACCORDING TO
OFFICIAL NUMBERS, WHICH LOCATED MEXICO AS THE COUNTRY
WITH MORE EXCESS DEATHS IN THE WORLD (OECD, 2021d).**

DEFICIENCIES AND SHORTAGES

IN HEALTH SERVICES



As documented in other Signos Vitales reports, health is a fundamental element of a country's human capital because, without good health, children cannot go to school and learn, and adults cannot work and contribute to their homes and economies (Vitales, 2021b;2022c). A healthy, educated, and adaptive population is absolutely essential for countries to compete effectively in the world economy (World Bank, 2018a). However, the Health System in Mexico faces a severe crisis due to the lack of investment in the health sector, the dismantling of the health sector (which has reflected its impacts on a greater number of people without social affiliation), the neglect in the quality of care and treatment, not to mention the imminent shortage of drugs that we have been monitoring (Signos Vitales, 2022c). Together, these conditions violate people's rights and undermine the quality of life of Mexicans.

More money for health and more health for the same money implies a way to have a resilient health system (OECD, 2021d). Although more resources do not auto-

matically translate into better health outcomes, they do, to some extent, define the capabilities of health systems around the world. According to the OECD (2021d), some indicators of the capacity of health systems have been identified among its member countries: 1) health spending per capita summarizes the general availability of resources, 2) the number of doctors and nurses provides more information on the supply of health workers and 3) hospital beds are an indicator of acute care capacity.

Mexico is one of the countries with the highest health risks that already pointed towards the health system's collapse before the pandemic. One of them is the efficiency of health spending, whereby in 2019, Mexico, together with Turkey and Colombia, spent less on health per capita (1,100 dollars), about a quarter of what the OECD average reports (4,000 dollars per capita) (OECD, 2021d). Graph 9 shows the behavior of these elements where Mexico particularly denotes both lower per capita spending on health and lower resources at the service of the health system.

According to the OECD (2021d), there was a sharp increase in overall health spending in 2020, around 5.1% on average, with the pandemic onset. Despite this, the number of physicians was reported to be less than 2.5 per 1,000 inhabitants in countries such as Turkey, Colombia, Poland, and Mexico, to more than five in Austria, Portugal, and Greece in 2019.

Similarly, the COVID-19 pandemic has highlighted the need for sufficient hospital beds²⁷ (particularly intensive care beds) and an adequate number of doctors and nurses. For OECD countries in 2019, there was an average of 4.4 hospital beds per 1000 people. More than half of OECD countries reported between 3 and 8 hospital beds per 1000 people. However, Japan and Korea have more hospital beds (12–13 per 1000 people) and few beds in Mexico (1.0), Costa Rica (1.1), and Colombia (1.7) (OECD, 2021d).

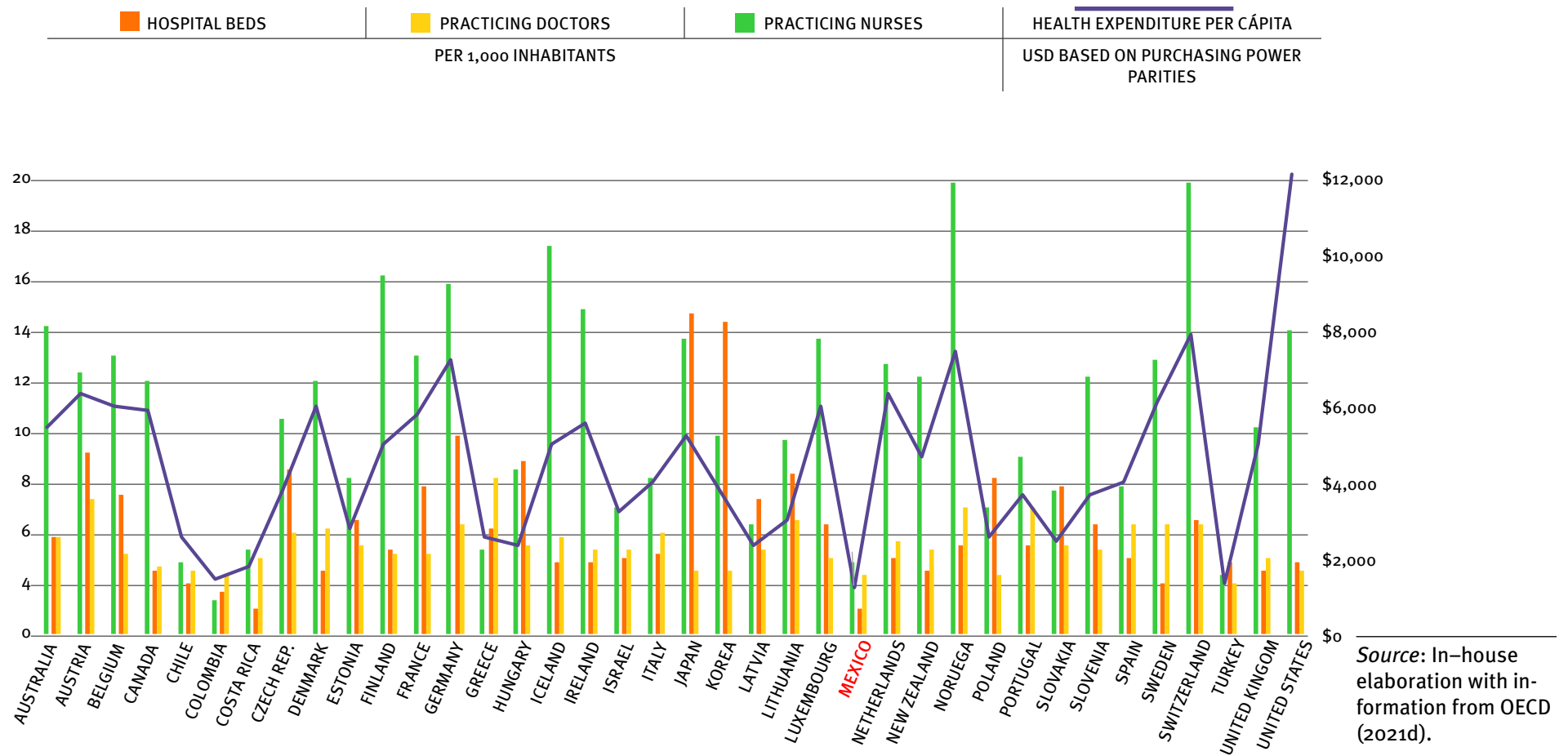
In terms of the number of nurses, fewer than nine nurses per 1,000 inhabitants were reported on average in OECD countries in 2019. This figure falls to just under 3 per 1,000 people in Colombia, Turkey, Mexico, and Chile, obtaining the highest (around 18 per 1,000 inhabitants) in Switzerland and Norway

²⁷ The number of hospital beds provides an indicator of the resources available to provide hospitalization services (OECD, 2021d).

(OECD, 2021d). These elements give reason to doubt the commitment of President López Obrador to implement a health system similar to that of the Nordic countries.

Overall, countries with higher health spending and higher numbers of health workers and other health resources have better health outcomes, quality, and access to care (OECD, 2021d). However, although the absolute number of resources invested is not a perfect predictor of better results, it is undoubtedly an accurate indicator of how a country prioritizes its problems, evidently giving greater resources to the issues that top its list.

GRAPH 9. INDICATORS OF HEALTH SYSTEM CAPACITY AND RESOURCES
YEAR 2019 OR MORE RECENT



VACCINATION:

PROGRESS, OUTCOMES, AND IMPACTS ON DEATHS



Globally, the speed of vaccination implementation is affected by factors such as regulatory approval processes, vaccine procurement strategies, vaccine distribution, infrastructure, and the capabilities of health personnel. Vacillation and resistance to vaccines in some countries also slowed vaccination progress. However, by January 2022, most OECD countries had more than 60% of the population with at least one vaccine dose (OECD, 2021d) (Graph 10).

Until February 28, 2022, Mexico administered at least one dose to 65.4% of its population (4.82% of people partially vaccinated and 60.58% of people fully vaccinated (Our World in Data, 2022).

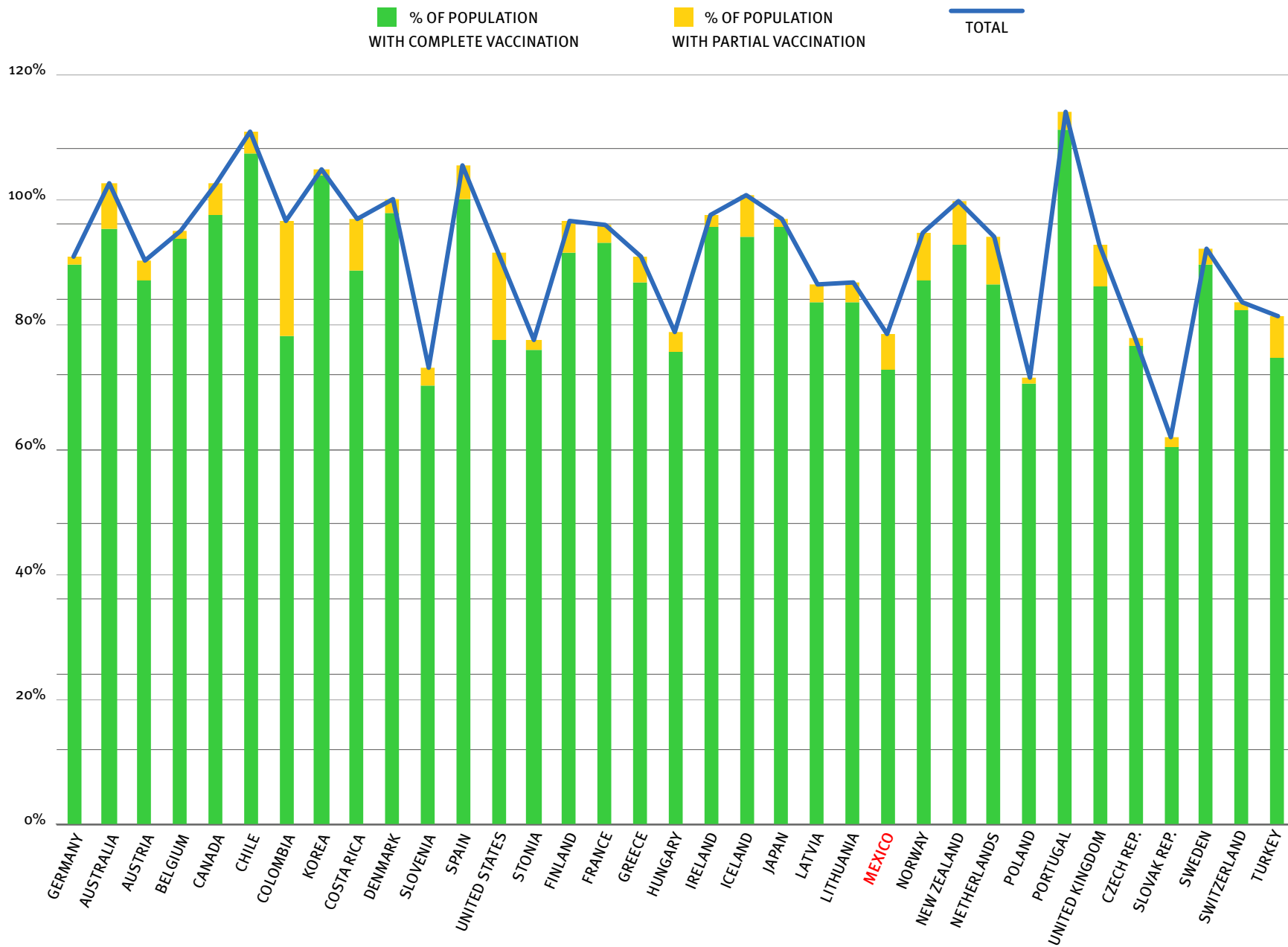
In Mexico, an additional approach to vaccination is the untransparent and disorganized strategy the Federal Government follows. The only information available from the government indicates that Mexico has purchased 243.93 million doses for 139.66 million Mexicans (Secretaría de Salud, n.d.) under contracts with laboratories such as AstraZeneca (United King-

dom), Cansino (China), Pfizer (United States of America) and Sinovac (China). In addition to the agreement with the Global Access Platform for the COVID-19 Vaccine and COVAX as a result of multilateral efforts for the acceleration, development, and fair international distribution of the COVID-19 vaccine between the Coalition for Innovations in Preparedness for Epidemics (CEPI), the Global Alliance for Vaccines and Immunization (Gavi) and the World Health Organization (WHO) (PAHO, 2021).

Unfortunately, the national distribution of vaccines has not been equitable among entities in relation to Mexico City. Eduardo Clark (El Financiero, 2022b), director of the digital government of the Digital Agency for Public Innovation, explains that in New York, which has a population of 8.4 million people, 86 % of citizens already have the complete vaccination scheme. In London, where 8.9 million people live, it is 82 %, and in the CDMX, with a population of 9.2 million, 92 % of people already received all COVID doses until August 2021 (Ministry of Health, 2021b).

**MEXICO HAS BOUGHT
243 MILLION 930
THOUSAND DOSE
FOR 139 MILLION 660
THOUSAND MEXICANS:
ASTRAZENECA
CANSINO
PFIZER
SINOVAC**

GRAPH 10. PROPORTION OF PEOPLE VACCINATED AGAINST COVID-19



Source: In-house elaboration with data from Our World in Data (2022).

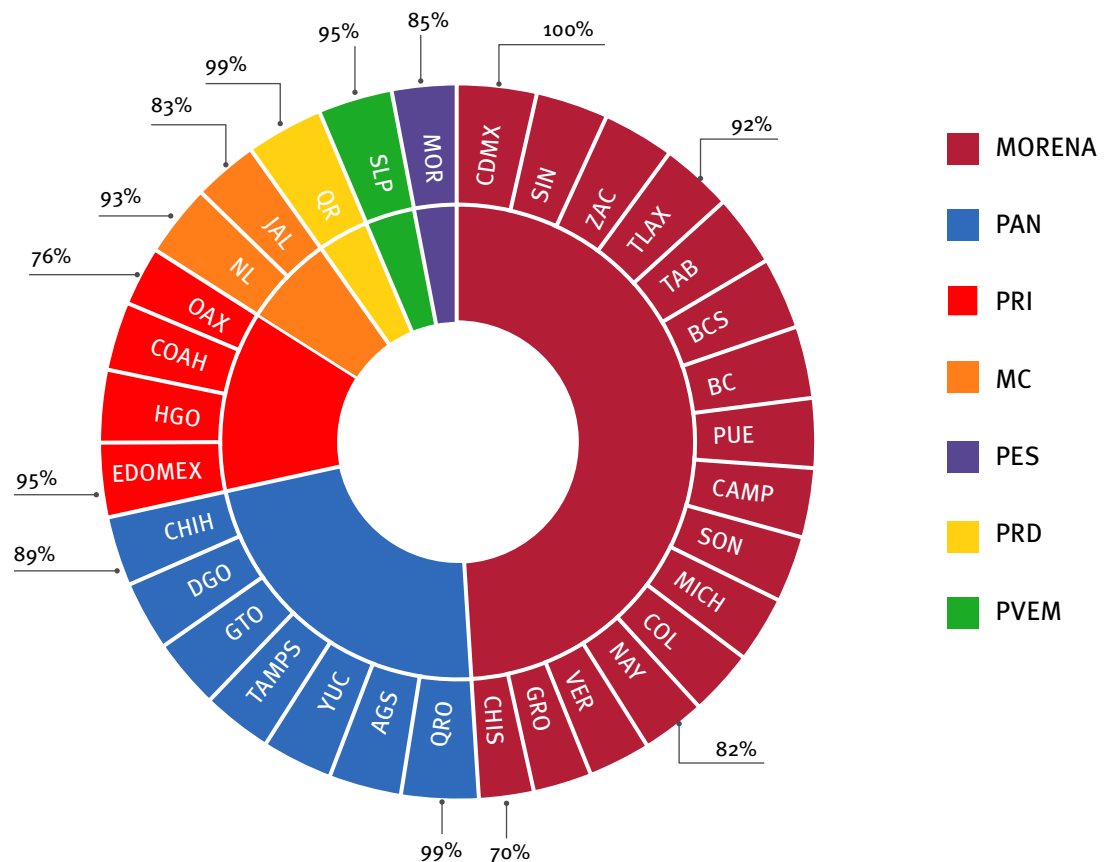
According to the Ministry of Health (2022), by January's end, 100% of vaccination was registered only for CDMX at the federal entity level. While, for other entities with greater vulnerabilities, such as Chiapas or Oaxaca with the highest percentages in poverty, barely have 70% and 76% respectively of their total population fully vaccinated, elements that suggest that vaccination has followed an unclear route that favors states with partisan inclinations more (Graph 11).

Despite having more than 50% of the fully vaccinated population, Mexico continues recording excess deaths (OECD, 2021d), positioning itself as the country with the highest excess death rate in the OECD (Graph 12). This data shows that Mexico, during 2020, presented the highest total number of deaths from all causes among OECD countries. Mexico recorded 4,456 more deaths (per million inhabitants) above what could usually be expected in 2020, compared to the average of the previous five years (2015 to 2019).²⁸

The excess mortality was much higher than the reported COVID-19 deaths in Mexico and Poland, which could indicate that some COVID-19 deaths and or additional deaths are reported due to other factors, including the indirect consequences of the virus, such

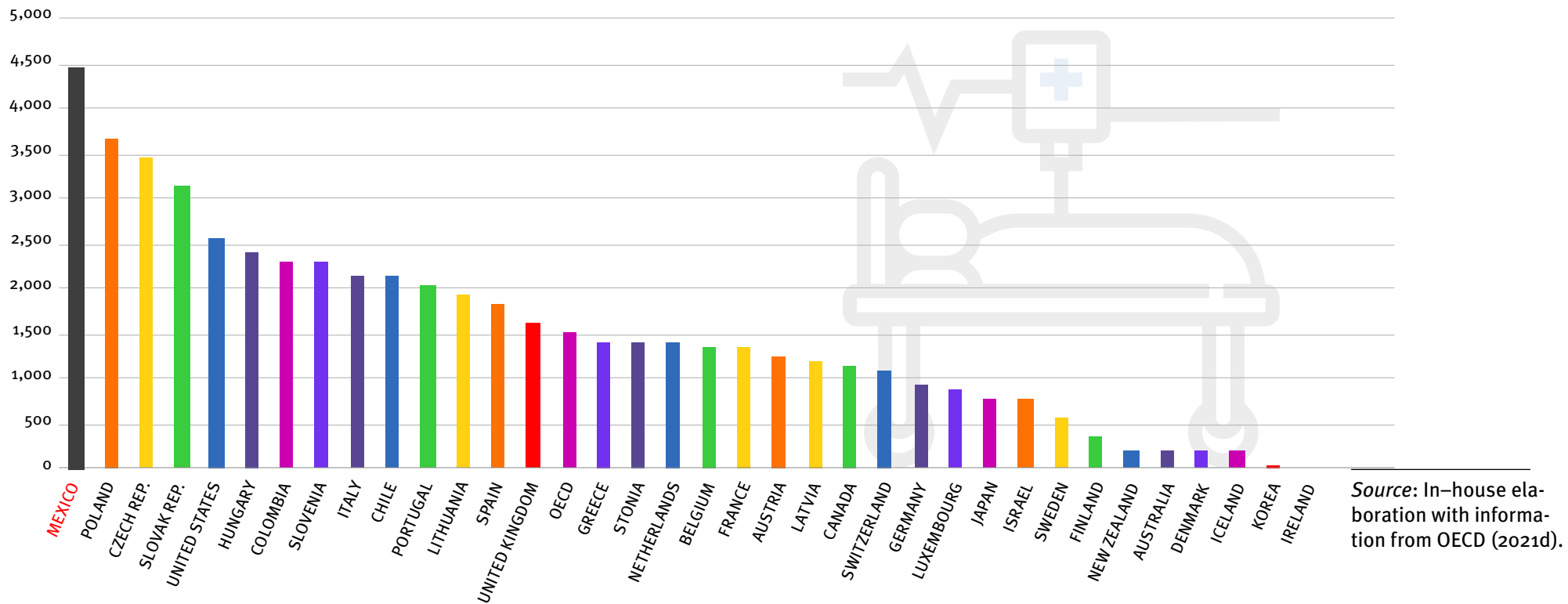
²⁸Signos Vitales Calculation with OECD Information (2021d)

GRAPH 11. PERCENTAGE OF VACCINATION BY THE FEDERAL ENTITY
AS OF 31 JANUARY 2022



Source: In-house elaboration with information from the Ministry of Health (2022).

GRAPH 12. EXCESS DEATHS PER MILLION INHABITANTS



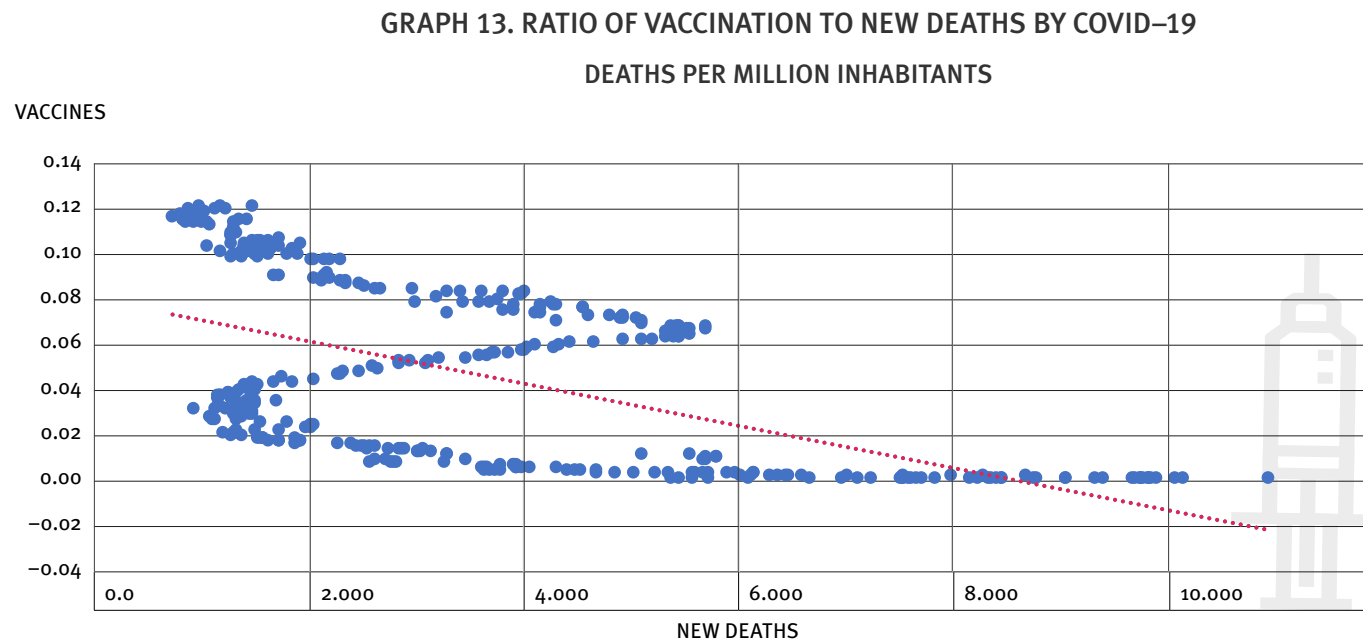
as lack of medical attention to other health conditions due to the inability of the health system to care for them (OECD, 2021d).

The rapid implementation of vaccination policies worldwide at the start of 2021, accompanied by containment and mitigation measures, contributed to

drastic reductions in new infections and deaths towards the middle of the year. An example of these were countries such as Israel, the United Kingdom, or the United States, which were among the first OECD countries to start their vaccination campaigns punctually and efficiently (OECD, 2021d).

In Mexico, a total of 64.5% of the population is vaccinated. However, there is a negative relationship between vaccination (Graph 13) and new deaths; for every million doses applied to the Mexican people, new deaths on average are reduced by only 32.7%, which implies that indirect COVID-19 reasons explain the rest.²⁹

²⁹ Vital Signs Calculation with Information from Our World in Data (2022)



Source: In-house elaboration with information from Our World in Data (2022).

PANDEMIC BALANCES:

INFANTS, MEDICAL PERSONNEL, SHORTAGES AND IMPACT

ON PHYSICAL AND MENTAL HEALTH



By 2020, one of the consequences for the new generations who faced COVID-19 has been its impact on decreasing life expectancy (in 24 of the 30 OECD countries for which there was information) (OECD, 2021d).

However, there is evidence showing that prior to the COVID-19 pandemic, a large number of deaths were due to a decrease in cardiovascular disease improvements and an increase in dementia mortality and bad flu seasons (Raleighi, 2019). Data for 2020 suggest that life expectancy decreased in all OECD countries for which data are available, except Norway, Japan, Costa Rica, Denmark, Finland, and Latvia (Our World in Data, 2019) (Graph 14).

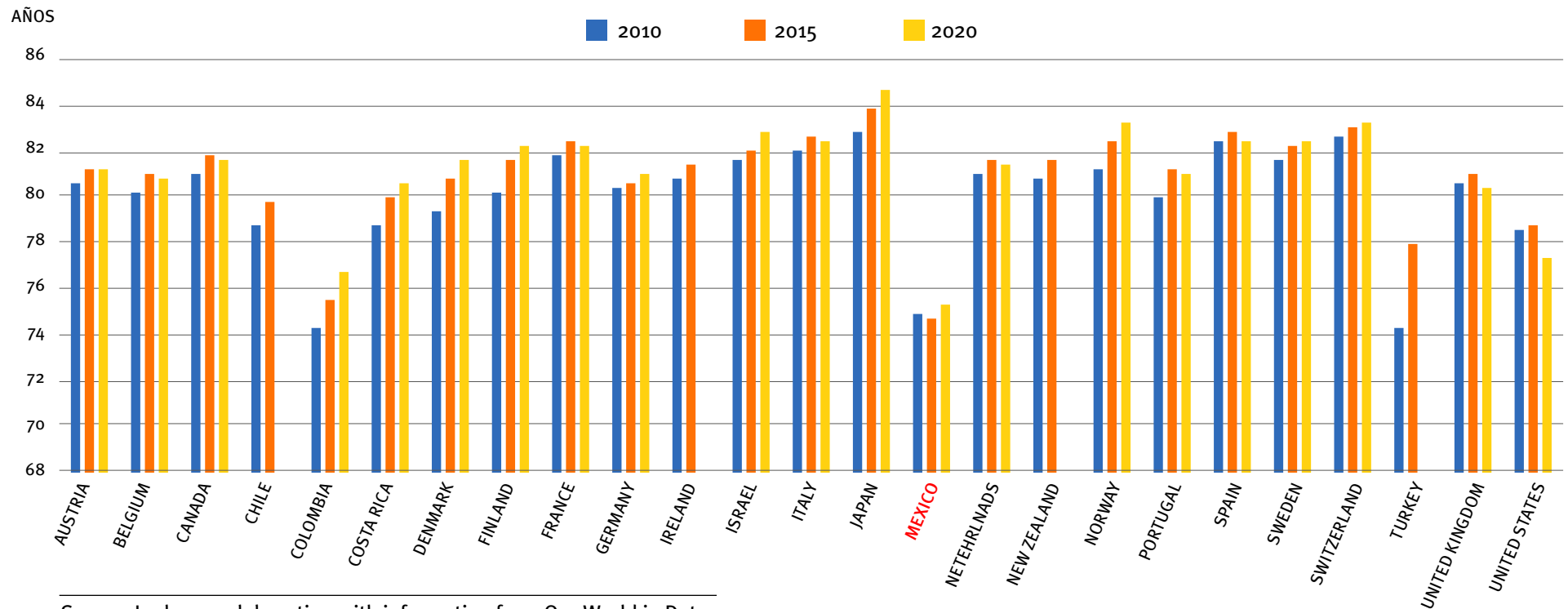
In the case of Mexico, National Population Council (Conapo for its acronym in Spanish) projections indicate an increase of 0.5 percentage points from 2015 to 2020 in people's life expectancy. However, some estimates suggest that, by the end of 2021, the Mexican population had lost about 2.5 and 3.6 years of

life expectancy at birth for women and men, respectively (Conapo, n.d.).

Socio-economic inequalities in life expectancy also obey educational dynamics. On average, among 24 OECD countries, a 30-year-old person with a lower than upper secondary education can expect to live 5.2 years less than a 30-year-old person with tertiary education (university degree or equivalent). These differences are more significant among men, with an average gap of 6.5 years than an average of 3.9 years among women (OECD, 2021d).

Faced with the new variants derived from the COVID-19 pandemic, the World Health Organization (WHO) warned that, although the omicron variant may be less severe, the narrative that it is a mild disease "is misleading," as it damages people's response to the disease and also takes more lives (UN, 2022b). So far in 2022 alone, 15 million cases of COVID-19 have been reported globally, the most significant weekly record since the pandemic began.

GRAPH 14. LIFE EXPECTANCY IN 2010, 2015, AND 2020
OECD COUNTRIES



Source: In-house elaboration with information from Our World in Data (2019).

In the case of Mexico, during the month of January 2022, 992,225 new cases were registered, exceeding the cases recorded in January 2021 by 29,358, even though by then the percentage of vaccination was 0.48%, while by January 2022, it was 64% of Mexicans with at least one dose (Our World in Data, 2022).

Despite the progress of the COVAX mechanism³⁰ (until January 2022), the UN reports it will reach 1 billion vaccines supplied. However, 90 countries have yet to reach the 40% vaccinated population target set by the WHO for the 2021 target, and 36 of them have vaccinated less than 10% of their population. Despite having more than half of its population vaccinated in Mexico, deaths rose in January but began to fall in February 2022 (UN, 2022a). On December 3, 2021, the first positive sample of the omicron variant was detected in Mexico (Ministry of Health, 2021a), which despite being “less aggressive,” boosted the number of deaths in the country.

Among the effects of Mexico and the world’s new deaths are the deaths of heads of families who have left children and young people without a guardian. Groups face the most overwhelming conditions with lower conditions and more significant vulnerabilities.

³⁰COVAX is part of an unprecedented global effort to provide vaccines for at least 20% of the population in each participating country during 2021, in order to protect people at increased risk of severe forms of COVID-19 and save lives. It is co-led by Gavi, the Alliance for Vaccines, the World Health Organization and the Coalition for Innovations in Epidemic Preparedness (CEPI), and works in partnership with UNICEF, the Pan American Health Organization’s Revolving Fund, as well as the World Bank, civil society organizations, manufacturers and others.

According to the study “Global minimum estimates of children affected by orphanhood associated with COVID-19 and the death of caregivers”, published in the magazine *The Lancet*, from March 2020 to April 2021 globally, it is estimated that 1.134 million children under the age of 18 suffered the death of their primary caregivers, including at least one of the parents or grandparents in custody.

Of the 21 countries studied in this research, Mexico recorded the highest number of minors in this situation, since it is estimated that 33,342 children suffered the death of their mother, that 97,951 lost their father, and it is estimated that 32 minors lost both parents (Hillis *et al.*, 2021). But also considering many of these minors lost their secondary caregivers, such as their grandparents or elderly relatives (60 – 84 years), orphaned children number in the country rises to 141,132. (Hillis *et al.*, 2021).

The priorities of the pandemic have focused on stopping the spread, leaving aside the side effects on vulnerable groups such as street children and or children orphaned by COVID-19. These factors threaten children with severe adverse consequences and more significant risks of suffering from violence (physical, sexual or emotional), exposing them to abuse and poverty.

**MEXICO RECORDED
THE HIGHEST NUMBER
OF MINORS
WHO LOST THEIR MAIN
CAREGIVERS, PARENTS
OR GRANDPARENTS:
141,132 ORPHANS**

Save the Children (2021b) indicates that violence has become a form of discipline in Mexico that puts the lives of children at risk. It also has physical and mental consequences on their development, many permanent. Since the pandemic, 3 out of 4 children have been physically abused in their homes. Similarly, Save the Children (2021a) also notes that children have gone unnoticed throughout this pandemic where it is necessary to promote the equitable delivery of vaccines and provide support for families to take care of children whose mothers, parents, or caregivers died. These nameless children are the tragic and ignored consequence of the millions of deaths caused by the pandemic.

Health workers have been at the forefront of the battle against COVID-19 and are far more exposed to the virus than other professions. The impact on health workers was most acute in 2020 due to the lack of adequate personal protective equipment (PPE) early in the pandemic. At the country level, health workers reported 8% of all COVID-19 cases in 2020 globally (OECD, 2021g). This proportion was around 10% in the first three months of the pandemic but fell to 2.5% as of September 2020 (OECD, 2021g). Among the dozen OECD countries where epidemiological monitoring reports were published, Mexico is the country where

health workers have been most affected. At the end of October 2021, more than 283,122 health workers were infected, having more than 4,515 deaths reported in the country (Ministry of Health, 2021c).

The pandemic's impact on the health condition of healthcare workers has gone beyond COVID-19 infections. There is evidence internationally that the pressure sustained by strenuous workloads affected the well-being of many health workers with high rates of depression, stress, burnout, and poor mental health. The challenges of health personnel included confusion, scarcity, precariousness, and paranoia (Pérez and Doubova, 2020).

By March 2020, health workers in Italy reported that 1 in 2 (49%) had symptoms of post-traumatic stress disorder. Frontline workers were also significantly more likely to exhibit post-traumatic stress disorder than those who did not report working with COVID-19 patients (Rossi *et al.*, 2020). Likewise, an April 2020 survey of health professionals in Spain found that about three-fifths of respondents reported symptoms of anxiety (59%) and or post-traumatic stress disorder (57%), with about half (46%) exhibiting signs of depression (Luceño-Moreno *et al.*, 2020).

In Mexico, for its part, there is no systematic monitoring of the effects on health personnel, nor have more significant resources or efforts been allocated to strengthen the sector, despite the constant exposure to the virus, long working hours, and the physical and mental deterioration that the fight in the first line of defense entails, which contributes to the chronic development of psychological disorders (Hidalgo, Vargas and Carvajal, 2021).

As we have stated in previous reports, the shortage of medicines and medical supplies has been a side effect of the changes in the health sector in charge of the current administration, which, together with the effects of the COVID-19 pandemic, reflect part of the causes of the collapse in the health sector (Signos Vitales, 2022c). Although the authorities have not reported significant absences of medicines in the Mexican health sector, the number of prescriptions not filled in the Mexican Social Security Institute (IMSS for its acronym in Spanish) has tripled, and reports of shortages in medicines for different treatments have gone up.

According to the INEGI (2020a), in 2019, for the IMSS, which is the institution that provides the most health care with an affiliation of 51% of Mexicans, it was re-



Image: Health personnel in Mexico /coronavirus.onu.org.mx at <https://tinyurl.com/y4sr26ry>

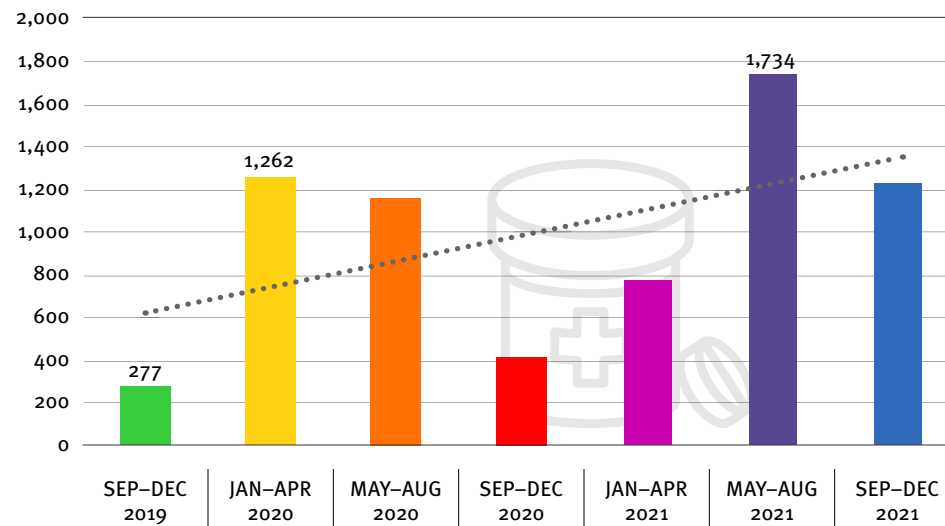
ported that 227 million prescriptions were effectively filled and only 2% were not. However, by 2020 the not-served prescriptions number promptly tripled, from 5 million in 2019 to 15.9 million in 2020 and just over 22 million in 2021 (Zero Abstract, 2021a, 2022).

As for the reports of shortages, in public institutions that are part of the National Health System, 8,632 reports of drug shortages were reported from January 2019 to December 2021, with the second quarter of 2021 being the period with the highest number of shortages (Cero Desabasto, 2022) (Graph 15).

Unfortunately, and despite the setbacks of the new model of drug purchases implemented by the Government of Mexico, an austerity policy is being pursued that threatens the quality of medical supplies and or drugs and a lower concentration of suppliers associated with alleged corruption. However, the government's approach does not include the cost of delays in medical treatment and, therefore, the cost of the health and life of Mexicans.

Part of what was neglected in health matters includes universal vaccination that protects against diseases such as measles, pneumococcus, Hepatitis B, tuberculosis, rotavirus, influenza, human papillomavirus (HPV) (among others). Where the vaccines

GRAPH 15. RECORDS OF DRUG SHORTAGES BY FOUR-MONTH PERIOD AT THE NATIONAL LEVEL



Source: In-house elaboration with information from Cero Desabasto (2022).

with the lowest doses applied from 2020 to 2021 are Hepatitis B (from 1,763,467 in 2020 to 874,843 in 2021), Pneumococcal polysaccharide (from 546,000 in 2020 to 214,000 in 2021), even the seasonal influenza vaccine decreased from 22,299,000 doses applied in 2020 to just over 15,000,000 in 2021 and with an impressive decrease the HPV vaccine that prevents cervical cancer going from 261,000 doses applied in 2020 to only 24,484 doses in 2021 (Cero Desabasto 2022)

The COVID-19 crisis has also had wide-ranging collateral impacts on mental health. The deterioration of mental health during the pandemic was one of the top five risks noted in 2022 The Global Risks Perception Survey (GRPS). The erosion of social cohesion, livelihood crises, and deteriorating mental health are three of the five risks that most increased globally during the crisis (World Economic Forum, 2022). These three risks, and the pandemic itself, are also considered one of the most imminent threats to the world. This social scar aggravates the challenges of effective national policymaking and reduces the attention and focus needed in international cooperation for global challenges (World Economic Forum, 2022).

The pandemic caused 53 million additional cases of major depression worldwide (COVID-19 Mental Disorders Collaborators, 2021). The journal “The Lancet” indicates that from 2020 to 2021, two COVID-19 impact indicators were presented; specifically, the daily rates of COVID-19 infection and reductions in mobility were associated with a higher prevalence of the major depressive disorder, which is a condition that affects a person’s feelings, thoughts, and behavior, and can cause a variety of physical and emotional problems (Mayo Clinic, n.d.). According to this study, women were more affected than men by the pandemic, and, in addition, younger age groups were found to be more affected than older people’s groups (Covid-19 Mental Disorders Collaborators, 2021). Even UNICEF has stated that the harmful effects of the COVID-19 pandemic also affect mental health in children and young people, where mental disorders among young people mean a loss to the economy of almost \$390 billion a year (UNICEF, 2021a).

According to the Mexican Association of Hospital Psychology (AMPH for its acronym in Spanish) (2020), when an event puts our health at risk, the psychic apparatus enters into an emotional imbalance. Only two out of ten people (20%) receive psychological

support when they need it (Gómez–Maqueo, 2016), an important factor being the limited budget allocated to mental health.

According to estimates, only about 2% of health spending is allocated to mental health in Mexico, when the WHO recommends that between 5 and 10% be invested (Cortés, 2021). In addition, 80% of mental health spending is used to maintain psychiatric hospitals, while the rest is used to detect, prevent, and rehabilitate psychological disorders or affections (WHO, 2018). The latter are actions of utmost importance for the mental well-being of Mexicans who, far from being supported, are constrained by the austerity policy implemented by the Executive, even though it is a right established by law.

THE COVID–19 CRISIS HAS HAD ALSO WIDE–RANGING COLLATERAL IMPACTS ON MENTAL HEALTH.



Image: “Pandemic triggers adolescents’ suicide” /educandoenigualdad.com at <https://tinyurl.com/2p8zwped>

NEW DEMANDS IN THE PUBLIC HEALTH SERVICES



With the advent of the pandemic, challenges in the health sector include universal social affiliation not only in quantity but in quality in favor of increasing the health level of Mexicans. Most OECD countries have achieved universal coverage (or close to it) for a core set of health services, usually including physician consultations, testing and examination, and hospital care (OECD, 2021d).

In Mexico, although the current federal government has enacted universal coverage during its government, in practice, the percentage of the population with access to health services has decreased in recent years. This has led to significant setbacks in coverage and drug shortages, the collapse of the health system, and the unattended treatments caused by the pandemic. One example is caring for cancer treatments (the third cause of death in Mexico) (Ministry of Health, 2017). “The Economist Intelligence Unit” (2019) reported that Mexico is within Latin American countries with a lag in the score of handling in health services and the workforce to provide services in the cancer treatment stage. Its scores are below aver-

age in “Policy and Planning” (73.2 vs. 75.8 average), “Health Services” (61.9 vs. 64 average), and “Health Systems and Governance” (45.2 vs. 47.9).

Not all in past times implies bad decisions as the government usually expresses it. It is necessary to recognize that there were important efforts in the field of health, such as the Popular Insurance, which implied a significant reduction in the lack of access to health services, going from 29% in 2010 to 15.6% in 2016, remaining for 2018 at 16.2% (Coneval, Council for the Evaluation of Social Development Policy for its acronym in Spanish, n.d.). Unfortunately, the elimination of Popular Insurance and the disaster caused by the SARS-CoV-2 virus are reflected in the drastic increase of 12 percentage points of the population between 2018 and 2020 in lack of access to health services. This implies that almost three out of ten people stopped having some affiliation to public social security institutions (IMSS, federal or state ISSSTE, Pemex, Army or Navy), to private services, or did not have the right to receive the services provided by the Institute of Health for Welfare (Insabi).

This means that there was an increase of 15.6 million people who reported not being affiliated, registered, or not having the right to receive health services in a public or private institution in two years. In addition, between 2018 and 2020, the most significant increase in the incidence of lack of access to health services occurred in 30% of the population with lower incomes (decile I, II, and III), with an increase of almost double the national average in 20% of the poorest people, and 50% more for people who are in the third poorest decile of the population (Coneval, 2021). These data indicate that not only “the poor first” is a false statement, but we are also not moving towards a “health system like that of the Nordic countries” (Signos Vitales, 2021b).



THE DISMANTLING OF THE MEXICAN HEALTH SYSTEM has provoked that chronic–degenerative illnesses, cancer, cardiovascular sicknesses, vaccines coverage of preventable diseases as measles, have not been attended.

Shortages of supplies and medicines are leaving severe sanitary situations, which are even more complex under poverty and marginalization contexts, implying long term consequences for millions of Mexicans.

5

A LOOK AT SOCIAL POLICY



Image: <https://tinyurl.com/2p832aua>



MEXICO IS NOT AN EXAMPLE OF SOCIAL PROGRESS with almost half of the population submerged in poverty (43.9%), and a higher percentage in extreme poverty (8.5%) with respect to 2016 and 2018. Mexico is the eighth country with highest poverty among the 36 countries members of the OECD.



MEXICAN EDUCATION AND THE LOSS OF THE FUTURE

The COVID–19 pandemic has had adverse effects on virtually every aspect of life. In the social sector, in particular, the consequences of this health crisis have been catastrophic. The education sector is unfortunately at the top of this list. The closure of schools worldwide was a widespread policy to stop the spread of the virus, which has affected more than 190 million students (UNICEF, 2021b). There is

evidence that school closures and economic crises increase inequity gaps the risk of educational abandonment and exclusion (Fore, 2021), where the level of schooling and learning falls as a result of both school closures (Azebedo *et al.* 2020), as well as the educational response by the authorities.

Being a little over three years of the current administration, the educational authorities in Mexico have

implemented a series of measures within their capabilities, but with enormous programmatic and effectiveness limitations at the time of its implementation. The authorities' first response included the closure of schools and, with it, the change of paradigm of teaching–learning from the face-to–face model to a remote one, implementing the already known “Learn at home.” As we have analyzed, the program generates risks of abandonment and educational exclusion for those who do not have electronic means, internet or computer, or even television (Vital Signos Vitales, 2021f) (Table 24).

The concern for educational lag also includes the poverty of learning, that is, the quality of the learning of millions of children and young people of learning age, the risk of losing the foundational skills and or learning acquired through coexistence, such as the skills to assume teamwork responsibilities, debate or joint conflict resolution (Schmelkes, 2021).

According to a report by UNESCO, UNICEF, and the World Bank (2021), regional data from Brazil, Pakistan, rural India, South Africa, and Mexico, among others, SHOW SUBSTANTIAL LOSSES IN MATH AND READING. This report shows that, in some countries, average learning losses are proportional to the dura-

TABLAE 24. EFFECTS OF TEACHING–LEARNING PARADIGM SHIFT

SCHOOL DROPOUT	EDUCATIONAL EXCLUSION
For the 2020-2021 school year, the enrolled school-age population (under 24 years of age) was just over 32.1 million, or 50.6% of the total of 3 to 24 years of age, i.e., 14.1% of that population stopped studying from one school year to another. Where the Survey for the Measurement of the COVID-19 Impact on Education (ECOVIED-ED for its acronym in Spanish) also finds that about 2,126,000 people between 3 and 24 years of age were not enrolled in the 2020-2021 school year for reasons directly associated with the COVID–19 pandemic and 1.9 million, due to lack of money or resources (INEGI, 2020c). Where in addition to the population enrolled in the 2019-2020 school year and enrolled in 2020–2021 (30.4 million), 302,000 changed from private to public school (1.0%), and 285,000 (0.9%) changed from public to private school. (INEGI, 2020c).	The INEGI (2020c) showed the following data that indicate more significant exclusion for the most disadvantaged: 1. Only 2 out of 10 households (15.7%) located in the lowest socioeconomic stratum have computers, compared to 6 out of 10 homes (60.6%), which belong to the upper-middle stratum, 2, almost 3 out of 10 households (25.1%) in the lower stratum, also do not have access to the Internet and c) 20.4% do not have a television in the home, elements that constitute a violation of their right to education.

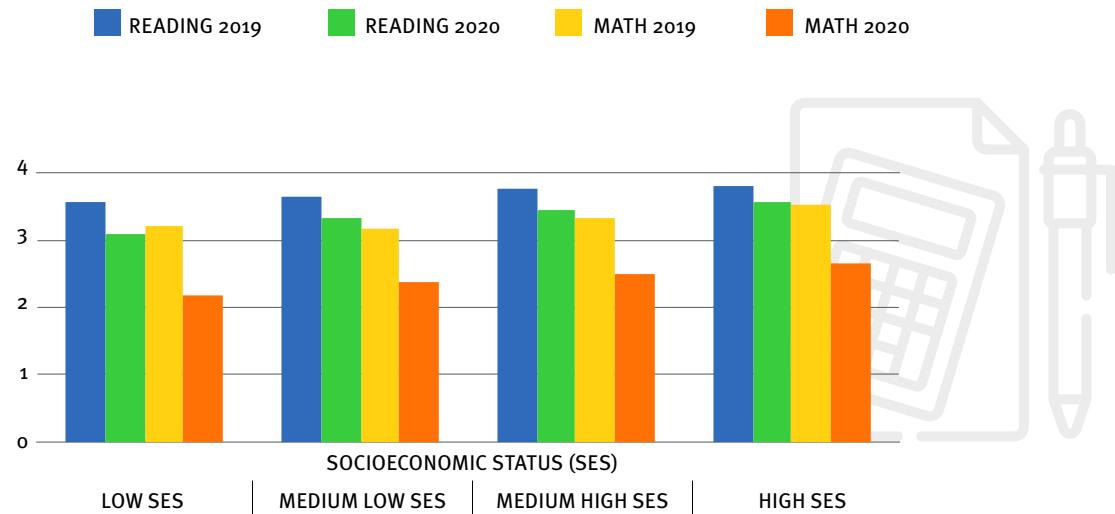
Source: In–house elaboration with Vital Signs information (2021f).

tion of school closures. However, there is great heterogeneity between countries and according to the school subjects, the socioeconomic level (NSE for its acronym in Spanish) of the students, gender, and grade. For example, results in Mexico reveal significant learning losses in reading and math for children ages 10 to 15.

Estimated learning losses were higher in math than in reading and disproportionately affected younger students, those from low-income households, and girls (World Bank, UNICEF, and UNESCO, 2021). Another study adds to evidence of learning loss for both reading and math in Mexican students. In reading, there was a loss of learning at all socioeconomic levels (NSE), and in mathematics, these losses were deeper in students of the low and middle-low socioeconomic level. (Hevia *et al.* 2022) (Graph 16).

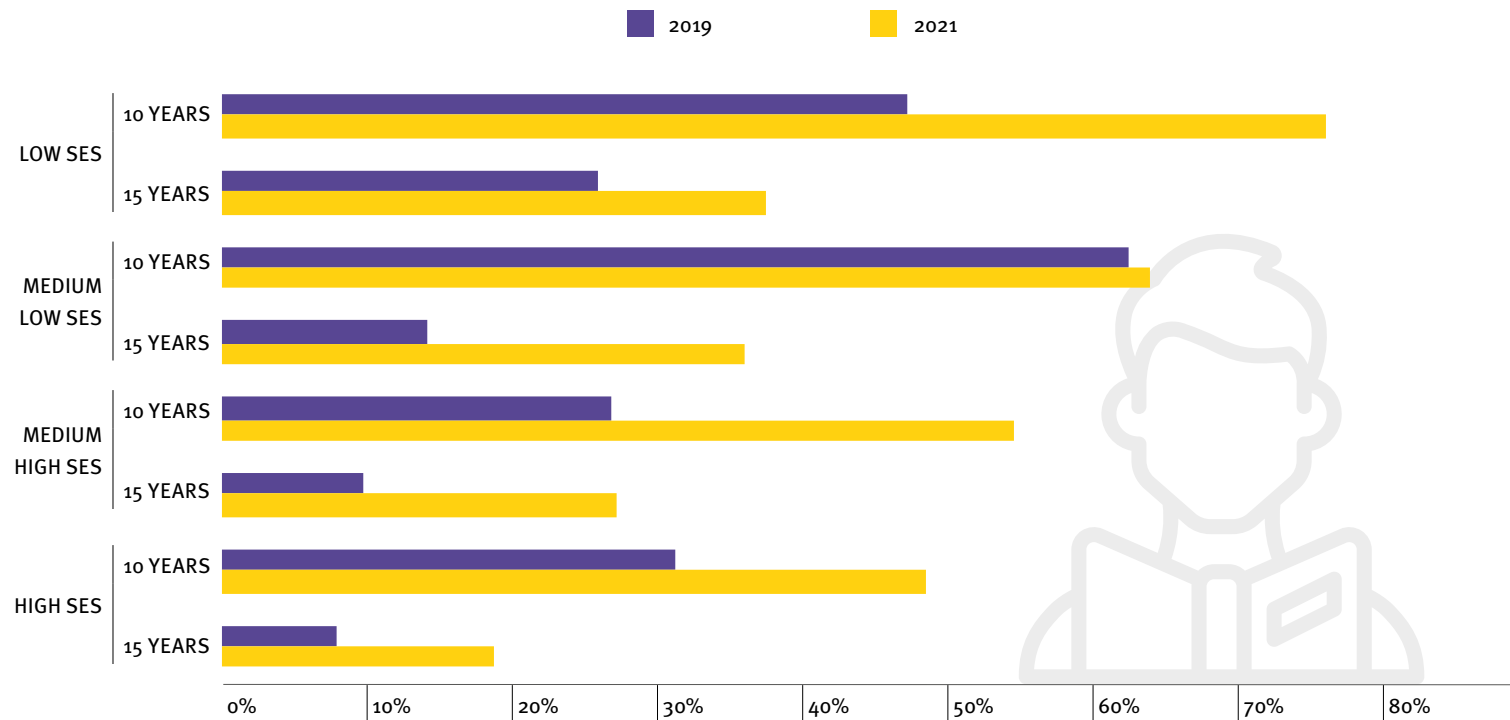
Reading learning poverty is defined as the inability of a ten-year-old child to read and understand a text properly (World Bank, 2019b). Unfortunately, in Mexico, from 2019 to 2021, there is a substantial increase in this indicator for all socioeconomic levels (in ages 10 and 15 years), which is more profound in children of a low socioeconomic level where the gap between them reaches 25.7 percent points between 2019 and

GRAPH 16. LEARNING LOSS IN READING AND MATH
BY SOCIO-ECONOMIC LEVEL AND YEARS



Source: In-house elaboration with information from Hevia *et al.* (2022).

GRAPH 17. LEARNING POVERTY IN READING
BY AGE, SOCIOECONOMIC STATUS (SES), AND YEAR



Source: In-house elaboration with information from Hevia *et al.* (2022).

2021 (Hevia *et al.*, 2022) (Graph 17). This means that today's students with less learning become tomorrow's workers with fewer skills.

On the other hand, learning poverty in mathematics³¹ follows the same pattern, finding significant increases in the percentage of children without mathematics skills that increase “learning poverty,” where the gap

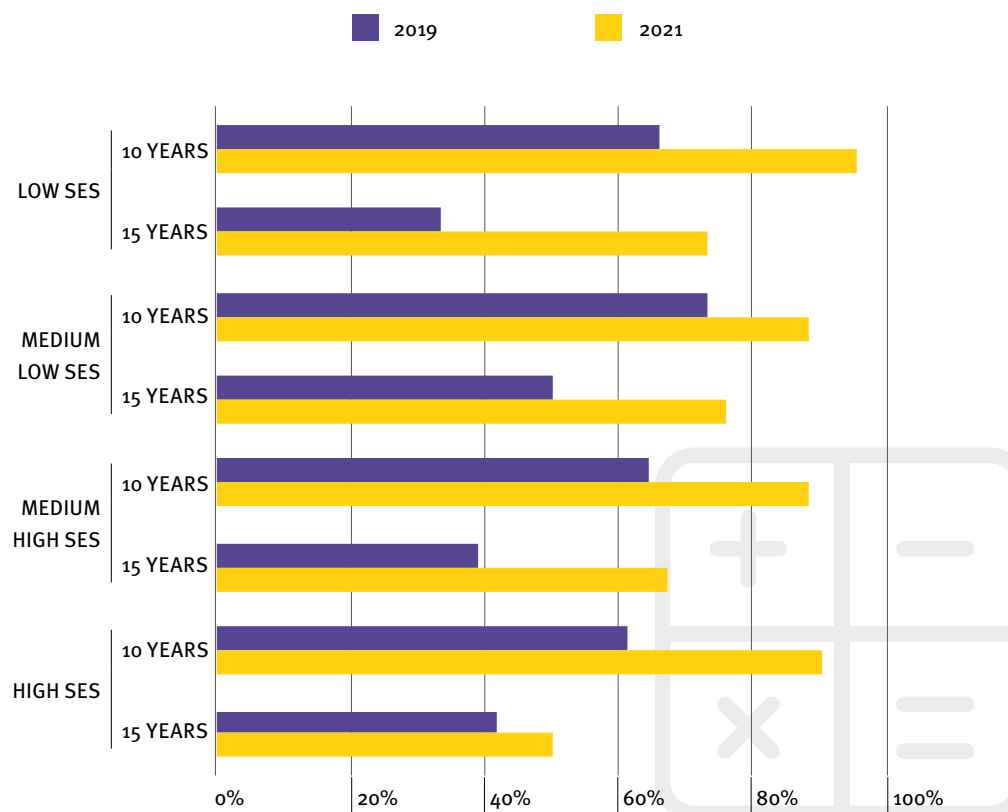
³¹ The authors define it as: the percentage of 10-year-olds who cannot solve problems with 3-digit divisions (Hevia *et al.* 2022)

remains greater for children from households with low socioeconomic levels (Hevia *et al.*, 2022) (Graph 18). That is, the effects in both cases are for the youngest and poorest students, thus limiting their skills at an early age and perpetuating the poverty of learning from generation to generation.

The overall trends of the data worldwide coincide with the results obtained in Mexico (World Bank, UNICEF, and UNESCO, 2021). The crisis has exacerbated inequalities in education for children living in households with lower incomes, less access to learning, marginalized or more vulnerable people, and having deeper impacts on girls (Table 25).

The challenges added to the closure of schools and the change of teaching–learning modality include the deterioration of social–emotional skills, greater difficulty in finding work, and greater deterioration of gender equity (Fernández and Herrera, 2021). As indicated by the rate of participation of women in the workforce at the beginning of 2020 (when the pandemic arrived in Latin America), there are drastic effects in countries such as Chile, Colombia, and Mexico (Graph 19). The fall is more profound in the case of Mexico, since without a well–planned recovery, it puts us in figures similar to those obtained years be-

GRAPH 18. LEARNING POVERTY IN MATHEMATICS
BY AGE, SOCIOECONOMIC STATUS (SES), AND YEAR



Source: In-house elaboration with information from Hevia *et al.* (2022).

TABLE 25. DIFFERENTIATED EFFECTS
ON LEARNING

Children from low-income households, children with disabilities, and girls had fewer opportunities to access distance learning than their peers. This was often due to lack of access to technologies and lack of electricity, connectivity, devices, discrimination, and gender norms.

Younger students had less access to distance learning and were more affected by learning loss than older learners, especially among pre-school-age children in key stages of learning and development.

The negative impact on learning has disproportionately affected the most marginalized or vulnerable. Learning losses were greatest for students at a lower socio-economic level in Ghana, Mexico, and Pakistan.

Early data indicate greater losses among girls, as they are rapidly losing the protection that schools and learning provide for their well-being and life opportunities.

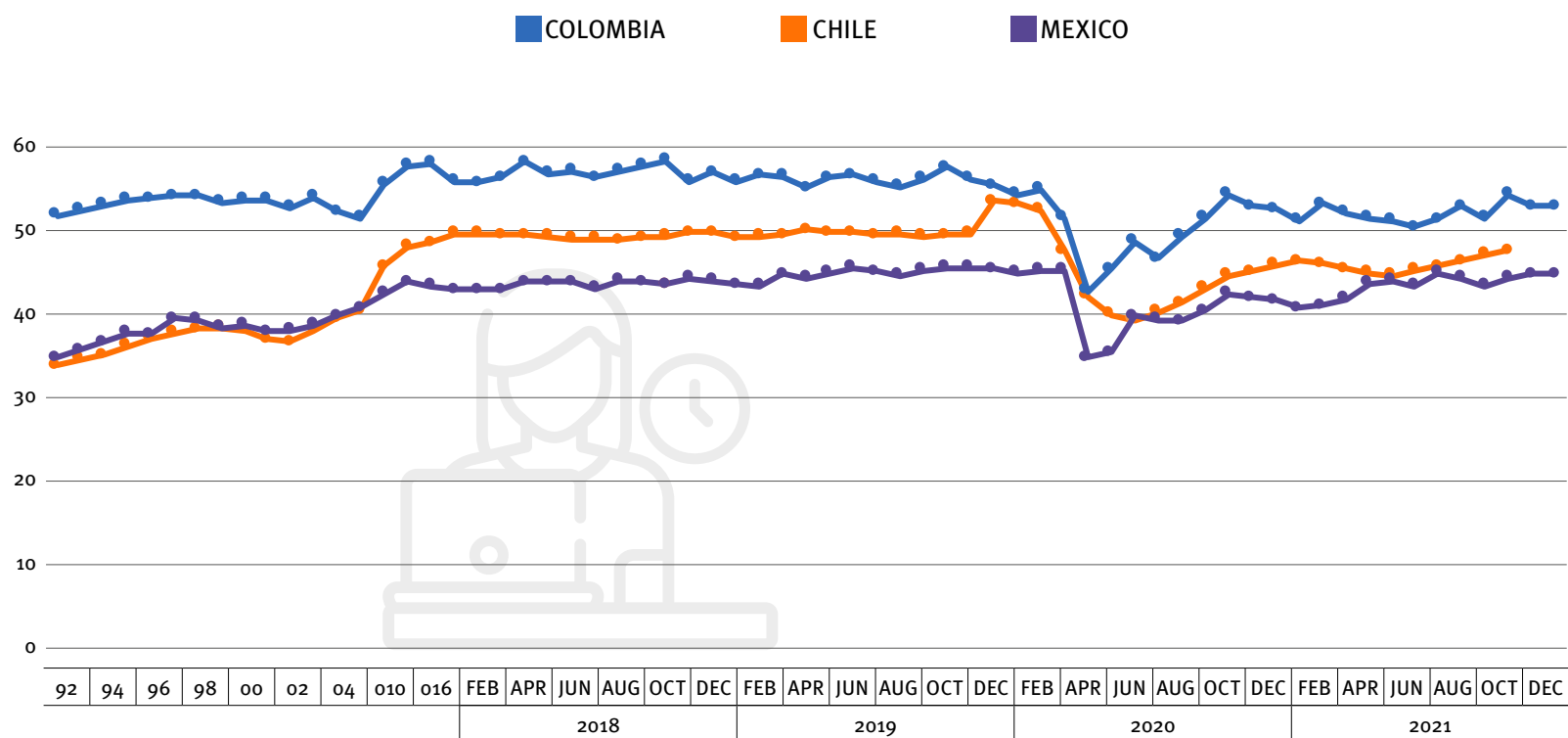
Source: In-house elaboration with information from the World Bank, UNICEF, and UNESCO (2021).

fore (2018), reflecting one of the many setbacks that the health crisis has left in women.³²

Social progress for the Mexican case carries strong concerns that compromise the education and future of an entire generation in the short, medium, and long term. The data indicate that the authorities are more busy destroying what the previous governments worked. They are eroding institutions and modifying, without evidence of its possible impact, study plans, and programs, indicators, evaluations, which beyond considering educational risks, ends up disrupting the National Education System (SEN for its acronym in Spanish) and ignoring the effects of the loss of learning on children, thus compromising the future of an entire generation.

³² Calculation of Vital Signs with information from Ilostat (2022) and INEGI (2022c).

GRAPH 19. EVOLUTION OF THE PARTICIPATION RATE OF WOMEN IN THE LABOR FORCE



Source: In-house elaboration with information from Ilostat (2022) and INEGI (2022c).

CONSEQUENCES OF THE EDUCATIONAL COUNTER-REFORM AND BUDGET PRECARIOUSNESS



Despite the figures presented by Mexico, we are faced with a disjointed educational system without coordination, policy guidelines to the educational authorities, or evaluations relevant to the system. Prior to its destruction, the National Institute for the Evaluation of Education (INEE) coordinated the analysis and studies that gave way to indicators that allowed a consistent international evaluation, such as the International Program for the Evaluation of Students tests (PISA for its acronym in Spanish), the Latin American Laboratory for the Quality of Education, and the International Agency for the Evaluation of Educational Performance (IEA for its acronym in Spanish). The INEE became a center of study, thought, and proposal on education in Mexico (INEE, n.d.) by studying topics on civic education and educational policy guidelines that prioritized educational equity: attention to children of migrant agricultural day laborers and to the indigenous population in multigrade schools, ways to avoid dropping out of high school, initial training, and the professional development of teachers.

The government of the 4T in its “New Mexican School” (NEM for its acronym in Spanish) project eliminated the mandatory nature of the evaluation. The NEM project incorporates in its model to address the segments that have historically been neglected from the components of equity, justice, inclusion, gender perspective, social humanism, excellence, and civic education at all levels, to contribute to the formation of responsible, respectful, participatory citizens, committed to their ambient, their community and the environment (Government of Mexico, n.f.2). But in practice, the shortcomings have become visible in a set of elements that, together with the COVID–19 pandemic, deepen inequalities, exclude the least favored, do not address the loss of learning to the most vulnerable or school dropout.

Additionally, the lack of clarity in the programmatic contents and the lack of agreements of the authorities of the Secretariat of Public Education (SEP for its acronym in Spanish) with the different actors involved, associated with the recent outbreak of the COVID–19 pandemic, exposes a government that

far from prioritizing school dropout, educational inclusion and loss of learning in students has issued homogeneous palliative proposals in the face of a reality that attacks teachers, parents, managers, and students in a differentiated way; exacerbating educational inequalities.

Finally, it is necessary to consider that COVID-19 disrupts the way of imparting knowledge and carrying out assessments of learning at different scales (individual, institutional and state, or national) and in any of the scenarios on the return to school (face-to-face or remote). Therefore, the assessment of learning would have to be transformed and adapted to the new educational reality. If a better integration of teaching, learning, and evaluation is achieved, it will represent a national and international advance (Backhoff, 2021).

Part of the actions that continue to compromise the educational future is directly related to budgetary austerity, the current government's commandment, which compromises the future and threatens educational equity. Currently, there are only 38 out of 76 budget programs that the SEP had in 2018. The 2021 Federation Expenditure Budget (PEF) disappeared 15 programs, among which were: FULL-TIME SCHOOLS,

EDUCATIONAL EVALUATIONS, DEVELOPMENT OF SIGNIFICANT BASIC EDUCATION LEARNING, among others.



Image: The 2021 Federal Expenditure Budget disappeared the educational evaluation. /Ovaciones.com at <https://tinyurl.com/4jbs-kby2>

According to Fernández and Herrera (2021), the analysis of the 2021 PEF shows that 24% of the resources were allocated to scholarships that lack focus for the benefit of the disadvantaged, and are not accompanied by tutorials or complementary strategies to recover learning, much less are designed to reduce school dropout. Even prior to the pandemic, enrolment in upper secondary education decreased by 1.8% since 2000 (Fernández *et al.*, 2021), confirming Coneval's assessments of the limitations of this type of support to address the problem of school dropout (Coneval, 2020a). In fact, the lowest percentages of the PEF in 2021 were allocated to early childhood ed-

ucation (1.5%) and teacher professionalization (0.1%). By 2022, the PEF will devote only 3.1% of GDP to education, being the lowest proportion of the last seven years and only 0.8% of the resources necessary to meet coverage at all educational levels (Centre for Economic and Budgetary Research, CIEP for its acronym in Spanish, n.d.), without considering special measures or reinforcements for learning recovery.

An important phenomenon to consider was the constriction of the education budget in Mexico and the World (World Bank, 2021d) in response to urgent health needs and the consequences of economic impacts. However, there is evidence that countries such as Canada offered financial aid to continue studies and designed scholarships focused on those students with fewer resources, where even teacher training was included. Or in the case of the United Kingdom, which allocated resources to keep schools open during holiday periods and provide remedial courses to those who have less (OECD, 2021a).

THE 2022 FEDERAL EXPENDITURE BUDGET WILL ALLOCATE ONLY 3.1% OF GDP TO EDUCATION, BEING THE LOWEST PROPORTION OF THE LAST SEVEN YEARS AND ONLY 0.8% OF THE NECESSARY RESOURCES TO MEET COVERAGE AT ALL EDUCATIONAL LEVELS (CIEP, S.F.).



Image: “Benito Juárez scholarships are directed to students of Junior Highschool with the goal to continue with their studies through ‘Bienestar Azteca’”/Tolucabellacd.com at <https://tinyurl.com/4bnt6j7u>.

ABSENCE OF GLOBAL SOCIAL PROGRESS: DEGRADATION OF PROGRESS IN HEALTH, EDUCATION AND POVERTY



Poverty in Mexico is a structural, historical problem that affects about half of the population. However, there have been important advances in social development in recent decades, although at a pace and depth far from the ideal (México Cómo Vamos, 2021). The results of the National Household Income and Expenditure Survey (ENIGH for its acronym in Spanish) published by INEGI and the measurement of multidimensional poverty presented by Coneval show a clear deterioration in this area.

For the first time, the health emergency has caused the fall of human development worldwide with implications for income, health, and education (the Autonomous University of Mexico, UNAM for its acronym in Spanish Gazette, 2022). According to that study, under the context of the COVID–19 pandemic, illness and death are not only health data but the maximum expression of inequalities in a country where there are: 7.9 million homes without piped water, 1.5 million homes without drainage; 1.2 million with a dirt floor, 4.4 million homes that use coal and firewood

for cooking, 4.3 million lack a refrigerator and, worse, in almost one million homes a child eats only once a day or not at all.

The social impact of the crisis is also visible in the population in poverty (multidimensional), which rose from 41.9% in 2018 to 44.5% in 2020, representing 4.3 million more people in poverty. On the other hand, it should be noted that the prevalence of poverty in 2020 was similar to that of 2008, which was 44.4% (Coneval, n.d.).

Between 2018 and 2020, 2.4 million additional people fell into extreme poverty. Its prevalence increased by 1.7 percentage points, from 7.4% to 9.2%. However, from 2008 to 2020, the population living in extreme poverty fell by 1.8 percentage points, from 11% to 9.2%. The federal entities with the highest percentage of the population in extreme poverty are Chiapas (29%), Guerrero (25.5%), and Oaxaca (20.6), states that have maintained their position since 2018 (Valdez *et al.*, 2020).

Beyond the figures, problems related to poverty include inequality, lack of employment, and lack of access to services that affect people's quality of life. In Mexico, there are 30 million people who are vulnerable due to social deprivation defined by Coneval. That is, they have one or more social deprivations but whose income is higher than the welfare line. In the country, 67.6% of the population has at least one of the six social deprivations, which translates into 85.7 million Mexicans, an increase of one million people compared to the results of 2018 (Coneval, n.d.).

The increase in shortages in the last two years was related to health, education, and food. As already mentioned, the lack of access to health services affected 28.2% of the population (35.7 million people, 12 percentage points more than in 2018). Educational backwardness affected 19.2% of the population (24.4 million people, a percentage very similar to that of 2018); the lack of access to nutritious food affected 22.5% of the population (28.6 million people, a figure slightly higher than that recorded in 2018) (Coneval, n.d.). Likewise, the estimates derived from the Encovid-19 carried out by Equide-Ibero, documented a dramatic collapse of household food security, falling from 39% in April 2020 to 27% in March 2021 (Villagómez, 2021). In February 2021, results of the Nation-



al Health and Nutrition Survey – Continua Covid-19, found that only 40% of households managed to maintain their food security in 2020, with a consequent reduction in the general prevalence of food security, which can constitute the prelude to major problems that increase poverty (Villagómez, 2021).

Image: extreme poverty in Mexico/Forbes.com at <https://tinyurl.com/3f962k8p>

The impact of the health crisis in Mexico and the government's inaction in providing support to families and businesses has also affected the income level. Poverty increased between 2018 and 2020. Thus, the percentage of the population in extreme poverty (income below the Extreme Poverty Line, which is the monetary value of the food basket) increased from 14.0% to 17.2% nationwide. In other words, the number of people who, even if they devote all their income to purchasing food, cannot buy the products of the food basket increased from 17.3 to 21.9 million people (Coneval, n.d.).

The population in poverty (with income below the Income Poverty Line, which is the monetary value of the food basket, plus the non-food one) increased from 49.9% to 52.8% between 2018 and 2020. That is, the population without sufficient resources to acquire the basket of goods and services to meet their basic needs increased from 61.8 to 66.9 million people (Coneval, n.d.).



Image: "The devastating hit of the pandemic"/Infobae.com at tinyurl.com/2p97dhsu

BETWEEN 2018 AND 2020

2.4 MILLION ADDITIONAL PEOPLE ARE IN A SITUATION OF EXTREME POVERTY, GOING FROM 7.4% TO 9.2%.

PERSPECTIVE AND IMPACT OF THE PANDEMIC ON HEALTH, EDUCATION, AND POVERTY



The current government's social policy changed both in the number of existing programs and the distribution of monetary transfers to combat poverty (Rodríguez and Patrón, 2017). From 2018 to 2020, the amount allocated to social programs increased 13% in real terms, from 911.872 Bp in 2018 to 1 trillion 30.183 Bp in 2020 (SHCP, 2020b). However, there was greater support for the population with higher income levels (deciles V, VII, and VIII) than for the people of the lower deciles, that is, with lower income (deciles I and II) (Signos Vitales, 2022b).

Internationally, Mexico was the eighth poorest country in 36 OECD member countries by 2020 (OECD, 2021h). However, emergency monetary transfers due to COVID-19 are below the poverty line, which means they have not been sufficient to cover basic needs (United Nations Economic Commission for Latin America and the Caribbean, (ECLAC, 2021b). Only 6 out of 16 Latin American countries were granted monetary transfers whose average monthly amount in March–December 2020 exceeds the extreme poverty line (ECLAC, 2021b). Mexico is not among them.

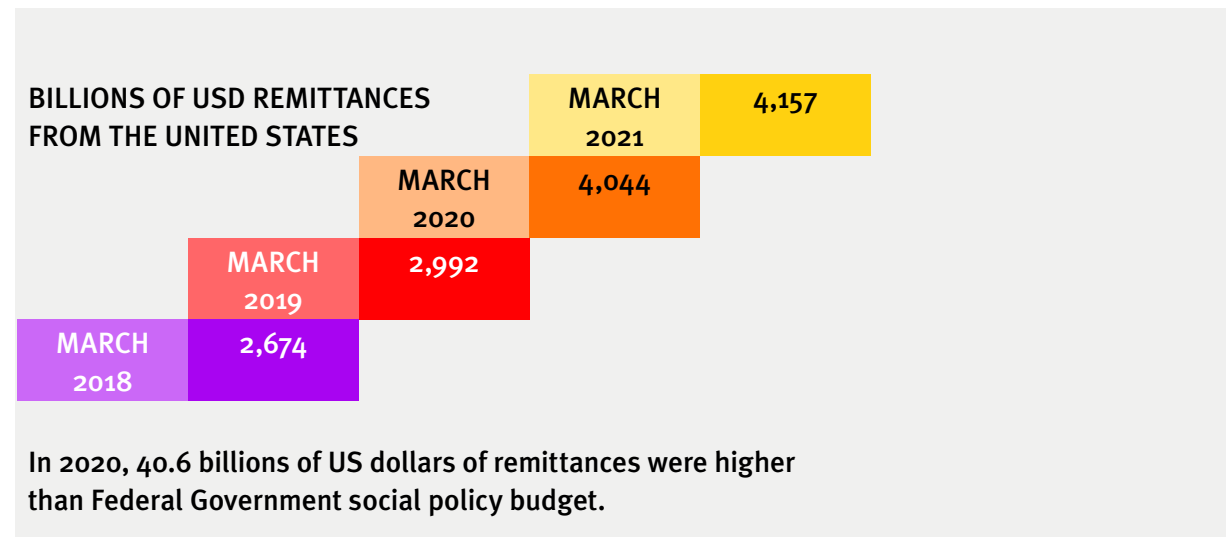
The lack of emergency policies that address the COVID-19 effects to counteract the ravages in the poorest groups suggests that social management is limited to face the short and long-term effects that the pandemic has left (Signos Vitales, 2022b). However, thousands of Mexicans' income has been supported by their families' remittances in the United States, increasing significantly during 2020 and 2021. In March 2018, remittances reached 2.674 million dollars; in the same month of 2019, they were 2.992; in March 2020, they reached 4.044; and in March 2021, they increased to 4.157 million dollars in a single month (Mexican Bank, Banxico for its acronym in Spanish 2021g). The notable increase stands

THE CURRENT GOVERNMENT'S SOCIAL POLICY CHANGED BOTH IN THE NUMBER OF EXISTING PROGRAMS AND THE DISTRIBUTION OF MONETARY TRANSFERS TO COMBAT POVERTY (RODRÍGUEZ AND PATRÓN, 2017).

out even more considering the context of the global economic recession and the United States, where these resources almost entirely come from (Banxico, 2021f). The number of remittances from the United States to Mexico exceeds the budget allocated to social policy. At the end of 2020, remittances reached 40.6 billion dollars, much higher than the federal government's social policy budget. In the same year, the total budget of the Federal Secretariat of Welfare would amount to barely 12% of the resources sent from abroad (Guillén, 2021). Remittance flows in Mexico have been similar to and even higher than Foreign Direct Investment (Mendoza and Valdivia, 2016).

In Mexico, remittances can influence the growth of GDP per regional inhabitant, where it has been found that the dynamics of regional growth are explained by the years of schooling of the employed population and remittances as a proportion of GDP from 2001 to 2008 (Mendoza and Valdivia, 2016). Likewise, migration flows and money from other countries (remittances) help in the weight of poverty, where a 10% increase in migration to the United States (as a percentage of the population in the destination country) translates into a reduction of 8.6% of the population living on less than US\$1.90 per day. In comparison,

the poverty gap is reduced by 12.8%. Regarding the remittances' shipping, a reduction of 6.7% is observed in the poor population and 10% concerning the poverty gap (Banxico, 2021f).



ABANDONMENT OF VULNERABLES GROUPS



The new 2022 begins with reconfigurations by the current federal administration with the disappearance of institutions and programs (Suárez, 2022). By a presidential decree of January 31, 2021 (SEGOB, 2021b), the National Institute for Social Development (Indesol for its acronym in Spanish) is ordered to disappear, leaving aside programs aimed at addressing the promotion of gender culture, including issues of violence towards women and inclusion. This decree is once again in line with Republican austerity policies and leaves women in a situation of gender vulnerability without benefit or support.

The current policy involved the centralization of social programs to the detriment of the autonomous bodies. Such action has even been labeled as a severe setback in human rights. For example, the National Institute of Indigenous Languages (Inali for its acronym in Spanish) risks disappearing and handing over its functions to the National Institute of Indigenous Peoples (INPI for its acronym in Spanish). Even the writers affiliated to that body, created in 1993, asked the Chief Executive to stop that initiative and that the Inali should not disappear: “rather strength-



Image: publication of INALI of illustrated alphabets of indigenous languages at https://www.inali.gob.mx/pdf/alf_tseltal.pdf

en it, so it continues to water our land with its work and sprout, and spread our languages all over the borders” and avoid the loss of their rights, as well as their integral and sustainable development to the detriment of cultures and identities (Vargas, 2022). Social disparities in gender and indigenous peoples

and communities are reflected in the persistence of inequalities that violate human rights (Colegio de México, 2018) (Table 26).

TABLE 26. PERSISTENCE OF INEQUALITIES

GENDER INEQUALITIES	INDIGENOUS PEOPLE AND COMMUNITIES
Although gender inequalities are much less acute than those associated with socio-economic origin, they persist despite progress.	With regard to young speakers of the indigenous language, inequality increased: in 2010, a young speaker of the indigenous language would be 29% less likely than the rest to complete the first year of secondary school, while in 2015, it would be 38% less likely. When considering the linguistic condition and the type of locality, there are also inequalities in learning at the age of 15. As for the conclusion of upper secondary education, "a powerful indicator of equal opportunities," the report shows that while in 2010, young people in the high-income stratum (quintile 5) were 5.6 times more likely to complete that level of education than those in the lower-income stratum (quintile 1), in 2015 that advantage was only 2.6 times.

Source: In-house elaboration with information from Colegio de México (2018).

WIDESPREAD ABANDONMENT OF EQUALITY, LACK OF PROTECTION FOR CHILDREN AND ADOLESCENTS, INDIGENOUS PEOPLES, AND MIGRANTS

«

Nearly 40 million children and adolescents live in Mexico, representing 35 % of the population, and more than half, 51.1%, live in poverty (UNICEF, 2022). Globally, the report of the United Nations Children's Fund 2021 (UNICEF) "State of the World's Children" (October 2021) examines the mental health of this population and estimates that 13 % of those aged 10 to 19 suffer from a diagnosed mental disorder. In that age range, suicide is the fourth leading cause of death: nearly 46,000 adolescents take their lives each year, one every 11 minutes (UNICEF, 2022).

There are also in-depth problems that must be made visible, such as child labor, school dropouts, and violence within families. Before the health emergency, for example, seven out of ten indigenous children in Mexico could not fully satisfy their rights, including education, food, and health (IACHR, 2020). Only the Network for the Rights of the Child in Mexico (Redim for its acronym in Spanish) warns that there could be between 30,000 and 45,000 children in criminal ac-



Image: "The lawsuit for pedophilia and children's pornography triggered during 2020: it has been the year with more files of this type in Mexican history" /Noticiasnrt.com at <https://tinyurl.com/5fm34nkw>

tivities in Mexico, and about 250,000 are at risk of being recruited by organized crime (Redim, 2021a).

In addition, the Redim also reported that girls are used for crimes such as sexual exploitation through child pornography, which had a significant increase during the pandemic months. Redim 2020's annual report, "The Year of Syndemic and Child Abandonment in Mexico," established that this crime had an increase of 157 % last year compared to 2019 (Redim, 2021b).

In this twenty-first century, indigenous and Afro-mexican peoples are on the last scale of the society we form, facing severe poverty, marginalization, injustice, discrimination, and racism. Towards 2018, the Coneval recognized that 69.5% of the indigenous population lives in poverty and, in the localities of less than 2,500 inhabitants, 78.7% of the indigenous population is in the same condition (Saavedra, 2021). With 68 languages and ethnic groups, Mexico is one of the ten countries with the most native languages globally, but 31 are at high risk of disappearing, and about 37 are threatened (Saavedra, 2021). The entities that have the most significant presence of indigenous groups are those that have the highest levels of marginalization in the country and, paradoxically,

they are also those that have the largest reserves of resources and natural wealth, that is, Oaxaca, Guerrero, Chiapas, Durango, and San Luis Potosí, where the percentages of poverty are greater than 80 % (Saavedra, 2021). There is evidence that indigenous people were more likely to die than non-indigenous people with indigenous patients hospitalized with a 1.13-fold higher risk of dying from COVID-19 than non-indigenous patients (Ibarra-Nava *et al.*, 2021).

At the international level, population censuses provide some key indicators that show greater vulnerability faced by the indigenous population compared to the non-indigenous population in the face of the health crisis. Considering three key variables for the prevention of contagion: 1) low levels of access to drinking water, 2) access to sanitation, and 3) the situation of overcrowding at home. To this end, in the five countries analyzed (Chile, Colombia, Guatemala, Mexico, and Peru) that account for 80% of the indigenous population of Latin America, the proportion of the indigenous population living in municipalities with high or critical vulnerability is much higher than that observed in the case of the non-indigenous population. In Colombia (67% vs 17%), Guatemala (78% vs 34%) and Mexico (39% vs 12%) there are more extreme situations (ECLAC and others, 2020).

The case of Mexico in access to sanitation is very illustrative since there is a direct relationship between a greater indigenous proportion at the municipal level and a greater proportion of the population without access to sanitation (ECLAC, 2021b). In the predominantly indigenous municipalities with high and very high rates of marginalization and geographical and social isolation, the risk of indigenous maternal death is up to nine times higher than in the best-communicated municipalities.

The existing gaps within indigenous peoples themselves, which place women, young people, and children in a more vulnerable situation, need to be considered. Being born an indigenous woman can be a sentence to always live in a position of poverty, exclusion, and discrimination, due largely to historical circumstances of marginalization. Aspects such as sex, racialization processes, discriminatory inter-ethnic relations, disability, and territorial inequalities are often combined to place indigenous women and girls in a highly vulnerable situation. When one or more of these factors overlap, as is usually the case, the risk of exclusion and marginalization is not only perpetuated but also acquires a lasting quality, which can extend throughout life and across different generations (UN-Women, 2020). Likewise, another vulnerable

group in Mexico is migrants. The deepest conditions are for indigenous environmental displaced people living in great precarious conditions in large cities, which exposes them disproportionately to the risk of getting sick and dying from COVID-19.

The vulnerability has become a social trait in Latin America. Poverty, inequality, and poor income distribution are just some components (ECLAC, 2001). The low level of development and the pandemic attributed to the SARS-CoV-2 virus has increased the complexity of its expression and the negative effect it has on the social sphere. The risk base in Mexico assumes characteristics of a vulnerable population, a disease burden with metabolic risk factors and chronic diseases in preponderant sites, in addition to unresolved livelihoods and communicable diseases. Social inequality and the deteriorated health sector harmed a vulnerable group of origin (Gonzalez, 2021).

IMPACT OF THE PANDEMIC ON SOCIETY AND THE ENVIRONMENT



2022 has been declared in environmental emergency mode. As the new year begins, the world continues to grapple with a number of challenges: the continuing COVID–19 pandemic, enduring climate change crises, biodiversity loss, pollution, and waste (UNEP, 2022a). The COVID–19 pandemic has highlighted the links between human health and nature (World Bank, 2021c). However, the actions and measures taken to counteract it are generating a negative effect on the environment.

Measures to deal with COVID–19 are representing political challenges and negative effects on the natural environment with severe long–term consequences in the economic and social, environmental, and natural resource management fields (López–Feldman *et al.*, 2020), which are not taken into account within the policies of action regarding water, consumption, and waste generation.

Water has become an essential need for health; one of the main measures recommended by the WHO lies in hand hygiene, which is extremely important

to prevent the spread of COVID–19 (UNESCO, 2021a). Quality water access and supply help minimize the risks of the pandemic. However, the characteristics of water in Mexico have contributed negatively to the effects of the health crisis. In 2016, Mexico ranked sixth among the countries with the highest Water Footprint (678.8 billion cubic meters (MM³/year) in the world, and in 2020 it ranked 24th internationally as one of the countries with the highest level of water stress. This is due to the impacts of climate change, high levels of water pollution, low volume of wastewater treatment, levels of investment in water infrastructure, and weakening and budgetary constraints on key water institutions. Mexico is located at water stress levels similar to Spain and Greece, and more unfavorable levels compared to countries such as the United States, Canada, Brazil, or Germany (Fundación Aqua, n.d. and WRI, 2019) (Table 27).

The pandemic has highlighted the importance of water for life and health by increasing its demand. However, the conditions of access to water and sanitation in the country are inadequate and increase contagion

TABLE 27. WATER CONDITIONS AND POPULATION

2016, 2019, 2020

COUNTRY	CONSUMPTION (M ³ /YEAR) (2016)	WATER STRESS (2020)	POPULATION (MILLIONS)
NEW ZEALAND	2,162,300	0.05	4.79
UNITED STATES	1,582,500	1.85	329.09
CANADA	1,338,100	0.88	37.28
GREECE	1,016,900	3.8	11.12
SPAIN	883,200	3.74	46.44
AUSTRALIA	696,900	2.67	25.09
MEXICO	678,800	3.86	132.32
BRAZIL	415,300	0.78	212.39
GERMANY	311,900	2.14	82.44

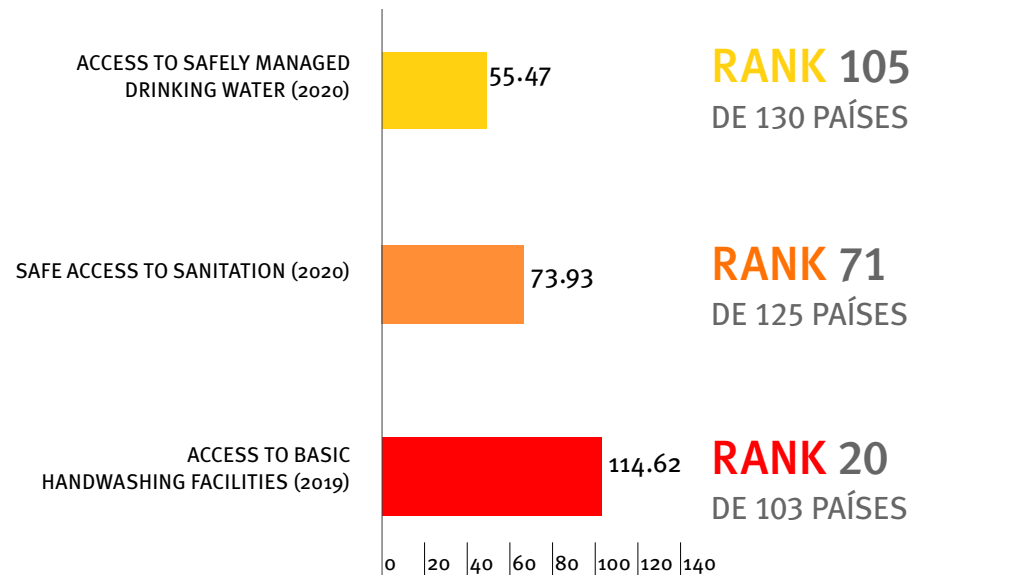
Source: In-house elaboration with information from the Aqua Foundation (n.d.) and WRI (2019).

risks. As of 2019, only 114.6 million people (89.84% of the population) have access to basic handwashing facilities. By 2020, only 43% (55.5 million) have access to safe drinking water, and 57.3% (75.9 million) have access to safe sanitation (Our World in Data, 2020). In such a way that, together with the rapid population growth and the pandemic continuation,

the pressure on the water will increase, increasing the levels of water stress in the country in the coming years (Our World in Data, 2020) (Graph 20).

Globally, more than 3 billion people and two in five health facilities lack adequate access to hand hygiene installations (UNESCO, 2021a). Water is increasingly

GRAPH 20. CONDITIONS OF ACCESS TO WATER AND SANITATION IN MEXICO
MILLIONS OF PEOPLE 2019 AND 2020



Source: In-house elaboration with data from Our World in Data (2020).

scarce due to climate change, water pollution, and population growth, and according to estimates by the United Nations (UN), it will reach 10 billion people in 2050 (Iberdrola, n.d.2).

The pressure on water increases, and the need for greater access and supply to quality water becomes indispensable for the well-being and health of Mexicans. Despite this, no national strategy involves com-

prehensive water management and administration within the COVID-19 policy to date, which has contributed to excess mortality and infections in Mexico.

Throughout the pandemic, we have seen a change in consumption habits. Pharmacies and grocery stores had an upturn in the reception of visitors, which has constantly been increasing, reaching more than 20% above the pre-pandemic months (Estrada and Aran-

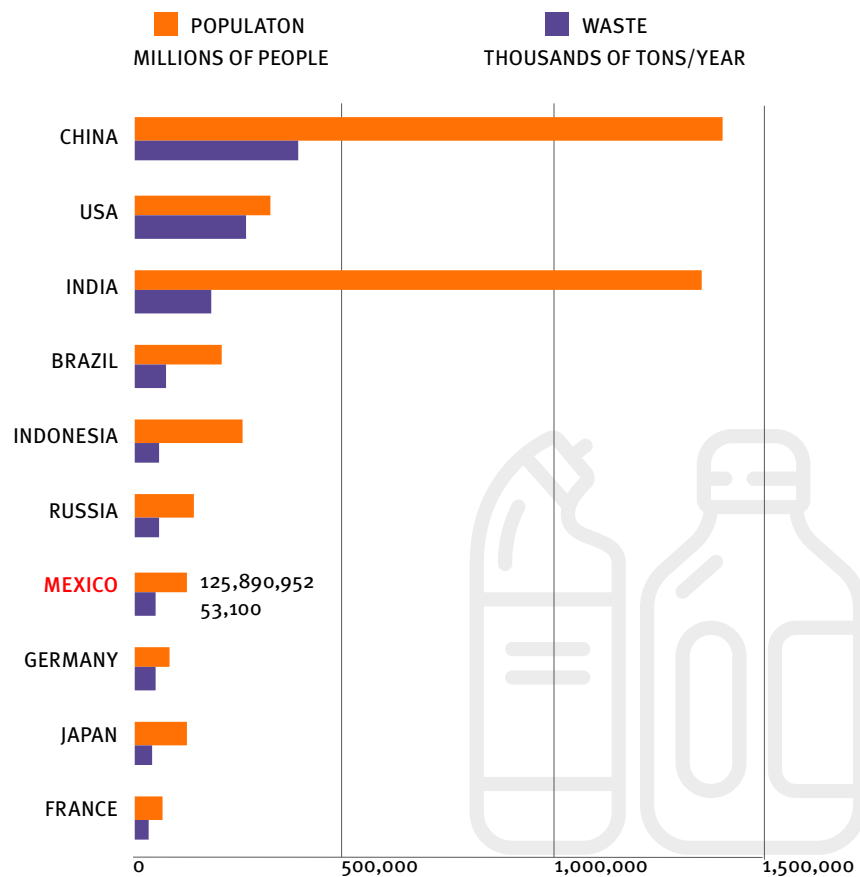
go, 2021). In pharmacies, the upturn corresponds mainly to health tools to prevent the contagion and spread of COVID-19, and the increase in grocery stores is primarily due to the consumption of products such as sugary drinks, snacks, fast food, and ready-made products (León and Arguello, n.d.), generating a tide of plastic caused by COVID-19 that is also a danger to the economy and nature (United Nations, 2020).

“Inadequate waste management is causing pollution of the world’s oceans, clogging drains and causing flooding, transmitting disease, increasing respiratory conditions from burning, damaging animals that consume waste, and affecting economic development,” said Sameh Wahba³³ (World Bank, 2018b).

Solid waste management is a problem of concern in the country. In 2019, Mexico ranked seventh internationally with 53.1 million tons of waste per year, as number two in Latin America and as one of the largest generators of solid waste, surpassing countries such as Germany (50.6), Japan (42.7), and France (36.7 million tons/year) (World Bank, 2021b) (Graph 21).

GRAPH 21. INORGANIC WASTE IN THE WORLD

2019



Source: In-house elaboration with information from the World Bank (2021b).

³³ Director of Urban and Territorial Development, Disaster Risk Management and Resilience at the World Bank.

With the pandemic, contamination by inorganic waste increases and puts human and environmental health at risk. The excess amount of additional medical waste resulting from the response to the COVID-19 pandemic has exerted enormous pressure on global healthcare waste management systems (PAHO, 2022c). Despite this, this problem is not included in the strategies against the pandemic. Mexico is following a different course from the international recommendations and measures taken by other countries, which will result in high social costs.

MEXICO FOLLOWS A DIFFERENT PATH AWAY FROM INTERNATIONAL RECOMMENDATIONS AND THE MEASURES THAT OTHER COUNTRIES TAKE, WHICH WILL TRANSLATE INTO HIGH SOCIAL COSTS.



Image: “Dangerous waste increased 16.5% with Covid, says a study”/Jornada.com. mx at <https://tinyurl.com/mryee9zt>

WHAT ARE THE EXAMPLES TO FOLLOW? HOW FAR ARE WE FROM THEM?



Environmental pollution is one of the main global problems affecting human health (Government of the State of Mexico, n.d.). The problem of environmental pollution is so worrying that the mere fact of breathing is seriously compromising our health (G, 2018). High levels of air pollution affect the most vulnerable groups, the elderly and people suffering from chronic respiratory or cardiovascular diseases (Ecology and Development Foundation, ECODES for its acronym in Spanish n.d.), these being also the most affected by COVID-19, collapsing the public health system, decreasing care for people in need and increasing the number of deaths from COVID-19.

Quality water and air are indispensable factors in decreasing COVID-19 morbidity. With the arrival of the pandemic, hygiene, dependent on access to quality water, went from being an urgent need to a matter of life and death (Olmedo and González, 2021). A 2020 European Society of Cardiology study estimates that about 15% of deaths worldwide from COVID-19 could be attributed to long-term exposure to air pollution, a proportion that could be avoided if the population was exposed to lower counterfactual levels of emis-

sions from fossil fuels and anthropogenic factors (ESC, 2020).

The COVID-19 pandemic has plunged the global economy into a crisis, and green fiscal policies (GFPs) can play a key role in shaping recovery. The green budget can streamline inefficient spending and align spending with sustainability. PFVs can be part of a sustainable solution (UNEP, n.d.) if established in the international recommendation framework in developing countries with limited fiscal space

Green federal spending is critical to addressing the environmental, social, and economic crises generated by COVID-19 and presents a sustainable recovery opportunity. In terms of environmentally sustainable spending after the pandemic, Latin America is lagging behind the rest of the world. Only six of the region's 33 countries devoted more than 0.1% of their GDP to post-COVID-19 recovery plans, including Chile (14.9%), Saint Kitts and Nevis (13.3%), Saint Lucia (11.3%), Bolivia (10.5%), and Brazil (9.26%) (UNEP, 2021a), the latter being clear examples of responsible political structures with society and sustainability.

The environmentally sustainable lagging expenditure of Latin America and the Caribbean (UNEP, 2021a) led to only 1% of total expenditure and 8% of long-term reactivation expenditure being environmentally sustainable up to December 2021, compared to 31.2% globally (UNEP, 2021b).

While countries like Panama allocated 43.3% of total post-pandemic Reactivation Expenditure (GTR for its acronym in Spanish) in Green Reactivation Expenditure (GRV for its acronym in Spanish), the Dominican Republic 31.6% or Brazil 33.3%, Mexico allocated only 7.4% in GRV. More than 70% of the GTR was destined for non-environmentally sustainable reactivation, part of it was considered neutral and another environmentally negative, derived from the uncertainty generated in the long term by the renovation of six refineries to increase energy efficiency and the continuous investments in port infrastructure that reinforces an unsustainable status quo (UNEP, 2021b).

Mexico has a vast and somewhat distant green reactivation percentage gap of sustainability. When compared to Latin American countries like Panama, the difference in GRV percentage points allocated is 35.9 (UNEP, 2021). These issues show the low government capabilities and poor governance to address the cur-

rent and future challenges that the exacerbated effects of the pandemic are generating on environmental deterioration, human health, and social welfare, and are reflected in the current numbers of infections (5,506,105) and deaths (318,086³⁴) (Covid-19 Tracker, 2022).

³⁴ Data updated as of 02/28/2022. <https://tinyurl.com/y7crvfbt>



THE SOCIAL IMPACT OF THE DISMANTLING AND INSTITUTIONAL DESTRUCTION is reflected in the loss of educational equity, increase of school drop-out, loss of learning, poverty deepening, defenselessness of childhood, and abandonment of indigenous communities and migrants. The tendency is the worsening of these indicators towards the end of this federal administration.

6

MEXICO IN THE FACE OF THE CHALLENGE OF GLOBAL ECONOMIC RECOVERY



Image: <https://tinyurl.com/3jzvjav>



THE FALL OF INVESTMENT HAS CHARACTERIZED the current administration, leaving a breach of -23.7% in its long term trajectory. Private consumption has stopped its weak growth and manufacturing exports are in danger because of the bottle-necks in the international economy. An energy crisis is latent and food crisis is stalking.

«

VOID NATIONAL GROWTH AND IMPOVERISHMENT OF THE POPULATION

Global economic activity contracted significantly in 2020. The paralysis of the factors of production has been characteristic of the health crisis, mainly capital and labor, which has led to its underutilization. Assets could not be reallocated for the purpose of producing something else. The best response in this time of pandemic has been the deployment of scien-

tific progress, which has made it possible to develop vaccines like never before in the history of humanity.

However, the Mexican economy was already in crisis before the arrival of COVID-19. Mexico's Gross Domestic Product (GDP) stagnated (-0.1%) in 2019. In previous years, the economy had poor growth, bare-

ly 2.5% on average between 1994 and 2018 (INEGI, 2021i), and carried certain vices. Many of these have been exacerbated, putting the country's economic future at risk. The structural factors that afflict Mexicans have also been persistent: little competition in strategic markets, lack of investment (public and private), and corruption at all levels of government. These are getting worse. So far as the current federal administration is concerned, cumulative economic growth is 4% lower than at the beginning of the same (2018). After 12 quarters of government, it is the administration with the greatest lag in GDP compared to the beginning of its management. The only precedent of negative growth in the middle of the government had been -0.1% during the government of Felipe Calderón Hinojosa (INEGI, n.d.).

The Mexican economy fell 8.3% in 2020 (the biggest meltdown in modern history) and partially rebounded the following year, growing 5% during 2021 (INEGI, 2021i). Therefore, growth has been insufficient as the current level is similar to 2016. Unlike Mexico, the fall in global GDP in 2020 was -3.4%, the constriction in Latin America and the Caribbean (LAC for its acronym in Spanish) was -6.7%, in the North American region (NA) -3.8% and among the member countries of the Organization for Economic Cooperation and

Development (OECD) the variation reached -4.6% (World Bank, 2020a). As a result, Mexico has gone from being the 15th economy globally to the 16th, surpassed by Indonesia (OECD, 2021c).

Growth in the midst of the health crisis has been uneven across regions and countries; macroeconomic aggregates on the demand sideshow considerable differences. Similarly, supply factors have substantially affected the behavior of various economies: shortages of supplies, bottlenecks across multiple value chains, and the most recent energy crisis. In addition, multiple risks can derail the international economy during 2022, including the war in Ukraine.

At least seven internal factors will directly affect the Mexican economy in the immediate future: 1) energy counter-reform (whether carried out or not), 2) increase in the cost of debt due to an increase in interest rates, 3) lower investment (especially private), 4) low productivity, 5) increase in the financial cost of the federal government's social policy, 6) decrease in competition in strategic markets such as gasoline, and mainly diesel, and 7) high inflation in food. Added to these are the external risks to which the national economy will be subjected: a shortage of semi-conductors, high uncertainty in the energy market

(mainly methane and propane), increased fertilizer prices, volatility in the financial markets, and a slow-down in the US economy. In addition, the economic sanctions imposed on Russia by the current conflict with Ukraine could boost the rise in food and energy prices and intermediate products. Added to all this is the ongoing health crisis, whose social, economic, and public health repercussions have not even been estimated by the federal government.

Per capita income contracted globally during 2020 (−4.4%) (World Bank, 2020a). In Mexico, the variation was −9.3%, and none of the most recent crises since 1970 has had such a severe impact on people's incomes. In the North American region, growth was −4%; in Latin America and the Caribbean (LAC), there was a per capita growth of −7.5%, and OECD member countries showed a variation of −5.1% in their per capita income. Unlike other large economies, China maintained its positive growth rate (2.1 %), the lowest rate since 1990 (2.4 %). Although it should be noted that this country had been slowing its per capita growth since 2010 (10.1%), one year before the health crisis, GDP per capita grew 5.6%. Mexico was already growing −1.3% per capita in 2019, while all the regions mentioned above showed positive growth in the same year, except for LAC (−0.1%) (World Bank, 2020a).



Image: "Prices of lime, avocado and chile rise" /Excelsior at <https://tinyurl.com/2p84a25u>

Only assuming that the Mexican economy maintains the growth trend observed during 2021 and considering its long-term trajectory, the level of GDP per capita observed in December 2018 could be obtained again towards the end of 2023. However, the low investment makes it possible to predict how difficult it will be for GDP to maintain its growth trend. Indeed,

somewhat, the economy is slowing down. The rise in interest rates represented by a tightening of monetary policy has come at a time when the economy is still -4.9% below its potential. The same Bank of Mexico (2021e) estimated in the third quarter of 2021 that the output gap would still be negative until the last quarter of 2023 (-0.1%). That is, the economy is below its typical trajectory.

The reduction in economic activity is reflected in consumption, which still remains -1.4% below the first month of government (December 2018) (INEGI, 2021d). In the same period, the first three years of government, only in the administration of Felipe Calderón Hinojosa of the last five governments, similar negative behavior was observed (-1.7%), which coincided with the great financial crisis of 2008–2009. However, in the three remaining administrations, the growth was positive: the growth of 10.4% in the administrations of Ernesto Zedillo Ponce de León (EZPL for its acronym in Spanish) and Enrique Peña Nieto (EPN for its acronym in Spanish) stands out concerning their first month of government, December 1994 and December 2012, respectively (INEGI, 2021d).

The recent health crisis meant that private consumption by families and businesses was concentrated on domestic and imported goods (55.2% of total consumption as of the third quarter of 2021) due to the severe contraction in demand for services. As of November 2021, the slow positive trajectory is mainly explained by the growth in the consumption of imported goods (10.9% above February 2020), while goods of national origin are at the same level as that month, and services move away -8.1% (INEGI, 2021d).

It is estimated that the gap between consumption observed in the third quarter of 2021 and its long-term trajectory is -7.9% for the case of Mexico (IMF, n.d.). Another economy in the same situation is the Brazilian one, with a gap of equal magnitude, although closer to its level prior to the health crisis (-2.1% compared to the last quarter of 2019) (IMF, n.d.). It is important to emphasize that many economies globally have made considerable progress. In Latin America, Colombia and Chile stand out, which have increased their private consumption between the last quarter of 2019 and the third quarter of 2021 by 22.7% and 7.5% , respectively (IMF, n.d.). Such a situation allows them to maintain the dynamism of their economies, at least in the short term.

**IT IS ESTIMATED THAT
THE GAP BETWEEN
CONSUMPTION
IN THE THIRD QUARTER
OF 2021 AND ITS LONG-
TERM TRAJECTORY IS
 -7.9% FOR THE CASE OF
MEXICO (IMF, S.F.)**

At the global level, due to its weight in global consumption, the backwardness of economies such as Japan, Germany, the United Kingdom, India, Italy, Canada, in addition to Brazil, and to a lesser extent, France is highly worrying. Eight of the world's ten largest economies not only do not return to their long-term trajectory but lag behind the pre-pandemic level. Meanwhile, the United States remains slightly above its long-term trajectory (1%) and is the engine of global consumption (IMF, n.d.).

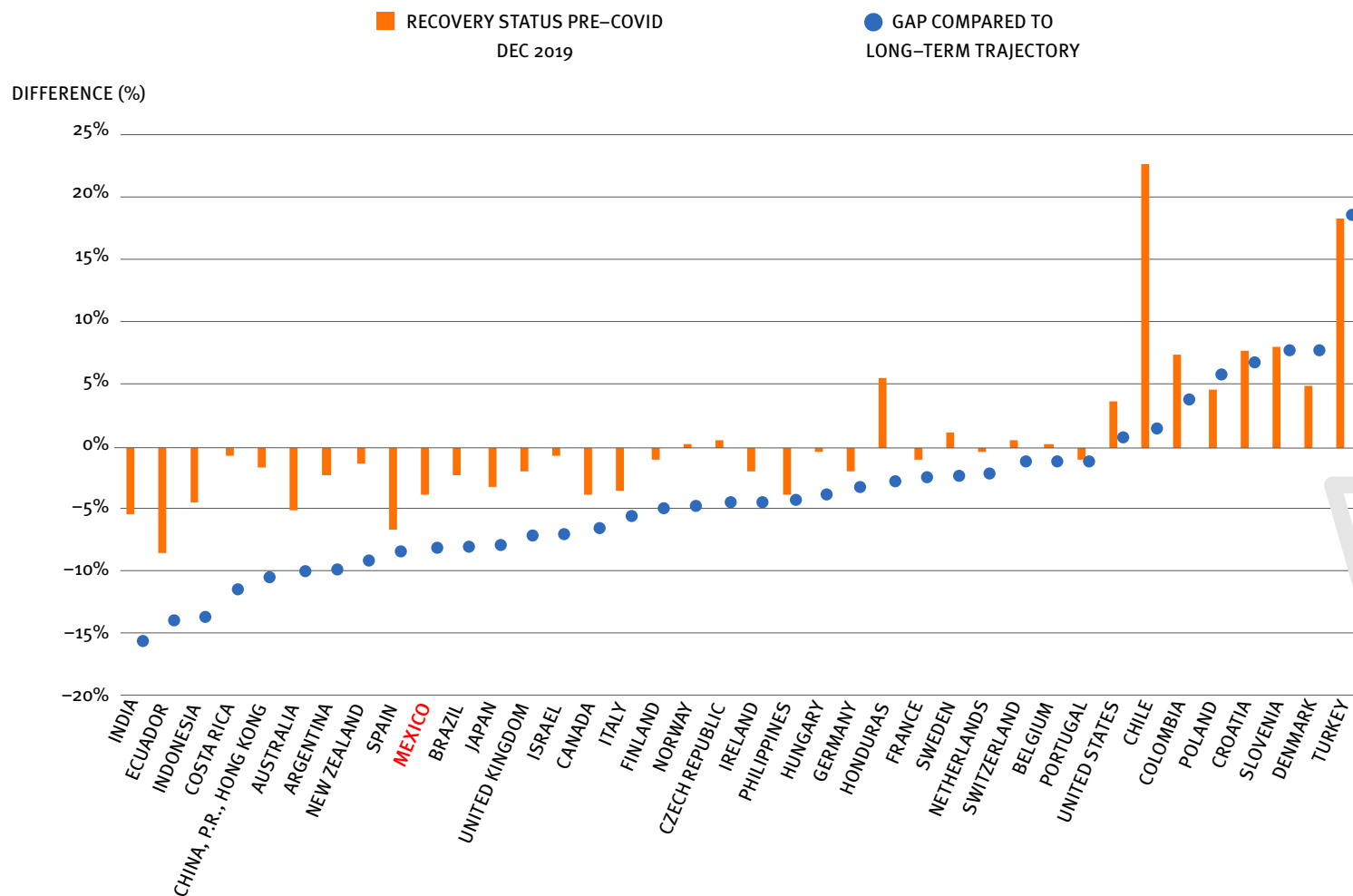
MANY ECONOMIES GLOBALLY HAVE MADE CONSIDERABLE PROGRESS.

IN LATIN AMERICA, COLOMBIA AND CHILE STAND OUT, WHICH HAVE INCREASED THEIR PRIVATE CONSUMPTION BETWEEN THE LAST QUARTER OF 2019 AND THE THIRD QUARTER OF 2021.



Image: “Private consumption recovered in November, 2020, reports Inegi” Elsolde-mexico.com.mx at <https://tinyurl.com/yhnwvm8u>

GRAPH 22. LONG-TERM GAP IN CONSUMPTION AND CHANGE COMPARED TO THE LAST QUARTER OF 2019
(%) SERIES ARE SEASONALLY ADJUSTED



Source: In-house elaboration with calculations of Signos Vitales and information from the IMF(2019).

FINANCE POLICY AND MACROECONOMIC BALANCE



The Mexican government's income from January to December 2021 was 5.96 trillion pesos (Tp) (bdp, for its abbreviation in Spanish), higher than the 5.34 Tp of the previous year. This variation (620.9 Bp) is mainly explained by the increase in oil revenues, which increased by 550.7 Bp (mmdp, for its abbreviation in Spanish) (80.6% in real terms) (SHCP, 2022b). The price rise of an oil barrel was essential to keep incomes above what was observed in the health crisis.

In turn, the year-on-year increase in non-oil revenues was only 70.3 Bp; the actual variation was -4% (SHCP, 2022b). If oil prices during 2021 had remained depressed, government revenue growth would have been negative during the year; within non-oil (tax) revenue, Value Added Tax (VAT) shows the largest of the increases (136.2 Bp) (actual variation of 7.7%) (SHCP, 2022b). The latter can be explained by the economic reactivation and better performance of private consumption than investment or government spending. However, the slowdown in private consumption is a wake-up call due to the weakness of economic growth and public finances as they depend on non-

recurring revenues. Between September 2021 and December of the same year, oil revenues increased from 18% to 36.3% of revenue (SHCP, 2022b).

Public spending increased in the last year by 6.4% (743.8 Bp). However, physical investment barely grew 0.2% in real terms (38.6 Bp), and federal government subsidies have continued to rise, while pensions increase the spending pressure (increased from 3.4%, equivalent to 80.4 Bp), and constitute a warning of vital signs towards the end of the six years. Contrary to the increase in spending on Pemex and subsidies, almost all items showed falls in investment between 2020 and 2021, except for the energy sector focused on hydrocarbons (29.2% in real terms), and supply, drinking water, and sewerage (a real growth of 17.7%) (SHCP, 2022b).

As noted in other Signos Vitales reports (2022a), the contraction in public investment in social and economic sectors in the present administration is alarming. Meanwhile, hydrocarbons work has increased investment in the south of the country, but it is highly concentrated, in addition to the vast history

of human rights violations (Vital Signs, 2021b). Communications and transport, education, and health present three consecutive years with contractions in investment (except for 2020 in terms of health). In 2021, investment in education was 0.24% of the total, the worst recorded in the last five federal administrations had been that of the second year of the government of EPN (1.9%) (SHCP, 2022b). This is the first triennium of a government with the largest decline in public investment.

The Historic Balance of Public Sector Financial Requirements (SHRFSP for its acronym in Spanish) (total debt of the Federal State) was 10.6 Tp in 2018 and increased to 13.1 Tp in December 2021. Of the latter, 8.7 Tp corresponds to internal debt, and the remaining 4.4 Tp external debt. In these three years, the domestic debt has increased to a greater extent (2 Tp), while the foreign one explains 551.5 Bp (–5% at an annual rate) (SHCP, 2022b). The cumulative growth of SHRFSP in real terms over the last three years has been 9.2%. This balance represents 50.1% of GDP according to the Department of Finance and Public Credit (SHCP), a proportion that after 2020 (51.7%) means the second–highest since it is registered (SHCP, 2022d). Considering the debt of subnational governments, financing to the public sector (SHRFSP



Images: Deterioration of public transport and of public schools in Mexico/ eloccidental.com.mx; pasajero7.com; nvinoticias.com at <https://tinyurl.com/ycksa6k2>; <https://tinyurl.com/bdd3xabn>; <https://tinyurl.com/3p7mnyps>

**IN THESE THREE YEARS,
THE DOMESTIC DEBT HAS INCREASED TO A
GREATER EXTENT (2 TP), WHILE THE FOREIGN ONE
EXPLAINS 551.5 BP (–5% AT AN ANNUAL RATE)
(SHCP, 2022).**

plus debt of subnational governments) was already 13.2 Tp in the third quarter of 2021 (Banxico, 2022a).

Likewise, financing to the private sector (domestic and foreign) was 10.6 Tp as of September 2021; domestic financing to the private sector concentrates the majority of the portfolio (75.4%), while the foreign 24.6%; in turn, of the total domestic private financing, 52.7% is maintained by households and 47.3% by companies; households retain 70.7% of their debt in housing (2.98 Tp), and 29.3% in consumption, which had been contracted since the last quarter of 2019 (Banxico, 2021a).

Of the total government assets in circulation as of December 2021 (9 Tp)³⁵, 7.4 Tp are held by residents in the country, and 1.6 Tp are held by residents abroad; of those held by national residents, 88.7% are concentrated by commercial banking (1.6 Tp), the Specialized Retirement Fund Investment Companies (Siefors for their acronym in Spanish (2.3 Tp), and the private sector (2.7 Tp) (Banxico, n.d.). Meanwhile, non-residents accumulate 86.8% of their investments in bonds, 6.5% in Certificates of the Treasury of the Federation (cetes for its acronym in

³⁵ It includes the issuance of debt securities for monetary regulation purposes (1Tp), and states and municipalities (69.3 Bp).

Spanish), and the remaining 6.5% in Federal Government Development Bonds D (Bondes for its acronym in Spanish) D, Bondes F and Udibonos (debt securities issued by the Federal Government). In the last two years, foreigners have reduced their holdings in Mexico by 664.6 Bp, out of a total of 2.3 Tp in January 2020. 649.1 Bp corresponds to the maturity of bonds, but despite this, government securities in circulation have increased 1.25 Tp in the same period. This increase is explained by the purchase of 1.93 Tp of government securities from country residents. Such purchases come to a greater extent from the private sector (851.5 Bp), commercial banking (494.9 Bp), and siefores (460.6 Bp) (Banxico, n.d.).

The maturity profile of the debt is concentrated in the long term. 6.1 Tp of the debt is long-term, and 1.9 Tp is short-term, and in recent months the holding of long-term securities has grown (Banxico, n.d.)³⁶. According to information from the Bank of Mexico, the average maturity of government securities is 2,641 days as of December 2021 (7 years with approximately three months), only 49 days higher than the

³⁶ The remaining term differs from the term at the time of placement. It refers to the remaining period of time for maturity, which is considered short-term when it is less than or equal to 364 days and long-term when it is more than 364 days.

average observed in September of the same year, but with a clear downward trend since February 2020 (2,891 days) (Banxico, n.d.).

Trade with the United States has been the most relevant factor for economic stability in Mexico. Manufacturers and the growing demand for food products have played a vital role. Likewise, the technological war with China, initiated since the administration of Donald Trump, has given rise to Mexico to capitalize on a large part of this trade. However, these opportunities capitalization has not been the effect of some type of industrial policy by the federal government, but due to the Mexican economy manufacturing vocation, the amiables offered by the USMCA, and the closeness to the North American market.

Industrial production in Mexico had a “V”-shaped behavior until November 2020, but as of that date, growth has stopped and remains 2% below the February 2020 level (Banxico, 2021c). This recovery is explained by the increase in manufacturing activity by 1% compared to February 2020, while the rest of the components remain stagnant (construction, mining, and electricity). Bottlenecks in supply chains push down the growth trajectory of manufacturers. If this problem is solved, we estimate that industrial activi-

**TRADE WITH THE UNITED STATES
HAS BEEN THE MOST RELEVANT FACTOR FOR
ECONOMIC STABILITY IN MEXICO.**

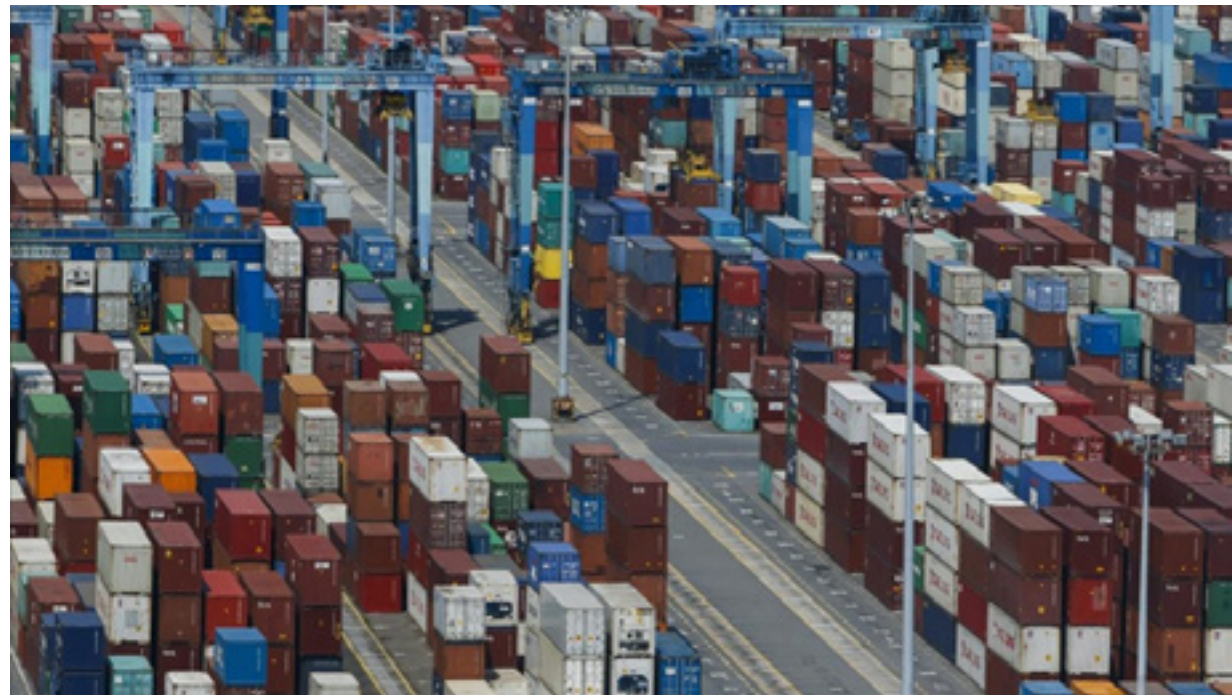


Image: “Mexico: Foreign trade with the United States reached record numbers during the pandemic”. File image: Adli Ghazali – Agencia Anadolu/aa.com.tr at <https://tinyurl.com/4ybf3prk>

ty would improve substantially since the automotive production subsector remains –15.7% below February 2020 (Banxico, 2021d). If the production of transport equipment returns to the level of February 2020, we estimate that manufacturing activity would increase by 5.9% and not 1%, as is currently the case³⁷. In this sense, there is ample room for improvement if supply stabilizes. Unfortunately, according to the projections of Pat Gelsinger (CEO of Intel), the supply shortage will remain at least until 2023 (Intel, 2022).

In addition to the shortage of semiconductors, the zero-COVID policy implemented in China increases uncertainty and volatility in international markets; despite the poor outlook, high oil prices will stimulate the Mexican economy during the first quarter of the year, and there are at least three reasons why the price can remain stable:

1. Deceleration of production in OPEC member countries.
2. There is an increase in demand for hydrocarbons in Europe, accompanied by a greater acceptance of natural gas in the European Union.
3. Tensions in Eastern Europe and Asia.

³⁷ Estimate made by Signos Vitales with Banxico data (2021c).

However, the crisis in Ukraine imposes a new factor of instability and uncertainty.



Image: “Industrial production in Mexico falls to lowest level in almost a year.” Photo: a shoe factory of sport shoes in the State of Mexico.”/Elpais.com at <https://tinyurl.com/2n84ckw8>

CAUSES AND EFFECTS OF INFLATION ON THE WORLD ECONOMY

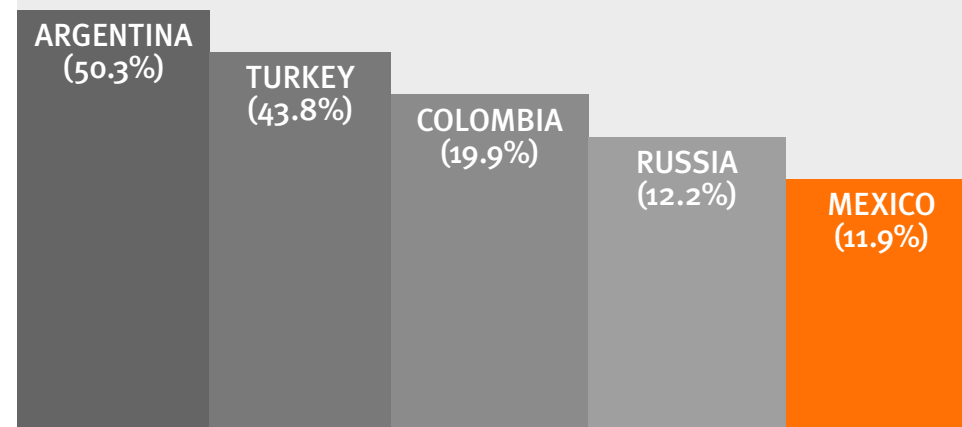


The latest annual inflation (consumer price index) in the United States is 7.5% (January 2022), the highest figure since February 1982 (Bureau of Labor Statistics, 2022). As of January 2022, annual inflation in Mexico is at 7.1%, similar to the level observed in April 2001 (INEGI, 2022e). In the international comparison, inflation in the economies of the North American region has not been as adversely affected as others. Such are the cases of Argentina (59.9%), Turkey (48.7%), Brazil (10.1%), Poland (8.6%), and Russia (8.4%). Inflation has gotten out of control in some countries (OECD, 2021e).

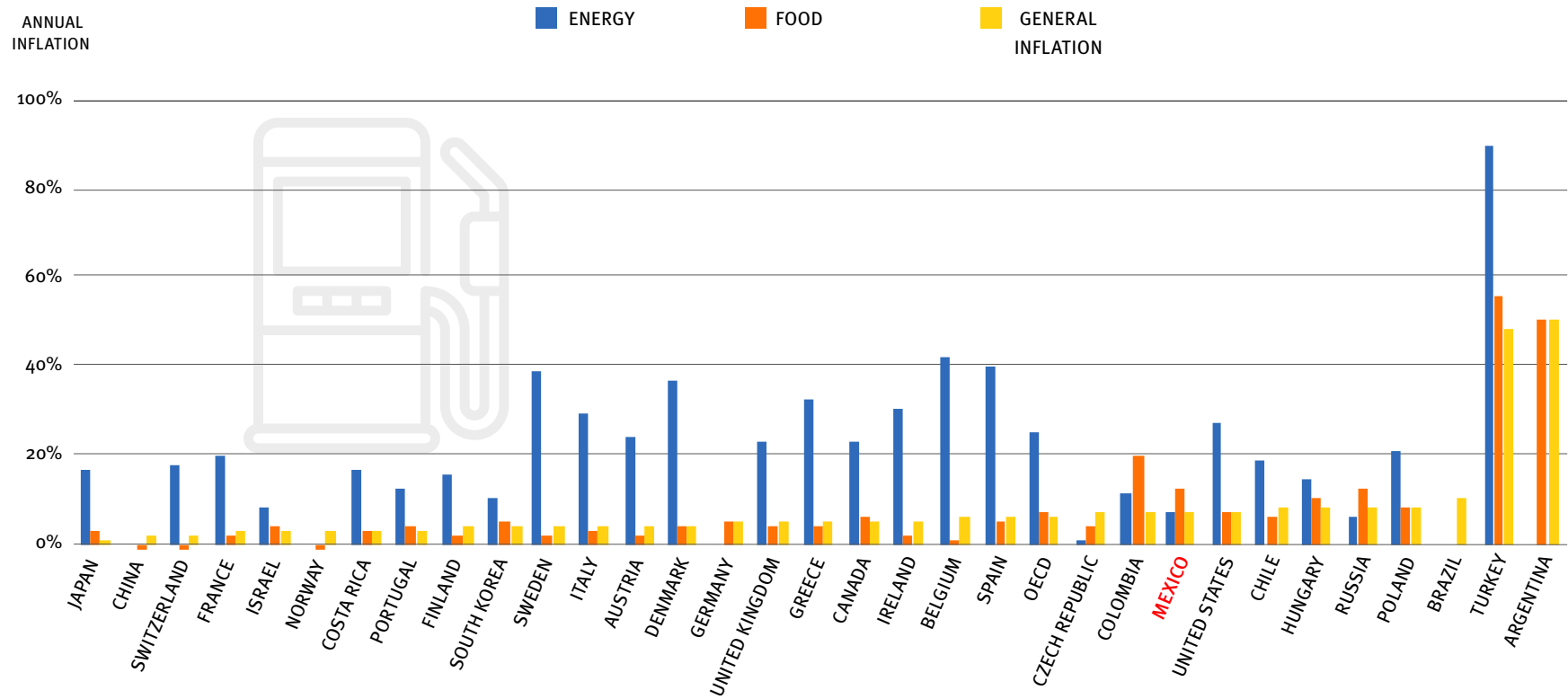
Energy and food prices are putting upward pressure on inflation. In Mexico, energy prices have grown 6.8% in January 2022, while countries such as Norway, Belgium, the Netherlands, Turkey, and Spain have the highest rates: 73%, 60.9%, 53.7%, 48.8%, and 40.2%, respectively. And despite the rise, Mexico is the fourth country with the smallest increase in energy prices globally (OECD, 2021e).

Meanwhile, food prices show a higher growth rate in Mexico (11.9%), which evidently has a robust poverty-generating component in lower-income families. Mexico is, to date, the fifth country in the world with the most significant increase in food prices, only after Argentina (50.3%), Turkey (43.8%), Colombia (19.9%), and Russia (12.2%) (OECD, 2021e).

COUNTRIES WITH THE HIGHEST INCREASE OF FOOD PRICES IN THE WORLD



GRAPH 23. INFLATION, ENERGY AND FOOD



Source: In-house elaboration with information from OECD (2021e).

ENERGY AND FOOD, THE EXPLOSIVE PAIR



Growth in energy and food prices is the most evident, which are associated. The use and destination of energy have changed in recent years given the technological advances; the petrochemical industry has taken greater relevance, and the Asian countries lead the market, where methane and propane (components of natural gas) are determinants for the production of industrial plastics and fertilizers, mainly nitrogen, which explains much of the phenomenon. Carbon dioxide also plays an essential role due to its widespread use in the food and beverage industry. Consequently, the scarcity of natural gas, especially in Europe, and the increase in its price of 312.8% between February 2020 and September 2021, has had severe effects at the international level, causing price distortions in various value chains (World Bank, 2021a).

Likewise, fertilizer shortages will cause serious problems for economies dependent on the agricultural sector, as is the case in India. Meanwhile, the measures taken by this economy in subsidies terms to this sector will impact fertilizer prices internationally,

given the size of its economy. As of September 2021, fertilizer prices internationally have increased 82.3% (World Bank, 2021a) compared to February 2020.

At the moment, from January to October 2021, the cumulative volume of imports of nitrogen chemical fertilizers to Mexico remained at 1.36 million tons (Mt) (World Bank, 2021a), 17.2% below the same period of 2020, and comparable with the volume of imports of 2014 (1.29 Mt). Likewise, the price per ton has increased 95.1% between October 2020 and October 2021 (Banxico, n.d.). The situation becomes a little more complex when 32.9% of these imports come from Russia (Government of Mexico, 2021b). The blow to the Mexican agricultural sector during at least 2022 will be severe if corrective measures are not taken in time.

Climatic events such as the “La Niña” phenomenon add more significant uncertainty in South America, as they affect the production of agricultural products. Soybean production is expected to decrease globally by 8.7 million metric tons compared to what was expected in January 2021 (-2.3%) (Ates and Bukows-

ki, 2022a; 2022b), which will lead to problems in the value chain of the industry, mainly in meat products. The instability in food prices will continue during 2022; as long as natural gas production does not accelerate its production, the substitute goods do not decrease its cost (coal). Climate change affects much of the world, especially agricultural producers; Nord Stream 2 certification is paralyzed, pressure on cereal prices continues to increase due to the conflict between Russia and Ukraine, and demand maintains its growth rate.

Images: Gas production, cereals and natural soy in the world. At <https://tinyurl.com/yc75k3zk>; <https://tinyurl.com/43epxa9w>; <https://tinyurl.com/2p8rvj72>



COUNTER-CURRENT MONETARY POLICY



Inflation levels have generated upward expectations in the US interest rate, which will lead to increases in rates around the world, and Mexico has been no exception. This will affect aggregate demand through private consumption and investment, debt (public and private), and exchange rates. Experts in the financial sector expect at least five hikes during 2022 from the FED the Central Bank of the United States (in the most conservative scenario), but they could be as many as seven, according to Goldman Sachs, starting with a 0.5% hike in March (Curran, 2022). Market expectations of two-year monetary policy rates have increased considerably in Latin America and the emerging economies of Europe, the Middle East, and Africa (EMEA) (IMF, 2022). And as Jonathan Heath, deputy governor of the Bank of Mexico, has recently stated, it would be expected that monetary policy in Mexico will act in the same sense as that of the United States (Haldevang and Averbuch, 2022).

The increase in the cost of financing will set many countries back in their expansion plans. Those countries with high levels of indebtedness, minimal sour-

ces of finance, and low growth are the most vulnerable to turbulence. Government spending household and corporate consumption will be under pressure; if the rise in oil prices continues to burgeon during the first half of the year, Mexico could cope with imbalances in the trade balance and have an essential source of financing.

The Department of Finance and Public Credit (SHCP) estimates that the variation in oil revenues will be 115.6 Bp in 2022 (2022a). In addition to Mexico, other Latin American countries may benefit from the widespread rise in the price of energy, agricultural products, and metals (as long as it persists), which can take them afloat in the first months of the year and as long as demand stabilizes; the governments themselves do not generate these conditions.

This situation will lead the federal government in Mexico to debate the advisability of sending oil abroad or increasing shipment to Mexican refineries (not including Deer Park), resulting in an absurdity. But if the Mexican government decides to continue

with the slowdown in oil exports, it will hinder and put at risk the country's financial stability in exchange for fulfilling its campaign promises, which are frankly improbable in the long term. The federal government may be the worst enemy of successful monetary policy, threatening major capital flows from abroad.

IF THE MEXICAN GOVERNMENT DECIDES TO CONTINUE WITH THE SLOWDOWN IN OIL EXPORTS, IT WILL HINDER AND PUT AT RISK THE COUNTRY'S FINANCIAL STABILITY.



Image: Tula, Hidalgo Refinery/Eleconomistaamerica.pe at <https://tinyurl.com/mrx92au7>

GROWTH AND THE ROLE OF INVESTMENT: ENERGY UNCERTAINTY



The so-called energy counter-reform is being discussed, and the 2022 electoral process – with six governorates at stake – and the mandate revocation consultation coincide with this discussion, so it is seen more like the opening of the campaign by the party of the federal executive, who as expected, has championed the discussion from beginning to end. The federal executive's proposal is far from a structured and financially viable approach. At least four aspects limit the proposal:

The inability of the Federal Electricity Commission (CFE for its acronym in Spanish) to be the sole provider of the Electricity System. This implies that it needs at least other actors, such as Independent Energy Producers, to supply the demand, and the contraction in the supply of cheaper and cleaner energy will put upward pressure on electricity prices, which it will have to transfer to users or taxpayers.

The resources of the CFE are very limited. The company's spending pressures are increasing, adding to the increase in the cost of inputs.

The investment plan of the CFE focuses on the expansion of capacity through combined cycle plants. That is, the increase in capacity through clean energies is not foreseen. However, the CFE director himself has made public the intention to increase capacity through hydroelectric plants, which is also unfounded because this generation is based on seasonal factors, such as rainfall.

The production of fuel oil will increase if the hydrocarbon policy given by the federal executive is implemented.

Despite the recommendations of specialists in the field, the government has continued along the same line of discourse. The result on infrastructure has been visible in recent months. Part of the construction industry's downturn is due to low demand in the energy sector. Even if the counter-reform is not implemented, the damage is done.

Between December 2018 and October 2021, the value of production in the construction of infrastructure for the generation and distribution of electricity col-

lapsed and decreased by –77.8%, since it went from having a value of 2,565.2 million pesos (MP) to 569.8 MP in October 2021 (–1,995.4 MP) (INEGI, 2022b); 2021 has been the worst year registered³⁸. Although it can be argued that the deficient performance in the sector is a product of the health crisis, already for the 13th month of the current federal government (February 2020), the value of electricity production was well below the output of December 2018³⁹. It turned out to be the worst performance in the last three federal administrations for the same period of government. The construction sector has been one of the most affected since the beginning of the recent federal administration. However, the worst part has been those works related to electricity.

Likewise, the flow of Foreign Direct Investment (FDI) in electricity⁴⁰ has had two years of losses, –76.9% in 2019 and –41.5% in 2020. Considering all sectors of the economy, the contraction in FDI was 1% in 2019 and –19.4% during 2020. The accumulated FDI during

2021 in the electricity industry is 739.3 million dollars (MM) –0.8% below the accumulated amount during 2020 (Government of Mexico, n.d.1). There is no clear evidence that the situation is improving. On the other hand, it is also not necessary for the electricity counter-reform to be approved in Congress to block the entry of capital from abroad, since the administrative measures imposed by the federal executive and the institutional block promoted by the Energy Regulatory Commission (CRE) have been sufficient to prevent its growth, as has been observed since 2019. In this sense, the restrictions on electricity generation permits have been an actual containment dam for installing new plants. While it is true that confidence in the sector is a factor that has influenced investment in the electricity factor, it is not the only reason that explains the fall.

CONSTRUCTION OF INFRASTRUCTURE FOR THE GENERATION AND DISTRIBUTION OF ELECTRICITY BETWEEN DECEMBER 2018 AND OCTOBER 2021 COLLAPSED AND DECREASED IN –77.8%, FROM 2,565.2 MILLION PESOS TO 569.8 MILLION PESOS (INEGI, 2022).

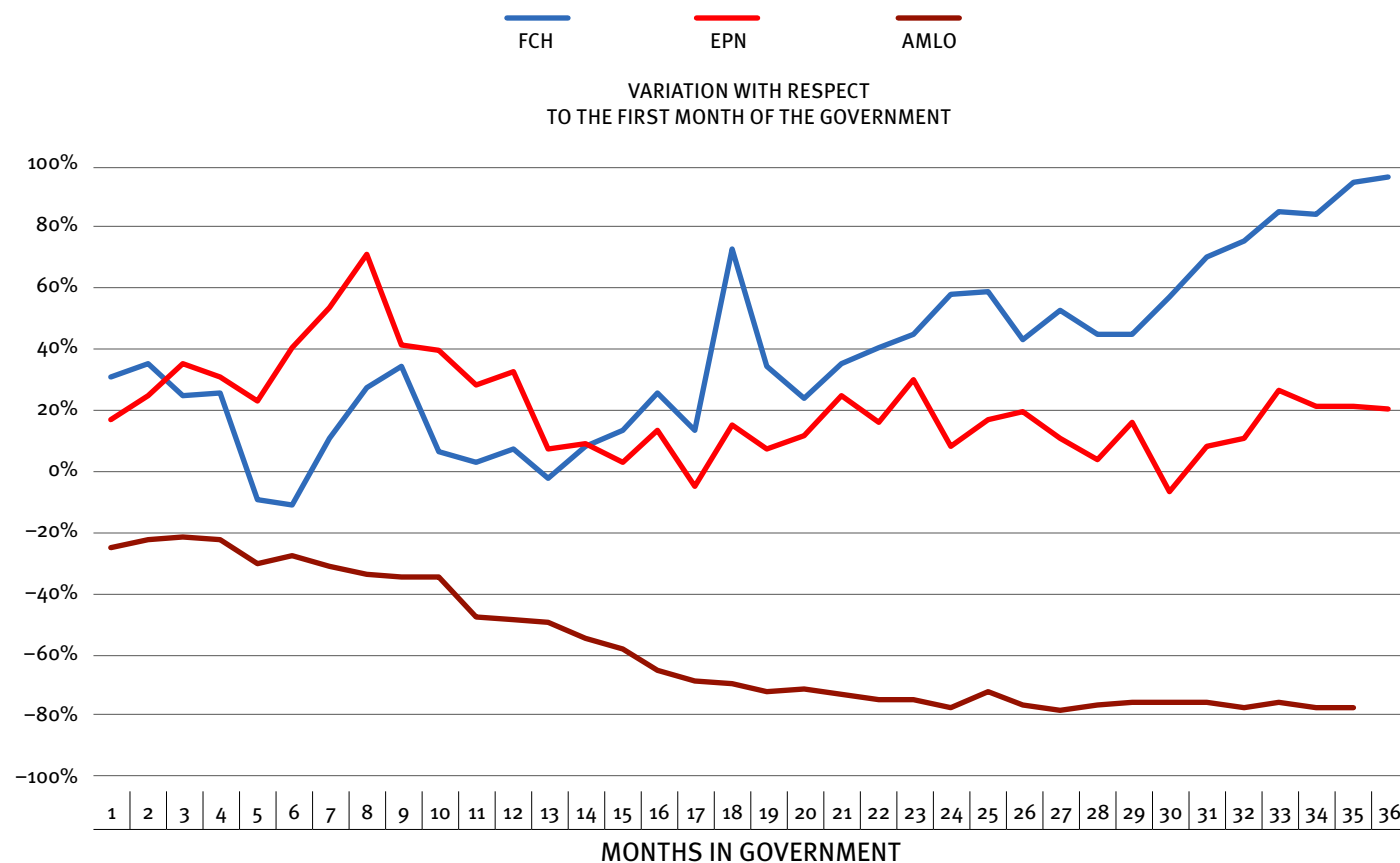
³⁸ Conclusion reached with the information from (INEGI, 2022b)

³⁹ Conclusion reached with the information from (INEGI, 2022b)

⁴⁰ The economic branches considered were: generation, transmission and distribution of electrical energy, construction of works for the supply of water, oil, gas, electrical energy and telecommunications, and manufacture of electrical energy generation and distribution equipment.

GRAPH 24. CHANGE IN THE VALUE OF PRODUCTION IN THE INFRASTRUCTURE FOR THE GENERATION AND DISTRIBUTION OF ELECTRICITY CONCERNING GOVERNMENT'S FIRST MONTHS

SERIES ARE SEASONALLY ADJUSTED 2013=100



Source: In-house elaboration with information from National Survey of Construction Companies (National Survey of Construction Companies, ENEC for its acronym in Spanish) (INEGI, 2022b)

Note: *FCH: Felipe Calderón Hinojosa; EPN: Enrique Peña Nieto; AMLO: Andrés Manuel López Obrador.

IN A STATE OF DESTRUCTION, WITHOUT CONSTRUCTION



The withdrawal of public capital (government) worldwide has been constant. The “let one do” has been confused with “stop doing at all.” In Latin America, the GDP share of investment or gross fixed capital formation (GFCF) increased from 20.2% to 18% between 2010 and 2019. Mexico has not been an exception, going from 21.6% to 19.7% in the same years (ECLAC, 2021a). The average growth rate of the Gross fixed capital formation (FBCF for its acronym in Spanish) in Mexico for the period 2010–2019 is 1.4%, while in Latin America, it was close to 2% (Economic Commission for Latin America and the Caribbean Statistics, CEPALSTAT for its acronym in Spanish 2020).

The current federal administration in Mexico has continued the negative investment trend. Since the beginning of the present federal administration to date, the FBCF has contracted –9.9%; the public one has done it in –6.7% and the private one in –10.2%. For the same period of government (11 first quarters of the administration), it is the highest contraction recorded in the last five federal administrations (INEGI, 2021g); even though the financial crisis of 2008–2009

mainly affected capital, the public GFCF increased by 20.7% between the last quarter of 2006 and the third quarter of 2009, which made it possible to soften the fall in private capital. As for the first half of Ernesto Zedillo Ponce de León’s (EZPL) six-year term, the private FBCF eased the fall and played a decisive role in the economic recovery, which took him 13 quarters to return to a level equal to the one before the crisis (December 1994). Meanwhile, for the same period of government, during the administration of Enrique Peña Nieto (EPN), there was an increase in capital (8.6%), motivated by the growth of private capital (12.8%) (INEGI, 2021g).

In sum, the increases in public capital only motivate the growth of the GFCF when its contribution is considerable, and it is more sensitive to changes in private sector capital given its significant share. For the recent administration to compensate for the loss of private capital, it would have to increase its investment by 317.7 Bp and recover the loss of public capital of 33.7 Bp between the last quarter of 2018 the third quarter of 2021. This would imply that the

public GFCF should be 823.3 Bp instead of 471.9 Bp (74.5% higher) in the third quarter of 2021, a level that has not been seen since the third quarter of 2009 (INEGI, 2021g).

Public GFCF peaked in the first quarter of 2009 in absolute terms (916.9 Bp) and as a percentage of GDP (30.4%). In the third quarter of 2021, public investment fell to 471.9 Bp, a variation of -48.5% (INEGI, 2021g). In other words, the investment of 1 in every 2 pesos has stopped compared to the first quarter of 2009.

This withdrawal of the State from the economy has been accompanied by greater participation of private capital, which partially dampened Mexico's decapitalization process. Between the second quarter of 2020 and the third quarter of 2021, the average quarterly growth rate of private FBCF has been 6.9%, although it is slowing rapidly. However, even though public investment growth is three times lower, public FBCF is above the level observed before confinement and is close to the level of the first quarter of 2019 (477.7 Bp). This situation speaks to the lack of growth that had preceded the health crisis and the harsh shock that private capital received (INEGI, 2021g).

THIS WITHDRAWAL OF THE STATE FROM THE ECONOMY HAS BEEN ACCOMPANIED BY GREATER PARTICIPATION OF PRIVATE CAPITAL, WHICH PARTIALLY DAMPENED MEXICO'S DECAPITALIZATION PROCESS.



Image: "SCT states that these structures are not from the train NAIM-AICM, but from the area that injected water for maintenance"/Sinembargo.mx at <https://tinyurl.com/bdd-h6dzv>

INVESTMENT RAISING VS. REMITTANCE RAISING



FDI flows had been falling since 2017 in the world, collapsing between 2019 and 2020 (–35.8%) (–553,833.3 MM), something like half of Mexico's GDP; among OECD member countries, the fall was –51%, which represented 72.5% of the loss in the accumulated flow internationally (–401,470.1 MM); Mexico lost –19.3% (–6,633.7 MM) in the same period (OECD, 2021b). The recent crisis has punished FDI flows more than the great financial crisis (2008–2009) (–20.7%) (OECD, 2021b); in the OECD, the contraction was –18.4%, and the loss in Mexico was –39.5%. Mexico turned out to be one of the least affected economies globally, in the region, and among emerging economies. Although the impact was minor, the behavior of the same until the third quarter of 2021 does not show entirely positive signs⁴¹ when compared to other countries, Mexico did not capitalize on this opportunity; in the second quarter of 2021, a small set of countries even exceeded the numbers of the first half of 2019, and its trajectory shows an upward trend.

⁴¹ FDI flow outperformed the world average in Q1 2020

Unlike the behavior of FDI, family remittances have increased considerably and have become one of the main sources of foreign exchange for many countries – including Mexico. Its performance has been more stable than other revenues such as oil exports, tourism, or FDI. Until 2019, remittance flows in the world were 722.245 MM, and 77.4% were captured by low- and middle-income countries (LMICs). With the great confinement, remittances received by countries around the world decreased –2.3% (–16,728.1 MM), while GDPM only received –1.7% below 2019 (–9,593.4 MM) (Knomad, n.d.). Reality broke with all the predictions, which at the time were devastating. According to the latest projections, it is estimated that remittances will continue to grow with the momentum of previous years, which will reach 751.238 MM in 2021, while those that receive the GDPM will have increased their participation to 78.5% (Knomad, n.d.).

The behavior of remittances sent to Mexico was atypical during 2020, as they increased 9.9% (3,856.5 MM) (Knomad, n.d.). We observe at least seven rea-

sons for the increase in remittances during and after the crudest moments of the health crisis:

1. Increase in Mexicans of working age in the United States.
2. Increased access to financial markets.
3. Subsidies received in the United States due to the pandemic.
4. Progress in the employment of Mexicans.
5. Greater resilience of Mexican companies in the United States.
6. A higher unemployment rate in low-income American workers.
7. Closure of borders.

Remittances received by Mexico during 2021 exceeded between 60% and 65% FDI flows, 82.1% oil exports, and 165.9% tourism inflows (Banxico, n.d.) and have no historical precedent. The steady increase in remittances has compensated for the loss of other revenues such as FDI, tourism, and oil flows, but it has not been the only compensation mechanism.



Image: "Mexico returns to emigrate"/Elpais.com at <https://tinyurl.com/4e4ynxj4>

THE LEVER THAT MOVES THE WORLD



The decline in gross fixed capital formation (GFCF) was widespread. Between the first and second quarters of 2020, the contraction of GFCF within OECD member countries was -11.4% (OECD, 2021f). However, the annual contraction of -4.1% was less severe than that observed in the great financial crisis (-10.7%) (OECD, 2021f). After the great confinement, the economies show different trajectories. However, three types of behavior can be distinguished:

1. Economies that have returned to their long-term growth path.
2. Economies that improve their position concerning the moment before the pandemic (first quarter of 2020) but move away from their long-term trend.
3. Economies showing a severe deterioration and continue in the process of decapitalization two years after the health crisis began. Mexico is in this category.

In the third quarter of 2021, the GFCF within the OECD exceeded the level observed in the last quarter of 2018 by 1.8% . Meanwhile, in the same quarter of 2021, the GFCF of the Mexican economy was

-9.9% away. Mexico's status is highly delicate if we consider that among 46 countries, Mexico is in position 43, only above South Africa (-13.5%), Colombia (-15.3%), and Ireland (-52.9%). Mexico was also the second most affected economy in the world in terms of capital loss during 2020 (-17.8%), only above Ireland (-22.9%), and well above the OECD average (-4.1%) (OECD, 2021f). Not only has Mexico been worse off in terms of investment since the beginning of the current federal administration, but it is falling from its already poor long-term trajectory and away from other countries in the world with similar economic conditions.

In the case of Mexico, we estimate that the gap between the long-term trajectory of GFCF and the current level is -23.7% . That is, if it had continued with the growth momentum shown in the period from 1993 to the last quarter of 2018, the GFCF should approach 4.28 Tp. However, the observed value is 3.27 Tp as of the third quarter of 2021 (INEGI, 2021h); the discrepancy is 1 Tp. Unlike Mexico, other countries have managed to close this gap and even modify their trajectory in a more positive sense, which in

the end will lead to an improvement in their growth prospects in the medium and long term. The most emblematic case is that of the United States (1.3% above its long-term trend) (OECD, 2021f).

The process of decapitalization to which the Mexican economy has been subjected began before the health crisis. This process is mainly due to a strong slowdown in activity in the construction sector⁴² (–195.8 Bp between the third quarter of 2021 and the last quarter of 2018, equivalent to –9.6%), and to lower participation of the public sector in the GFCF (both in absolute terms and as a proportion of the total), which began from the second quarter of 2009 (INEGI, 2021g). As of the third quarter of 2021, public GFCF was equal to 471.9 Bp (14.4% of the total GFCF) and similar to the level of the third quarter of 2000 (472.5 Bp) (INEGI, 2021h). This represents a 21-year setback. Meanwhile, the machinery and equipment component that had kept the GFCF afloat in the country shows a decline of –127.9 Bp between the fourth quarter of 2018 and the third quarter of 2021 (–8.2%) (INEGI, 2021h).

According to the Origin–Destination tables of the GFCF, the capital loss is 93.6% by the deterioration in five subsectors: construction (–262.3 Bp), manufacture of transport equipment (–142.3 Bp), manufacture of machinery and equipment (–99.7 Bp), construction of civil engineering works (–83.5 Bp), and manufacture of computer, communication, measurement, and other electronic equipment, components and accessories (–20.3 Bp) (INEGI, 2020e).

THE PROCESS OF DECAPITALIZATION TO WHICH THE MEXICAN ECONOMY HAS BEEN SUBJECTED BEGAN BEFORE THE HEALTH CRISIS.

⁴² The figures are seasonally adjusted so they don't coincide with the variation of the original figures.

OVERVIEW OF THE LABOR MARKET AND ITS IMPLICATIONS



The production–factors underutilization has been characteristic of the great confinement, and its exacerbation has accompanied the work–loss. Hours worked around the world decreased as never before in the second quarter of 2020 (–18.7% compared to the last quarter of 2019), and in that same year, 8.9% of working hours were lost in the cumulative. America – with the greatest connotations in Central and⁴³ South America– and Southeast Asia were the most affected regions, –28.7% and –34.6%, respectively (Ilostat, 2022). Hours worked in the Mexican economy decreased –by 23.8% by June 2020. The loss was –30.5% in secondary activities and –21.7% in tertiary activities (INEGI, 2021e)⁴⁴

After the health debacle, employment trajectories in the world’s various regions have tended to slow down. By Q3 2021, only four regions are just above baseline (Q4 2019): high–income countries in Eastern Europe (1%), high–income countries in Central and Western Asia (0.8%), upper–middle–income

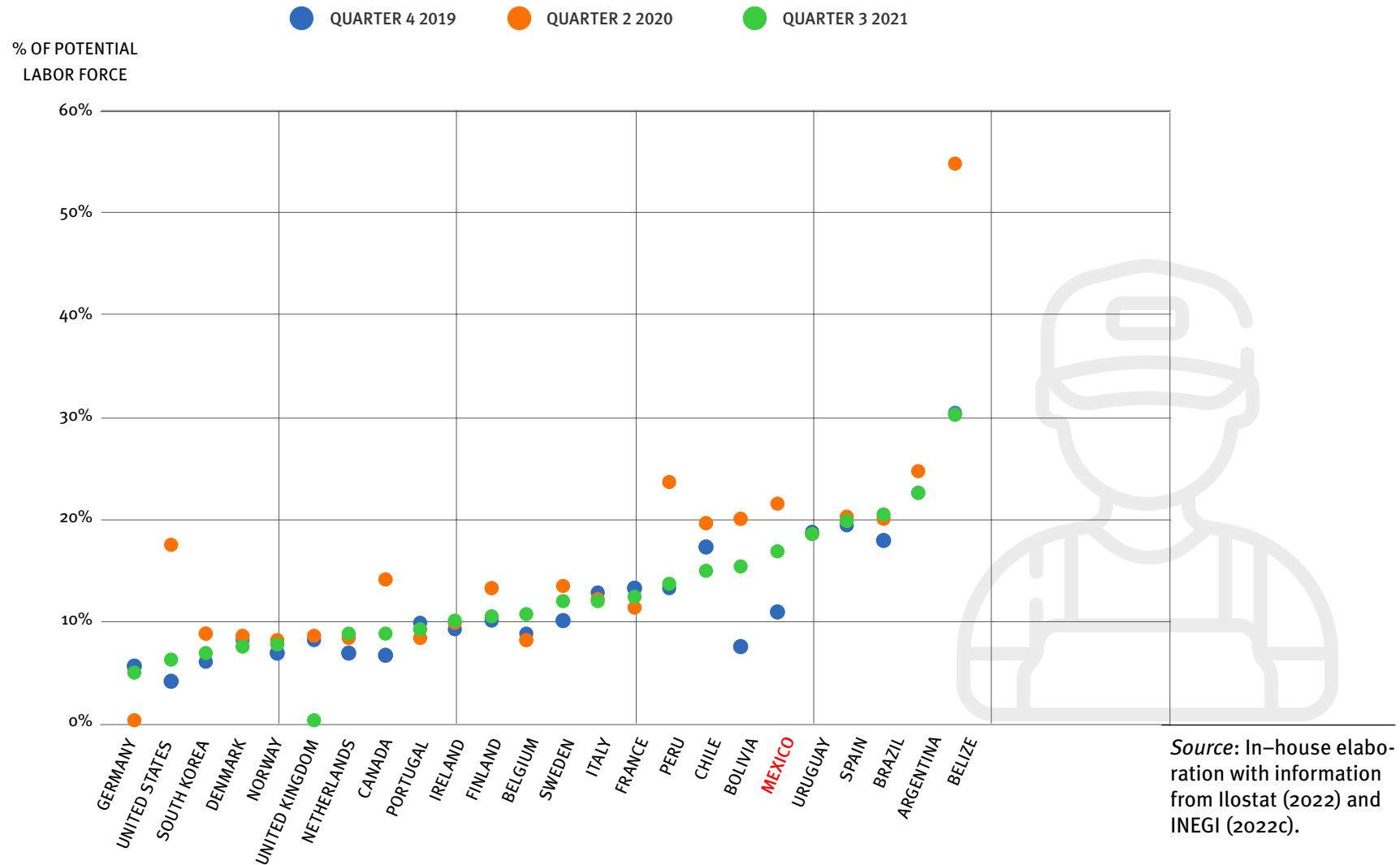
countries in Northern Europe, South and West (0.7%), and upper–middle–income countries in East Asia (0.1%) (Ilostat, 2022). Meanwhile, Mexico exceeded the level before the health crisis by 2.6% (INEGI, 2021e). This recovery is only comparable in 2021 with that of Norway (4.5%), Poland (2.4%), and New Zealand (1.4%) (Ilostat, 2022), the best positioned in the world.

Despite the recovery in working hours, the incorporation of people into the labor market is a serious problem for the Mexican economy and other economies in the world. Considering the combined underutilization and unemployment rate (LU2) (unemployment plus underemployment, compared to the workforce), Mexico ranks 12th in the world with the highest unemployment in the third quarter of 2021. In the second quarter of 2020, Mexico presented one of the seven highest rates. About a quarter of the economically active population faced labor price increments or unemployment, not counting those who could not go out in search of work (Ilostat 2022) and INEGI (2022c).

⁴³ In the second quarter of 2020, the loss in working hours was –35.5% in Central America and –35.2% in South America.

⁴⁴ The figures are seasonally adjusted.

GRAPH 25. UNEMPLOYMENT AND UNDEREMPLOYMENT IN THE WORLD



The health crisis significantly increased the proportion of people available (they could not go out in search of work), which went from 9.1% in March 2020 to 30.8% of the potential workforce in April of the same year. The underemployed population increased from 7.4% in March 2020 to 20.1% in May of the same year (Public Policy Research Center, IMCO for its acronym in Spanish 2021b). Employment shows different behaviors. Mexico is one of the countries that has recorded the most significant recovery in employment, since as of December 2021, the available population is 11.2%, and the underemployed fell to 8.6% (INEGI, 2022c). However, unemployment is nearing its long-term trajectory. The labor market condition in Mexico is similar to that of countries such as North Macedonia, Guyana, Greece, and Bolivia. However, other countries continue the growing trend of unemployment. The most notable cases are those of South Africa (38.4%), Colombia (21%), and Brazil (20.2%) (Ilostat, 2022). On the other hand, other emerging economies such as Brazil and Turkey are recovering slower.

A problem that has arisen in low- and lower-middle-income countries, Mexico counted among them, is that the recovery in working hours has been more accelerated than the increase in the level of produc-

tion, resulting in a decrease in labor productivity. By contrast, high-income countries increased their productivity after 2020 at a faster rate than in the last 15 years (Ilostat, 2022). In the case of Mexico, people are increasing the hours worked to produce a lower amount of goods and services than before the pandemic (production slows down). Consequently, productivity is in free fall (–7% in the third quarter of 2021 at an annual rate, and –2% compared to the previous quarter) (INEGI, 2021e), which will be harmful to the economy, the level of wages and especially to companies and workers.

The International Labor Organization (ILO) (2020) estimates that the loss in the wage bill due to confinement was –6.5%. However, this reduction has two aspects: –1% is explained by the dismissals, and –5.5% is attributable to the reduction of working hours. This may explain the apparent accelerated recovery in the wage bill in various world regions – mainly in Europe – and in working hours. This is because the market or governments focused on safeguarding jobs rather than hours worked. Preserving jobs has facilitated a rapid return to workplaces and allowed the wage bill to quickly return to the level observed prior to the outbreak of the health crisis. According to the same body, Europe is the most exemplary case;

thanks to its labor policy, the loss in the wage bill was lower than if it had not acted (ILO, 2020). In the case of Mexico, policies to compensate for wages or safeguard employment were almost non-existent; various business organizations in the country made proposals focused on this, but this did not bear fruit in public policies. In any case, the government continued with its policy of monetary transfers, which reached the companies and workers in dregs.

In terms of wages, the federal government has intervened in the market by increasing minimum wages (MW) in the recent administration. There is no evidence that these first increases have generated higher inflation. However, the Bank of Mexico (2020) has observed that the salary increase policy may have already generated inflationary pressures towards the end of 2019 (1.16%), especially in the Northern Border Free Zone (ZLFN for its acronym in Spanish), where the increase was even greater than in the rest of the country. However, this effect is largely offset by the decrease in Value Added Tax (VAT) from 16% to 8% and the reduction in Income Tax (ISR for its acronym in Spanish) in the same region. The Bank of Mexico estimates that the total effect on national-general inflation of the MW increase in the ZLFN and the rest of the country at the end of 2019 is 0.42%

(Bank of Mexico, 2020). This increase in wages does not coincide with the decrease in productivity of -6.2% (considering the hours worked) observed between the first quarter of 2019 and the third quarter of 2021 (INEGI, 2021e).

The labor market in Mexico has undergone several changes. Due to its relevance, we highlight two reforms: pensions and outsourcing. The first, while focusing on contributory pensions (social protection system), may affect labor market prices and make it more expensive for young people to enter formal employment. We have the first results from the second, which are not at all encouraging.

GDP decreased -0.4% (-77.7 Bp) in the third quarter of 2021 compared to the previous quarter. The main cause of poor economic performance was the behavior of business support and waste management services and remediation services that have contracted -50.8% (-386.2 Bp) in one quarter only (INEGI, 2021i). The economic activities that reported losses totaled -428.4 Bp. The loss in support services activity explains 90.2% of such loss (INEGI, 2021i). The results of the outsourcing reform have ended up being the opposite of the results expected by the federal government itself. As of March 2021,

the activity deterioration began again. Between this month and October 2021, the companies dedicated to outsourcing have lost 81.4% of their income, which has dragged the entire sector down (−53.9%) (INEGI, 2022a) since it explains 88.4% of all loss⁴⁵. It can be said that companies engaged in the subcontracting of personnel tend to become extinct.

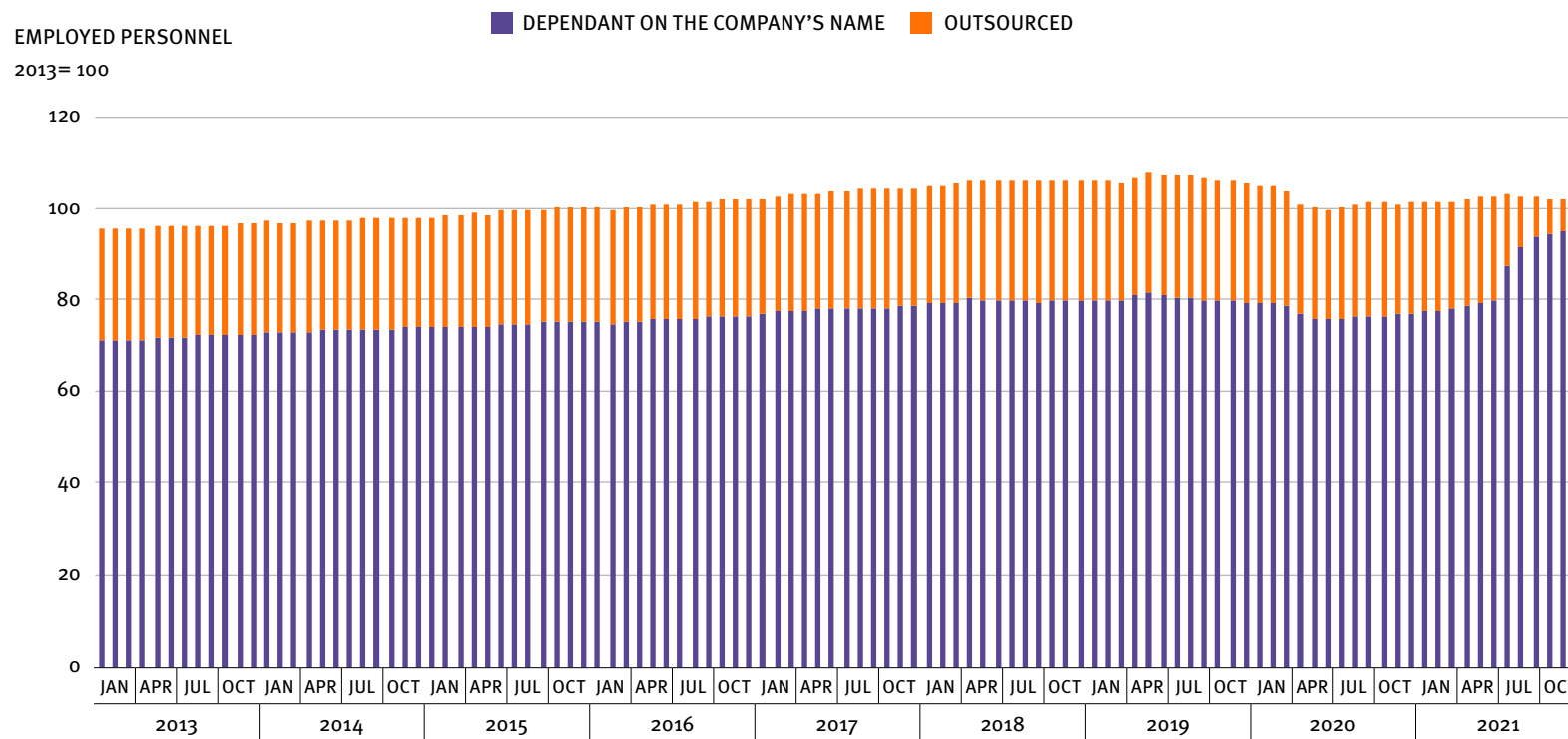
According to the Global Index of Employed Personnel by Economic Sectors (IGPOSE for its acronym in Spanish), the population employed in the non-agricultural sectors of the economy had shown a downward trend since May 2019 (when it reached the historical maximum). With the health crisis, this trend became stronger. And although the situation has improved, progress has been limited; between June 2020 (the worst moment) and October 2021, only 2.4% has recovered. This weak recovery has been due to the aggressive increase in employed people dependent on the business name (24.6% in the same period), reaching the highest level ever seen. Meanwhile, outsourced personnel show a considerable loss (−66.5%), two-thirds of the outsourced jobs have disappeared (INEGI, 2022d). In sum, the

⁴⁵ The econometric calculations carried out by Signos Vitales Mexico are carried out based on seasonally adjusted figures.



Image: “The enterprises that offer cleaning services have had assured income since 17 years ago from federal institutions money”. Photo: Cuartoscuro/Sinembargo.mx at <https://tinyurl.com/4z8cenr2>.

GRAPH 26. STAFF EMPLOYED BY TYPE OF RECRUITMENT
SEASONALLY ADJUSTED SERIES



Source: In-house elaboration with calculations of Signos Vitales and information from INEGI (2022d).

evidence suggests that what the market has gained by increasing the staff dependent on the company name is the result of the outsourced-people transit (between 94 and 95 out of 100). Thus, behavior in the formal sector tends to be limited, the disappear-

ance of outsourcing, of which only one third remains. Therefore, the slowdown in the creation of formal jobs is expected, most of which already existed, but informally.

ENERGY POLICY IN MEXICO AND THE WORLD



The world needs to reduce pollution levels rapidly, and climate change represents one of the greatest threats to humanity, but simultaneously, countries must avoid losing efficiency. So the energy transition process is one of the biggest challenges in the history of society, and a paradigm shift in the way we add value to the economy and such a transition has mainly drawn on natural gas. Before the health crisis –and even amid it–its properties and economic, energy, and environmental benefits, made this energy the main ally of various economies, within these the Mexican one.

However, despite the growing need for natural gas, Mexico is limited in production. As of October 2021, 68.9% of the natural gas extracted from the subsoil in our country is associated with petroleum. That is, it is obtained as a result of the extraction of oil, not from the search for said gas itself (not associated). In turn, of the total produced in Mexico (associated plus not associated with oil), Petróleos Mexicanos (Pemex for its acronym in Spanish) consumes 90.4% per month, so that after deducting the consumption of Pemex, domestic production only represents 3.6%

of the total Supply of natural gas in the country (National Hydrocarbons Commission, CNIH, for its acronym in Spanish, 2021). In other words, Pemex has monopsony in domestic natural gas production–consumption. In this sense, Pemex is a great extractor of public financial resources and energy. So, in order to supply domestic demand, private companies and Pemex import the remaining 96.3% (82.2% and 14.1%, respectively) (CNIH, 2021)⁴⁶. When it comes to energy dependence, the one on natural gas is more evident than other fossil fuels.

Despite the growing demand for natural gas, its production in Mexico from December 2018 to December 2021 has decreased –by 3.6%. Compared to other federal administrations in the middle of the six–year period, this has been the second–worst growth, only comparable with the variation of –4.4% in the administration of Enrique Peña Nieto (EPN). The four previous federal administrations (from Carlos Salinas to Felipe Calderón) showed positive variations. Highlights are the growth of 26.7% and 22.9% in the administra-

⁴⁶ The other 0.05% corresponds to ethane (CNIH, 2021).

tions of Ernesto Zedillo and Felipe Calderón, respectively (CNIH, 2021). The current level of extraction is similar to that of February 2005. Likewise, Mexico's drop in gas extraction is explained by the de-growth of -15.8%⁴⁷ in associated gas extraction, the most severe contraction in the last six federal administrations for the first half of the six-year term (CNIH, 2021).

Taking the Paris Agreement (December 2015) as a reference, the advance in global gas production is 13.7%. However, this progress has been of different magnitude, since while Asia and Oceania are proping up the world (growth of 24.4% compared to 2015), Mexico is going in the opposite direction. Compared to any of the world's regions, Mexico has the greatest setback in production. Europe is the only region of the world where dry natural gas production has decreased (-12%). And North America sees its growth dampened by the abrupt drop in Mexican production (-33%) (EIA, 2019). On the other hand, it is no coincidence that Europe is facing one of the biggest energy crises in its recent history since, before the health crisis, production in the region was already insufficient.

⁴⁷The original figures have been seasonally adjusted by econometric methods for the purposes of correct comparison. (CNIH, 2021).

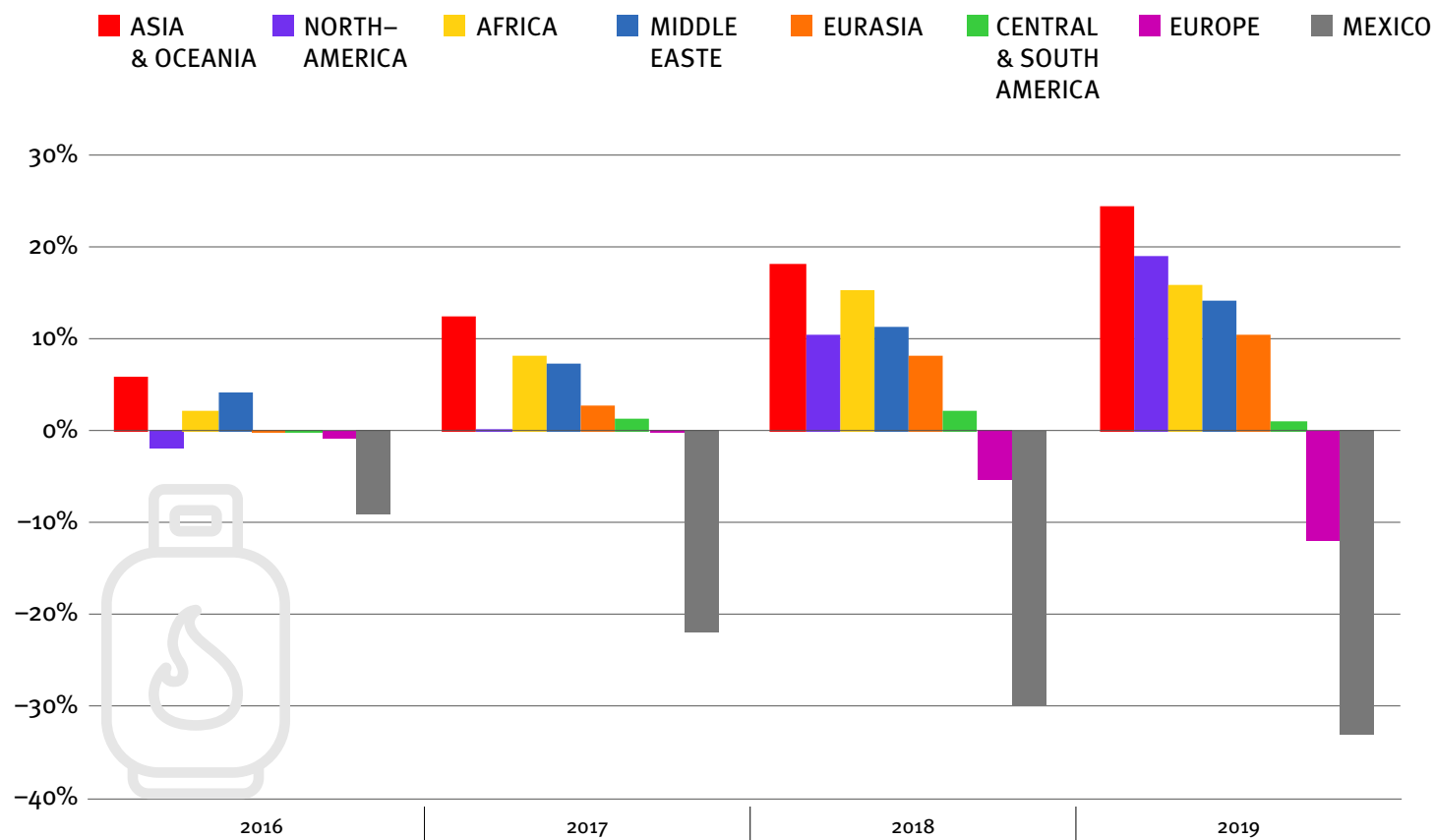
Mexico has been extremely fortunate since its leading supplier, the United States, is also the world's leading producer, which allows Mexico to access reasonably low and highly competitive prices internationally. With information from the U.S. Energy Information Administration (EIA), we know that the average export price by pipelines to Mexico in November 2021 is 5.46 dollars per thousand cubic feet (TCM), unlike the average export price on methane ships⁴⁸ to the rest of the world which is 10.24 dollars per TCM, that is, 46.7% cheaper (EIA, 2021c).

However, to capitalize on this opportunity and to be able to internalize natural gas to our country, it was necessary to develop infrastructure (gas pipelines) in the previous federal administrations. Until 2012, 11,347 km of transport pipelines were operating in the country (9,118 km driven by Pemex and 2,229 km operated by third parties); between 2012 and 2018, 4,639 km of gas pipelines were added to the national network (Ministry of Energy, Sener, for its acronym in Spanish, 2018), by 2019 1,224 km (Sener, 2019) of gas pipelines (South Texas – Tuxpan and La Laguna – Aguascalientes) were concluded, which began

⁴⁸Exports of natural gas are carried out, for the most part, through pipelines or methane ships. In the latter case the gas is transported as liquefied natural gas.

GRAPH 27. DRY NATURAL GAS PRODUCTION BY REGION IN THE WORLD AND MEXICO (2016–2019)

CHANGE CONCERNING 2015 (%)



Source: In-house elaboration with information from EIA (2019).

in the past administration. Currently, Mexico is the seventh country globally with the largest extension of gas pipelines in operation (Global Energy Monitor, n.d.), but this condition is not the result of investments or projects of the current administration. Despite the progress, there is much to be done, since if we consider the kilometers of gas pipelines concerning the territorial extension, Mexico will occupy the 46th position in the world, with 8.8 kilometers of gas pipelines per 1000 square kilometers (Global Energy Monitor, 2022), a quarter of the infrastructure in the United States.

The recent energy crisis is mainly due to the imbalance in the natural gas market. Natural gas inventories in Europe are at record lows, and their high household demand has generated pressure on other markets, such as North America. In addition, the conflict between Russia and Ukraine increases volatility in the international market, which coincides with winter. The natural gas crisis has also spread to other continents, mainly Asia. And in Mexico, at the beginning of 2021, we faced a supply shock due to the low and unusual temperatures in the southern United States.



Image: “The largest natural gas centre is in Europe”/es.metallirari.com at <https://tinyurl.com/2p8shwhp>

The natural gas produced in Mexico is mainly composed of methane (65.4% as of December 2021). However, it also contains other gas liquids, such as propane and butane (5.1% of the total at the same month) (CNIH, 2021), which are vital for an economy such as Mexico and many other emerging economies. The combination of propane and butane forms what we know as liquefied petroleum gas or LPG.⁴⁹ Mexico and Brazil are the two largest consumers in Latin America, and their use of LPG is essentially domestic; in Mexico, 73% of domestic demand is destined for households and trade, and in Brazil and the rest

⁴⁹ According to current legislation, LPG in Mexico must consist of a mixture of at least 60% propane, and a maximum of 40% butane.

of Latin America, the proportion is even higher, 90% and 80%, respectively (Calcano and Covas, 2021). On average, household use and trade is 50% in the world, and economies such as the United States and China barely allocate 29% and 49% to these sectors (Calcano and Covas, 2021), respectively.

Domestic production in Mexico only accounts for 55.6% (Sener, 2022) of household consumption (without considering the rest of the economic sectors). Given the low production, the imbalance in supply is compensated by imports. In Mexico, domestic production has decreased by -14.1% between December 2018 and September 2021, while imports have increased by 8.3%, which has resulted in import dependency rising from 66.7% to 71.6% of aggregate supply (imports plus domestic production). In turn, 4 out of 10 liters are private imports (Sener, 2022). At the international level, the annual output contraction was -0.9%, and in Mexico, it was -6.7% (Sener, 2022).

Unlike Mexico and the rest of Latin America, other countries have diversified the use of propane, especially the largest consumers such as the United States, China, Japan, South Korea, and Indonesia. The variation in demand, observed since US exports, has been explosive (1058% between 2010 and 2020).

Of this total growth, 55.8% (EIA, 2021b) is explained by the variation in demand from the aforementioned Asian countries. In contrast, global production of natural gas liquids has increased 47.7%, while in the United States, the increase has been 148.8% (Bo, 2021) in the same period (Bp, 2021).

Asian countries have allocated a large part of propane to the petrochemical industry (30% in China and 24% around the world) for the production of propylene, used in the manufacture of polypropylene, a polymer that is in turn used in the production of automotive interiors, packaging and personal protective equipment (EIA, 2021a). Mexico only allocates 10.7% of its gas to industry and 0.6% to the oil sector (Sener, 2022). This transformation process can be carried out in Propane Dehydrogenation (PDH) plants⁵⁰. On average, a PDH plant consumes about 0.8 million metric tons (Mmt) of propane per year. This is very close to the million metric tons that Peru, Argentina, Chile, or Venezuela consume during an average year (Calcano and Covas, 2021).

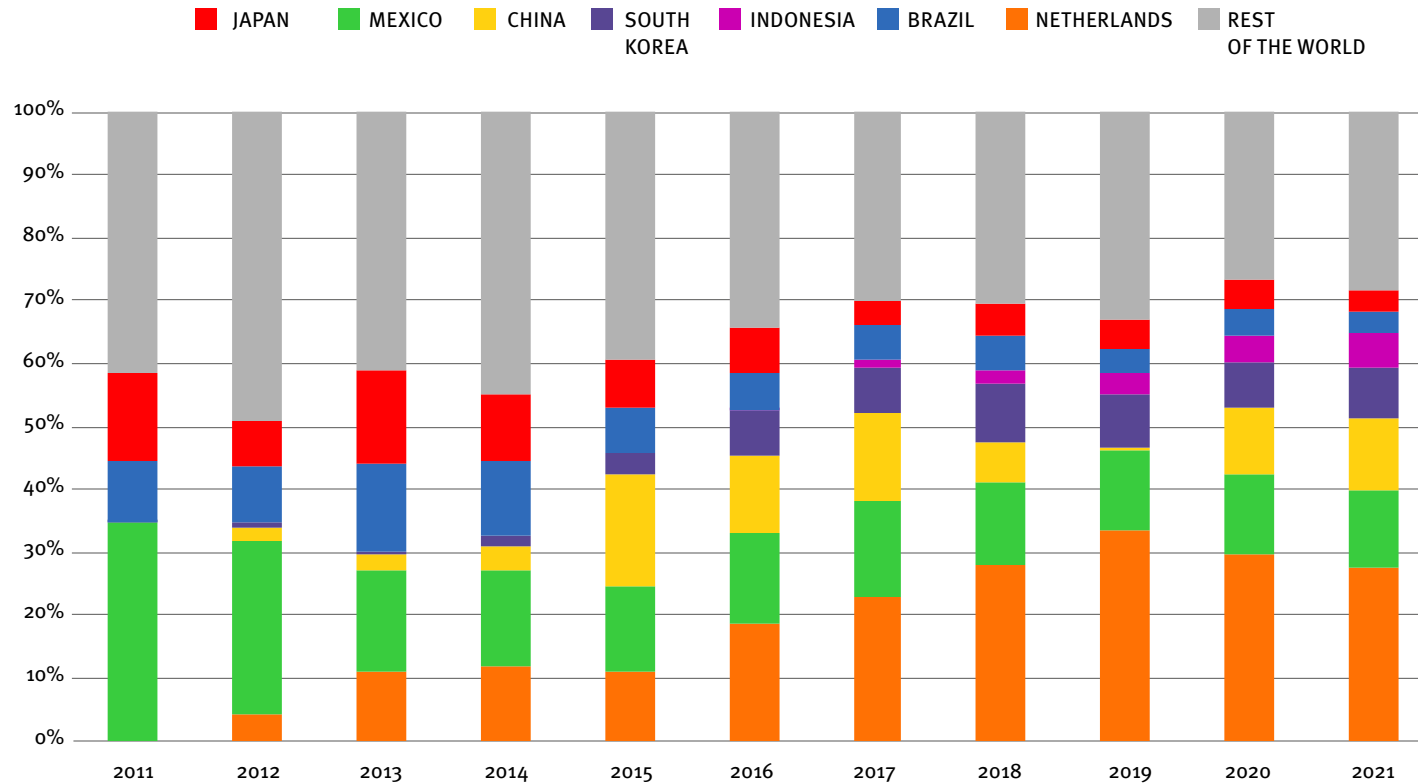
What is really worrying is that China's expansion plans in plastics processing will imply that the demand for

UNLIKE MEXICO, GLOBAL PRODUCTION OF NATURAL GAS LIQUIDS HAS INCREASED 47.7%, WHILE IN THE UNITED STATES, THE INCREASE HAS BEEN 148.8% (BO, 2021).

⁵⁰ The propane dehydrogenation process is used for the transformation of propane into propylene.

GRAPH 28. U.S. PROPANE EXPORTS

BY DESTINATION 2011–2021* (%)



Source: In-house elaboration with information from EIA (2021b). * The 2021 figures correspond to the cumulative from January to November 2021.

propane will increase by 9.6 Mmt in the short term, while the Asian country advances in the construction of 12 PDH plants. These are expected to be in place between 2021 and 2022, which will be added to the 18 units in operation. Likewise, another 12 units are in the planning stage, which can start operations between 2023 and 2024 (Thoelke, 2021), adding much greater pressure to the propane market. Having an idea of the implications this will have on international demand, it is enough to say that annual propane consumption in Mexico is close to 7 Mmt, and in Brazil to 4 Mmt (Thoelke, 2021). The addition of the 12 plants is equivalent to 90% of the annual consumption of Mexico and Brazil together.

Despite the signs of the market, the imminent technological changes that allow hydrocarbons to be re-directed to other sectors, and the accelerated change of strategy from large car assembly lines to the production of electric cars, the federal government in Mexico has opted to increase the refining capacity. Apparently, the objective is for Mexico to stop importing gasoline from the United States. However, based on estimates of Vital Signos Vitales, for this to happen, it is required that Deer Park (DP), Dos Bocas (DB for its acronym in Spanish), and the current National Refining System (SNR for its acronym

in Spanish) (composed of six refineries in the interior of the country), the process around 2 million barrels per day (Mbd). The last time the SNR processed 1.43 Mbd of crude oil was in December 1994, the highest figure recorded in the modern history of our country (Pemex, 2021a).

According to the latest projections of the National Hydrocarbons Commission (CNH) (2021), crude oil production will reach 2.27 Mbd in 2026 in a high output scenario. On the contrary, in a low output scenario, production can reach 1.87 Mbd, at which point it will peak and continue its downward trend. In other words, Mexico will present an oil deficit and will go from exporting oil to being a net importer of it in a period of three years, counted from the beginning of operations of the refinery in Dos Bocas. It should be clarified that, without this refinery operating at its maximum capacity, the federal executive cannot fulfill its role around the internal production of gasoline, mainly because the National Refining System (SNR) is designed to process 1.6 Mbd. In other words, the SNR does not currently have sufficient installed capacity. On the other hand, everything points to the fact that 22° API Mayan crude will be the most important in production, heavy crude for which the Deer Park (DP) and Dos Bocas (DB) refineries are designed.

Likewise, according to econometric estimates, it is possible to know that Mexico is much more likely to become a net exporter of diesel (exports greater than imports). Such a condition will imply that diesel imports carried out by private individuals continue to be the target of attacks by the federal government and tend towards extinction. In the remote case that 1.6 Mbd of crude oil is processed in the SNR (without considering DP and DB), the national production of diesel would cover about 96% of the total supply. Overproduction can also lead to greater controls on freight transport in the country at the end of the current administration, which is seen as an imminent risk to the economy if Pemex's proposal as the sole seller of the oil is radicalized.

On the other hand, although Pemex owns DP, sales in Mexico will be considered imports since it is located in another country. Likewise, the purchases of DP will not be reflected in the national accounts, which will serve as a passage to hide the oil deficit that we will face in the years to come. All this will happen in parallel to the flood of fuel oil, the result of the increase in refining in the SNR, which we calculate will increase 2.4 times compared to the month of July 2021, at its highest point, and subsequently will tend

**HIDROCARBON INVESTMENTS:
8.1 BILLION DOLLARS**

**CLEAN ENERGY INVESTMENTS:
930 MILLION DOLLARS**

**IN THE SAME TIME RANGE
(ENERGY POLICY TRACKER, 2022).**



Image: Dos Bocas Refinery /Columnadigital.com at <https://tinyurl.com/2p8nwfb4>

to decrease slowly when production in DP and DB reaches its highest point.

All the investments made in Pemex, DP, and DB position Mexico as one of the countries with the greatest resources allocated to energy projects globally (position 16) between January 2020 and February 16, 2022 (Energy Policy Tracker, 2022). But this is explained by investments in hydrocarbons (8.1 BN), while 930 MM have been allocated for cleaning energy in the same period (Energy Policy Tracker, 2022). If only the investment in fossil fuels is considered, Mexico stands out as the ninth country in the world with the greatest resources allocated to fossil fuel projects, below Norway (11.4 BN) and above France (7.6 BN), and the eighth as a proportion of its total investments (80.7%), below Russia, Saudi Arabia, Indonesia and Turkey (Energy Policy Tracker, 2022). On the other hand, the resources allocated around the world show that much remains to be done regarding clean energy investments. The current health crisis and the high price of hydrocarbons are a powerful combination that generates perverse incentives. The energy landscape in Mexico is grim, disheartening, and worrying.

Inadequate federal government strategies have led to increased losses in Pemex and the Federal Electricity Commission (CFE). In 2021 Pemex's net loss was 224.4 Bp (\$10.9 BN). The loss decreased 55.9% compared to 2020 when it reached 509 Bp. The loss reduction is due to two factors: the increase in the value of export sales (284.5 Bp) and a lower loss on changes (83.4 Bp) (Pemex, 2021b). The first case is in turn explained by the 82.3% increase in the price of the Mexican export mixture compared to 2020. However, despite the opportunity offered by the international market, Pemex intends to consolidate in the domestic market, increasing the volume of refining, where the variable refining margin is just 0.31 dollars per barrel (USD/b) in the fourth quarter of 2021, while in the same quarter of a year ago it was 3.42 USD/b (Pemex, 2021b). That is, it will be abandoning the most profitable area, exploration, and extraction of crude oil for the least profitable, refining.

The opportunity cost of Pemex is exceptionally high. The same company limits its revenues by reducing the volume of its exports by -9.1% (101 thousand barrels per day) compared to last year and widening the losses in its industrial transformation business in the previous year (-172.4 Bp). Likewise, the company has losses due to fuel theft, which increased

by 71.5% (3.1 Bp) in the last year (Pemex, 2021b), a problem that is not resolved despite the federal executive's remarks. In short, Pemex lets go of a great opportunity.

For its part, the CFE also presented losses in 2021 of 95.4 Bp, 9.4 Bp more than the previous year. The increase in the loss is mainly explained by the variation in the cost of energy⁵¹ by 145.3 Bp, while income from the electricity supply and fuel sales only increased by 55 Bp. That is, the increase of the expenses is 2.7 times greater (90.3 Bp) than the increase in income from energy supply and fuel sales. With the end of the 2021 financial year, the CFE adds two years reporting losses, without considering that in 2019 it had a net profit of 25.7 Bp, which would have been insufficient if the federal government had not transferred 75.2 Bp. That is, the result would have been negative; before starting the present federal administration, the last time the company in question reported losses was in 2015 (CFE, 2021).



ENERGY POLICY IN MEXICO

is increasingly more concentrated in the production of fossile fuels and its use in generating electric energy. If the present growth rythm continues, the production of fossile fuels will increase 2.4 times, and Pemex will provide up to 96% of diesel demand.

⁵¹ Considering energy and other fuels and energy and other fuels to third parties

7

PROGRESS AND SETBACKS IN THE FIELD OF ENVIRONMENT AND NATURAL RESOURCES



Image: <https://tinyurl.com/yc8rhf56>



THE ACTUAL ADMINISTRATION'S INDIFFERENCE towards the environment puts the country at risk. The austerity policy, the institutional dismantling and the unfulfillment of international treaties and commitments are increasing the problems of progressive environmental deterioration.

«

The reversal of environmental degradation has no place on the national political agenda. Actions are being carried out from the public sphere in the quest to ensure economic growth and social welfare. Those actions are contributing to an increasing process of environmental deterioration. The responsibility to ensure sustainability is unique. The State must provide public policies that promote the protection and preservation of the environment, repair environmental damage and mitigate the effects of climate change.

Mexico's capacity in environmental governance is entirely nil. From a national and international perspective, the transformation and transition to sustainability are deteriorating and increasingly far from being achieved. Despite the narrative of the current government on the need to promote "a policy of emergency, restoration, and conservation of the vital elements that we require as an environmental human right" (Semarnat, 2020), the destruction and institutional



dismantling, evidence, once again, the priority that this issue has on the government agenda.

Image: “Mexico is in place 3 of the most contaminated airs in the world ranking”. Photo: Cuartoscuro/Wradio.com.mx at <https://tinyurl.com/49fandc2>

After three years of government, environmental conditions highlight the null existence of an efficient ecological policy guideline that changes the national landscape and reality, so it begins to be questioned and mentioned that, “in the environmental field, the 4th quarter has already failed” (Arellano, 2021), and the environmental deterioration becomes woefully irreversible.

THE IMMINENT ENVIRONMENTAL DETERIORATION IN MEXICO



According to official information, the Mexican government is committed to promoting sustainable development, an indispensable well-being factor. (Semarnat, 2020). However, the national environmental policy results have no real significance, so the country's geopolitical vision is negative in terms of environment, sustainability, and climate change.

The imminent environmental deterioration is contributing to the loss of social welfare. The policies implemented have not shown effective results, which will bring high economic, political, social, and environmental costs, which will end up affecting the most vulnerable population. When at the international level, a significant number of countries are developing institutions, policies, and projects that promote sustainable development, in Mexico, “the use of natural resources is carried out in an unsustainable way, an act that promotes environmental degradation and excessive levels of pollution” (Aguilar *et al.*, n.d.).

Access to water is decreasing, and water stress at the national level is increasing. In 2019, Mexico ranked 24th internationally and second in Latin America as

one of the countries with the most significant water stress (WRI, 2019)⁵². In 2020, the country maintained its position in Latin America (Statista, 2020), reflecting the increase in the problem of availability, access, and supply of water for society in the country, a condition comparable to that of African and Arab countries.

The upward trend of this indicator generates projections of future complications that the territory will have if efficient environmental policies around this resource are not applied, as warned by international agencies. Despite the United Nations' approach that “contaminated water and lack of basic sanitation hinder the eradication of extreme poverty and that non-potable water and poor sanitation are the main causes of infant mortality” (United Nations, n.d. 1), the Mexican government's strategy to overcome these conditions is non-existent.

At the international level, by 2021, Rio Bravo ranked fourth as one of the ten most polluted watercours-

⁵² For further reference see World Map “Annual Water Stress Baseline, 2019”. <https://tinyurl.com/5n7k86je>

es in the world (Moscoso, 2021) (Table 28). At the national level, “six out of ten rivers in Mexico are contaminated” (ADN 40, 2017), with clear examples being the Atoyac (Puebla), Santiago (Jalisco), and Lerma (State of Mexico) rivers (EFE Verde, 2020).

The deterioration of water quality slows economic growth, worsens health conditions, reduces food production, and exacerbates poverty in many countries, says David Malpass⁵³ (World Bank, 2019a), with industrial and municipal discharges of untreated wastewater being the main causes of water pollution. According to FAO (2020), Mexico ranks eighth internationally among the countries with the highest levels of untreated municipal wastewater for the 2018–2022 period.

When analyzing the 2008–2017 period, the untreated amount decreased from 4.15 to 3.92 (Km³/year) and maintained the same level (3.92 Km³/year) for the 2018–2022 period. There is a stagnation in wastewater management in the country, equivalent to the fact that more than 3 trillion liters of municipal wastewater are not treated annually and contribute to environmental deterioration (FAO, 2020) (Graph 29).

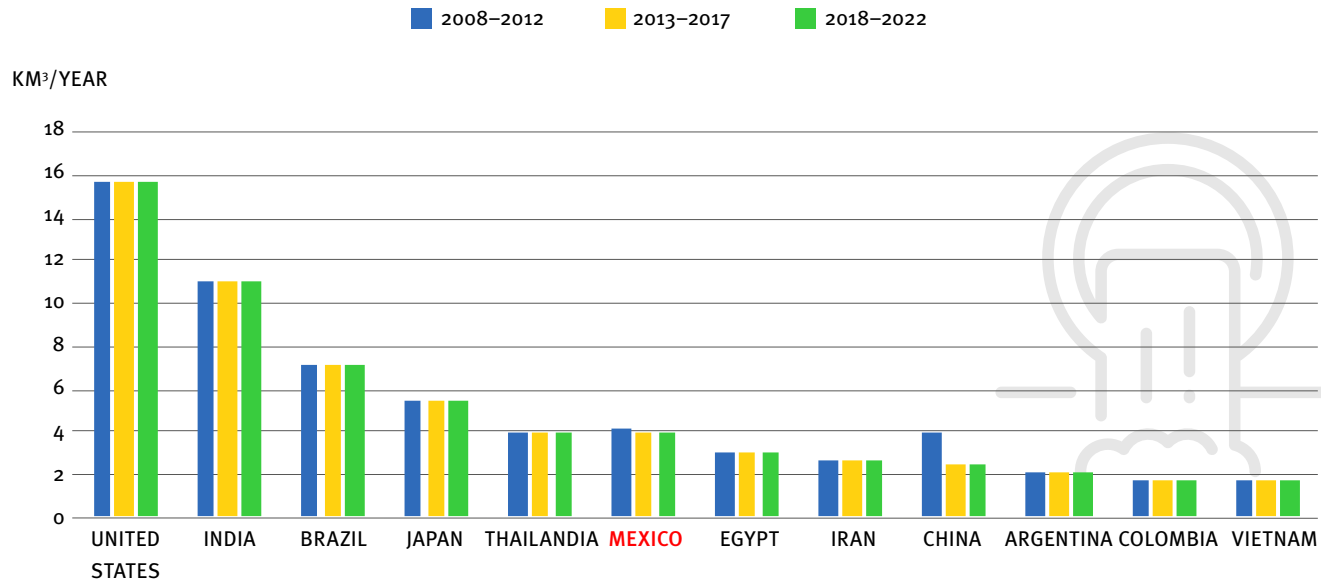
⁵³ President of the World Bank Group.

TABLE 28. WORLD’S MOST POLLUTED RIVERS
2021

NO.	RIVER	COUNTRY
1	SALWEEN	CHINA, BURMA & THAILAND
2	DANUBE	GERMANY, AUSTRIA, BULGARIA
3	MATANZA RIACHUELO (DE LA PLATA RIVER)	ARGENTINA
4	GRANDE (BRAVO)	UNITED STATES & MÉXICO
5	GANGES	INDIA
6	NILO	EGYPT
7	YANGTZE	CHINA
8	MEKONG	CHINA, BURMA, LAOS, THAILAND
9	PASIG	PHILIPPINES
10	MISSISSIPPI	UNITED STATES

Source: In-house elaboration with information from Moscoso (2021).

GRAPH 29. MUNICIPAL UNTREATED WASTEWATER
KM³/YEAR 2008–2022



Source: In-house elaboration with data from FAO (2020).

More than half of the wastewater generated is not treated at the national level. In 2019, only 49.1% of sewage was treated (–0.5% compared to 2018 (49.6%)), despite the increase in the number of wastewater treatment plants in the country (Semarnat, 2019) (Graph 30). Sandra Vázquez Villanueva⁵⁴ acknowledged that there is a deficit of plants for both water treatment and potabilization and that the ex-

⁵⁴ Manager of Potabilization and Treatment of Conagua

isting ones (2,786), as of 2021, “are not sufficient to meet the general needs” (Rodríguez, 2021).

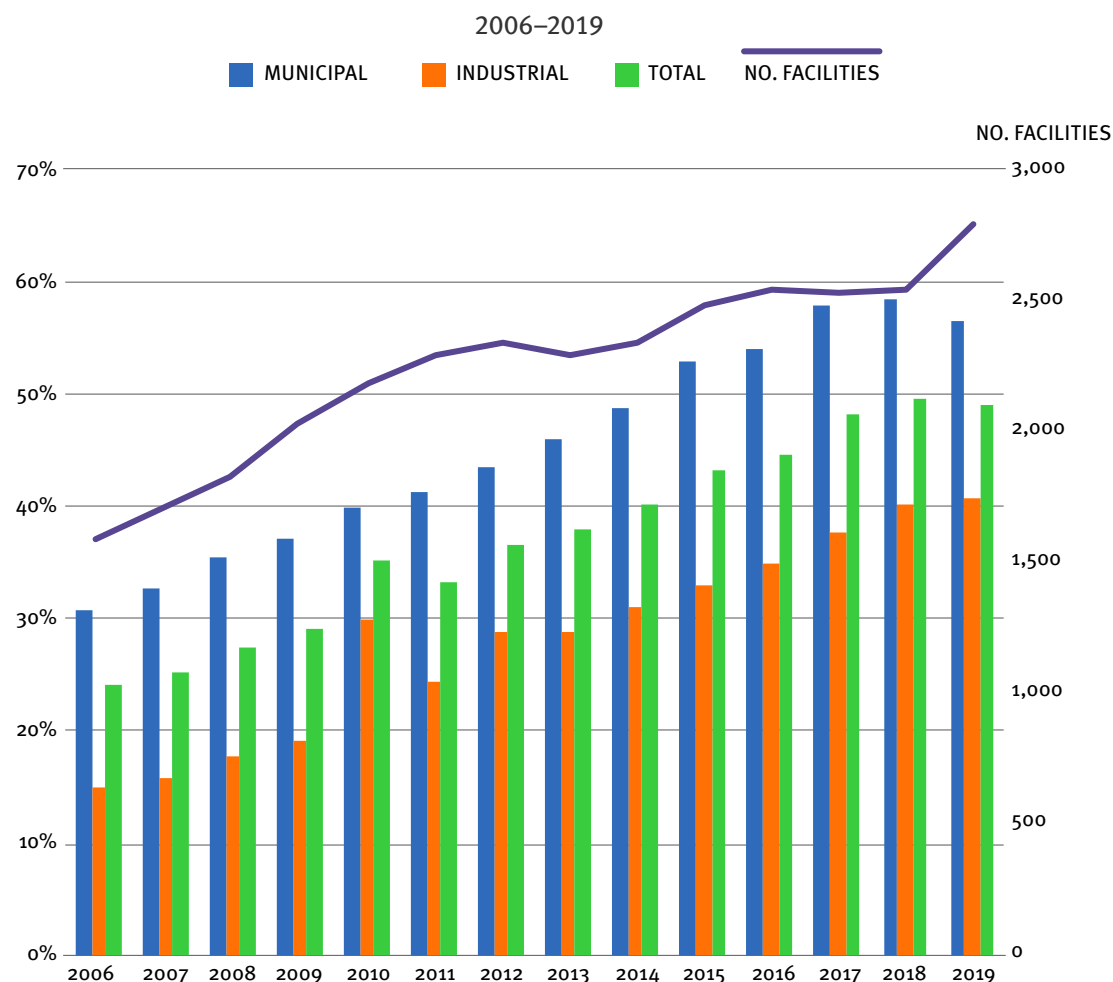
Low levels of investment in water and sanitation have contributed to pollution and inefficient water use in the country in recent years. Investment and spending on drinking water, sewerage, and sanitation infrastructure in Mexico decreased by 18.1% (1.411.8 Mp) in 2022 compared to 2018 (SHCP, 2018c;2022e)

(Graph 31). In terms of integrated water management and administration, Mexico ranks 92nd internationally in the ranking of efficient water use (out of 168 countries) (FAO, 2020). The economic value by use of a cubic meter of water amounts on average to only 13.07 dollars in 2022 (variation of +0.77% from the period 2013–2017 to 2018–2022), being 83.9 times lower than the value in Luxembourg (1,096.77 US\$/m³) (FAO, 2020) (Graph 32).

The rise in water-pollution levels, the downward trend in investment, spending levels to guarantee water security, the water-stress increase in the country, and the low levels of efficiency in using this vital resource demonstrate minimal advances, stagnations, and setbacks regarding water.

Changes in land use contribute to deforestation, deterioration, and contamination of Mexican soil. From 2016 to 2018, Mexico lost 2,555.4Km² (–0.39%) of the jungle area, occupying 17th place internationally among the territories with the greatest loss. When territories such as Aruba (+18.39%), Qatar (+10.78%), or Paraguay (+7.80%) have chosen to protect the environment, the country ignores the problem (World Bank, 2020b). From 2016 to 2018, the percentage variation of protected land areas was only 0.23%

GRAPH 30. WASTEWATER TREATMENT CONDITIONS IN MEXICO



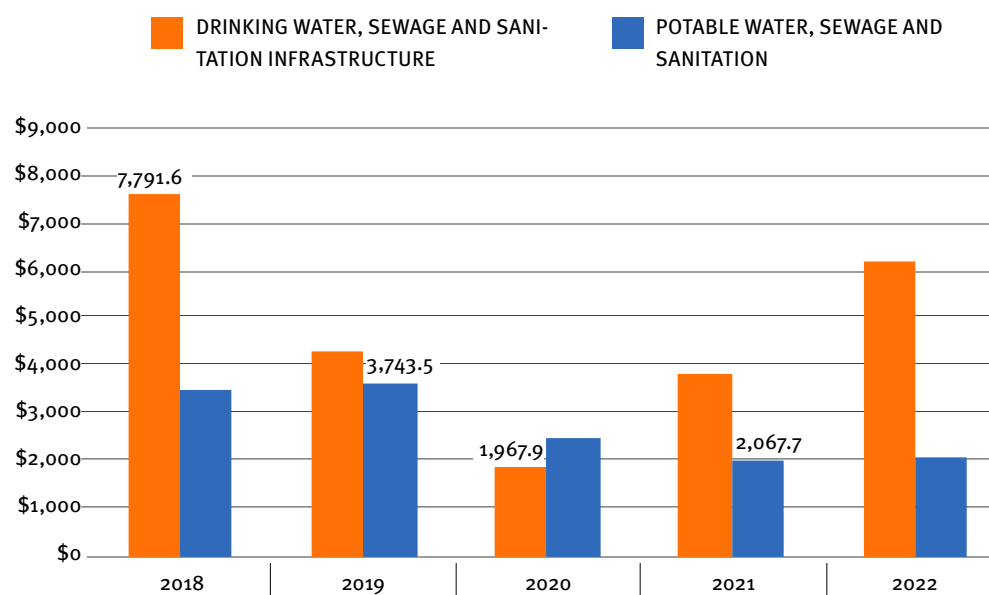
Source: In-house elaboration with data from Semarnat (2019).

(33.9 times less than Paraguay's variation), placing the country at 44th place internationally (World Bank, 2020b) (Table 29).

Agricultural expansion is the leading cause of deforestation, forest fragmentation, and associated loss of forest biodiversity (FAO and UNEP, 2020). Data from the World Bank (2020b) show that, during the period 2016–2018, arable land showed an increase of 17,380km² (a loss of 14,824.6km² of forest area when considering the loss of forest area (–2,555.4Km²) as part of this increase), placing the country in the second international place of territories with the most significant loss of natural areas due to agricultural use, only below Colombia (42,648km²) (Table 29).

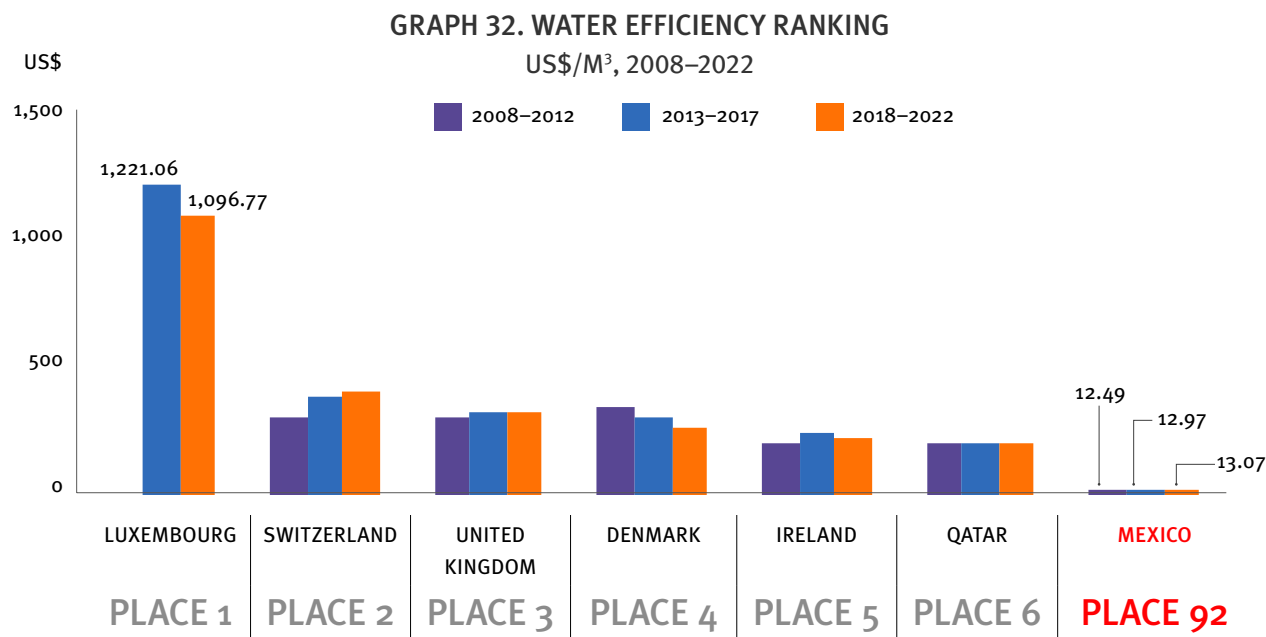
In 2019 and 2020, Mexico entered the top ten countries that lost more virgin forest globally (BBC News, 2020). Latin America has maintained its position as the fifth territory with the most significant loss. The loss in this area has increased considerably from the 2018–2020 period, with an annual variation of +45.2% and +51% in 2019–2020 compared to 2018 (a cumulative loss of 1342.5Km² between these years) (WRI, 2020) (Table 30).

GRAPH 31. INVESTMENT/SPENDING FOR WATER SECURITY IN MEXICO
MILLIONS OF PESOS 2018–2022



Source: In-house elaboration with data from SHCP (2018c; 2019c; 2020c; 2021b; 2022e).

IN 2019 AND 2020
MEXICO BECAME ONE OF THE TOP TEN COUNTRIES
THAT LOST MORE VIRGIN FORESTS IN THE WORLD
(BBC NEWS, 2020).



Source: In-house elaboration with data from FAO (2020).

TABLE 29. CHANGES IN LAND USE
PERCENTAGES 2016–2018

PROTECTED LAND AREAS (% OF TOTAL LAND AREA)		JUNGLE AREA (KM ²)		CROPLAND (KM ²)	
1 Aruba	18.4	1 Brazil	–30,307	1 Colombia	42,648
2 American Samoa	11.6	2 Congo Dem. Rep.	–22,028	2 Mexico	17,380
3 Qatar	10.8	3 Indonesia	–19,275	3 Indonesia	11,000
4 Japan	10.0	4 Angola	–11,101	4 Australia	9,170
5 Luxembourg	8.6	5 Tanzania	–9,380	5 Brazil	6,220
6 Paraguay	7.8	6 Paraguay	–6,722	6 United States	5,458
44 Mexico	0.23	17 Mexico	–2,555	7 Ethiopia	3,410

Source: In-house elaboration with data from World Bank (2020b).

The panorama of environmental degradation in Mexico, due to the increase in the loss of forests and jungles, is becoming increasingly critical and increases the risks of climate change. Despite this, federal spending on environmental protection and care has decreased in the last four years (2019–2022). Supports for Sustainable Forest Development decreased 59.13% (–1,239.2 Mp) in 2022 compared to 2018. Expenditure for Forest Protection was reduced by 17.95% (–295.1 Mp). In the area of Environmental and Natural Resources Inspection and Surveillance, the amount allocated contracted 41.9% (–124 Mp) in 2022 compared to 2018 (SHCP, 2018c;2022e) (Table 31).

The Federal Government has downplayed the catastrophic effects of its actions, especially those resulting in the depletion of natural resources and a deteriorating environment. The levels of spending to promote sustainable development are insufficient and continue to decline, contributing to the loss of forests, jungles, biodiversity, and natural capital, essential elements to achieving sustainable development, which the country promises on a daily basis, proposing a style of governance that is efficient in speech, but unsustainable in reality.

TABLE 30. RANKING OF COUNTRIES WITH THE HIGHEST LOSS OF PRIMARY FORESTS
(KM²) 2017–2020

2017		2018		2019		2020	
1 Brazil	21,346	1 Brazil	1,3471	1 Brazil	13,611	1 Brazil	17,041
4 Bolivia	2,703	4 Colombia	1,770	4 Bolivia	2,905	3 Bolivia	2,769
5 Peru	1,811	5 Bolivia	1,545	5 Peru	1,616	5 Peru	1,902
7 Colombia	1,619	7 Peru	1,402	7 Colombia	1,151	6 Colombia	1,665
14 Mexico	557	13 Mexico	453	9 Mexico	658	10 Mexico	684

Source: In-house elaboration with data from WRI (2021).

TABLE 31. SPENDING ON ENVIRONMENT AND NATURAL RESOURCES

MILLIONS OF PESOS 2018–2022

AREA	2018	2019	2020	2021	2022
Environmental Training and Sustainable Development	53	40	29	26	28
Conservation and Sustainable Use of Wildlife	198	145	100		
Inspection and Monitoring of the Environment and Natural Resources	296	210	220	158	172
Conservation for Sustainable Development Program	252	186	178	144	148
National System of Protected Natural Areas (changes in 2021 to Conservation and Management of Protected Natural Areas)	138	98	112	99	102
Protected Natural Areas Management Program (It merges in 2020 with the Program for the Protection and Restoration of Ecosystems and Priority Species)	122	88	175	175	181
Forest protection	1,644	1,391	1,332	1,307	1,349
Sustainable Forestry Development Support	2,096	1,155	1,032	826	857

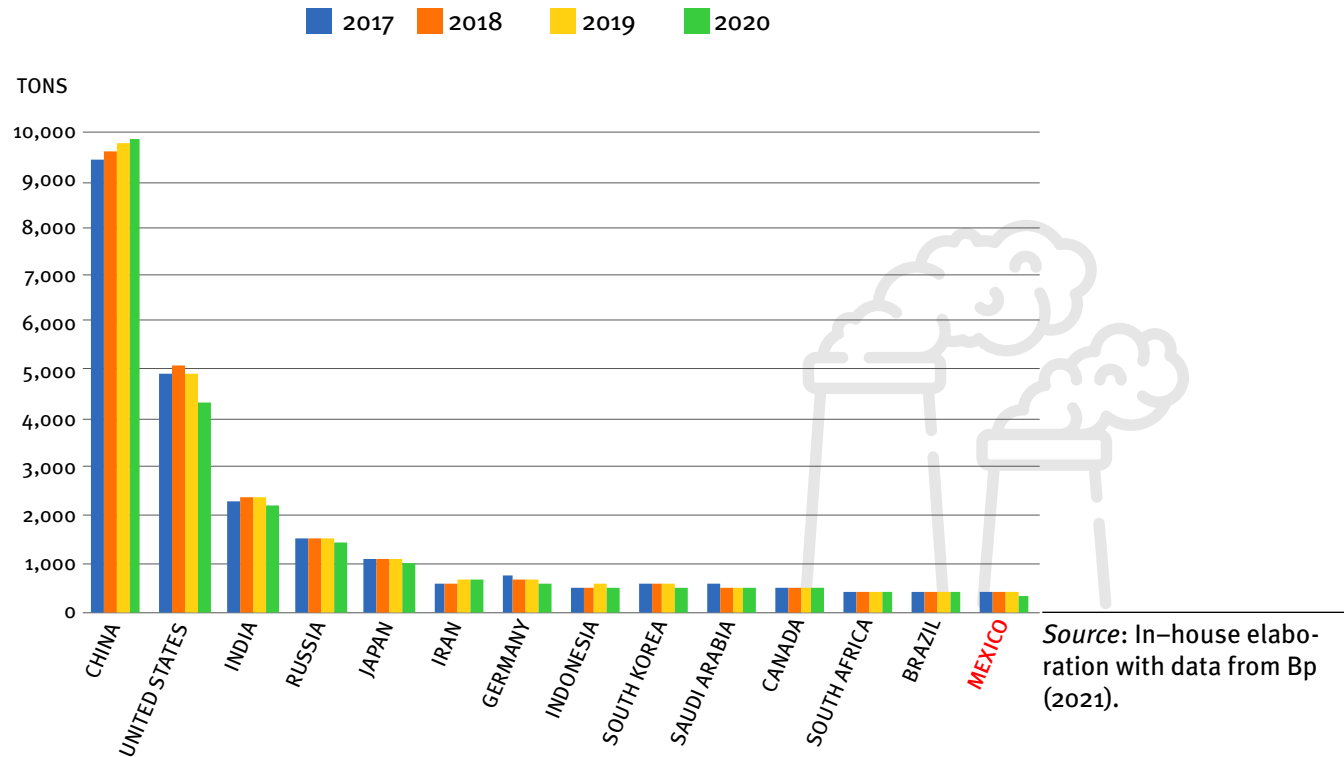
Source: In-house elaboration with data from SHCP (2018c; 2019c; 2020c; 2021b; 2022e).

According to the World Health Organization (WHO), air pollution is a health threat in all countries, but it affects people in low- and middle-income countries more (PAHO, 2021). The high levels of air pollution are mainly attributable to the burning of fossil fuels, which are characterized by contributing approximately two-thirds of global CO₂ emissions (United Nations, n.d.2). Mexico and Brazil are the only Latin American countries in the ranking of the 15 countries that emit the most carbon dioxide (CO₂) globally. Chi-

na, the United States, India, Russia, and Japan lead the ranking internationally, and Brazil and Mexico in Latin America (BBC News, 2019). These 15 countries are responsible for 73.4% of the average global CO₂ emissions in 2017–2020 (Bp, 2021) (Graph 33).

High levels of CO₂ emissions pose greater risks to human health. According to the WHO, the burden of morbidity attributable to air pollution is the same as other important global health risks, such as an

GRAPH 33. COUNTRIES WITH THE HIGHEST CO₂ EMISSION LEVELS
TONS, 2017–2020



unhealthy diet and smoking (PAHO, 2021). In 2020, PM_{2.5} air pollution caused the deaths of 163,000 people in the world's five most populous cities. Delhi in India is the city with the highest number of deaths with 54,000 deaths, followed by Tokyo, Japan with

40,000; Shanghai, China (39,000), São Paulo, Brazil (15,000), and Mexico City (15,000), major cities in countries classified among the most polluting in the world (Greenpeace, 2020) (Table 32).

In Mexico, more than 40,000 people die each year from air pollution (Breathe Life, n.d.), an even higher number than that of homicides. PM₁₀, PM_{2.5}, and minor particles, listed by the WHO as long-term carcinogens, are the most harmful (Maguey, 2019). This condition has contributed to air pollution by particles being ranked as the fifth risk factor for health due to the number of premature deaths, being a reflection of the frequent non-compliance with air quality standards, mainly affecting the large cities and metropolitan areas of the country (INECC and Semarnat, 2016).

Air quality in Mexico is alarming and affects millions of people. Data from the last Air Quality Report 2019 show that, of the areas and cities evaluated with the PM₁₀ standard, only five meet the criteria (Tepeji del Río, Tula de Allende, Zapotlán, Huichapan, and Purísima del Rincón), more than 24 do not comply (Guadalajara Metropolitan Zone (ZMG for its acronym in Spanish), Monterrey Metropolitan Area (AMM for its acronym in Spanish), Toluca Valley Metropolitan Zone (ZMVT for its acronym in Spanish), Mexico Valley Metropolitan Zone (ZMVM for its acronym in Spanish), Ciudad Juárez, Puebla, Atotonilco de Tula, León, among others). In more than 26 cities, it was impossible to assess compliance (INECC, 2020).

TABLE 32. NUMBER OF DEATHS FOR AIR POLLUTION

2020

COUNTRY	CITY	NO. OF DEATHS
India	Delhi	54,000
Japan	Tokyo	40,000
China	Shanghai	39,000
Brazil	San Pablo	15,000
Mexico	Mexico City	15,000

Source: In-house elaboration with information from Greenpeace (2020).

Of the areas and cities evaluated with the Mexican Official Standard (NOM for its acronym in Spanish) PM_{2.5}, none complied with the normal limits, more than 19 failed to comply with the NOM (AMM, ZMVT, ZMVM, Tijuana, Cuernavaca, Puebla, among others). In 28 it was not possible to evaluate compliance (Guadalajara Metropolitan Zone, (ZMG), Ciudad Juárez, Tula de Allende, Atotonilco de Tula, among others) (INECC, 2020) (Table 33).

TABLE 33. ASSESSMENT AND CONDITIONS OF AIR QUALITY IN MEXICO

2019

STANDARD (NOM)	CITIES AND METROPOLITAN AREAS THAT MET THE NOM LIMITS	CITIES WHERE NOM COMPLIANCE COULD NOT BE ASSESSED	CITIES AND METROPOLITAN AREAS THAT DO NOT COMPLY WITH THE NOM
PM ₁₀	Tepeji del Río, Tula de Allende, Zapotlán, Huichapan y Purísima del Rincón.	Aguascalientes, Tijuana, Piedras Negras, Tlaxcoapan, Coronango, Balancán, Centla, Comalcalco, Macuspana, Minatitlán, Ensenada, Tecate, Torreón, Dolores Hidalgo, Acámbaro, Moroleón, San José Iturbide, Cuautla, Zacatepec, Hermosillo, Cajeme, Agua Prieta, Huimanguillo, Paraíso...	Zona Metropolitana de Guadalajara (ZMG), Área Metropolitana de Monterrey (AMM), Celaya, Mexicali, Monclova, Zona Metropolitana del Valle de Toluca (ZMVT), Santiago de Querétaro, Torreón, Atitalaquia, Salamanca, Ocuilco, Nogales, Ciudad Juárez, Saltillo, Cuernavaca, Irapuato, Zona Metropolitana del Valle de México (ZMVM), Puebla, Zacatecas, Atotonilco de Tula, Silao, Tepeapulco, León, Chihuahua...
PM _{2.5}	None	Chihuahua, Ciudad Juárez, Monclova, Piedras Negras, Silao, San Luis de la Paz, Tula de Allende, Atitalaquia, Atotonilco de Tula, Tepeji del Río, Lolotla, Huichapan, ZMG, Zacatepec, Corregidora, El Marqués, San Luis Potosí, Aguascalientes, Mérida, Zacatecas, Ensenada, Torreón, Villagrán, Cortazar, Juventino Rosas, San Francisco del Rincón, Cuautla y Coronango.	AMM, ZMVT, ZMVM, Irapuato, Celaya, Tijuana, Salamanca, Cuernavaca, Puebla, Mexicali, Ocuilco, Xalapa, Minatitlán, Poza Rica, Abasolo, Pachuca, Tulancingo, León, Tepic, San Juan del Río, Saltillo, Guanajuato...

Source: In-house elaboration with information from INECC (2020).

In 2020, Mexico ranked third in Latin America with the highest air pollution, just below Chile and Guatemala. From the ranking of the 15 cities evaluated with the highest pollution levels in the region (PM NOM.25), nine are Mexican (Table 34). Of the 9 Mexican cities

evaluated, eight cities did not comply with the NOM in 2019, and in 1 (ZMG), it was not possible to assess compliance (IQAir, 2020) (Tables 33 and 34).⁵⁵

⁵⁵ For more information see Mexico Air Quality Index Map 2022. <https://waqi.info/en/#/c/21.23/->

The importance of environmental regulation, planning, management, assessment, and control in Mexico is an irrelevant issue for the current administration and has contributed to worsening air quality in the country. In 2019, of the 114 stations capable of measuring PM_{2.5} particles, four stations less than in 2018 (118), only one (0.9%) complied with the standard limits, 52 (45.6%) did not comply with at least one legal limit, and in 61 (53.5%) it was not possible to evaluate compliance with the NOM (47 due to insufficient data and 14 due to being out of service) (INECC, 2020).

The allocated expenditure on Environmental Material and Air Quality shows the country's withdrawal from ensuring environmental safety. Spending on Environmental Regulation showed large decreases from 2018 to 2020 (190.9 Mp in 2019 and 151.2 Mp in 2020). In planning, management, and environmental assessment, it maintained an annual reduction from 2018 to 2021 (a total of -261.2 Mp from 2018 to 2021). The minimum budget (0.3 Mp of 2020) for air quality and vehicle verification programs disappears in 2021 (SHCP, 2018c; 2022e) (Graph 34).

In matters of environmental policy, no efficient medium- and long-term strategies or policies have been

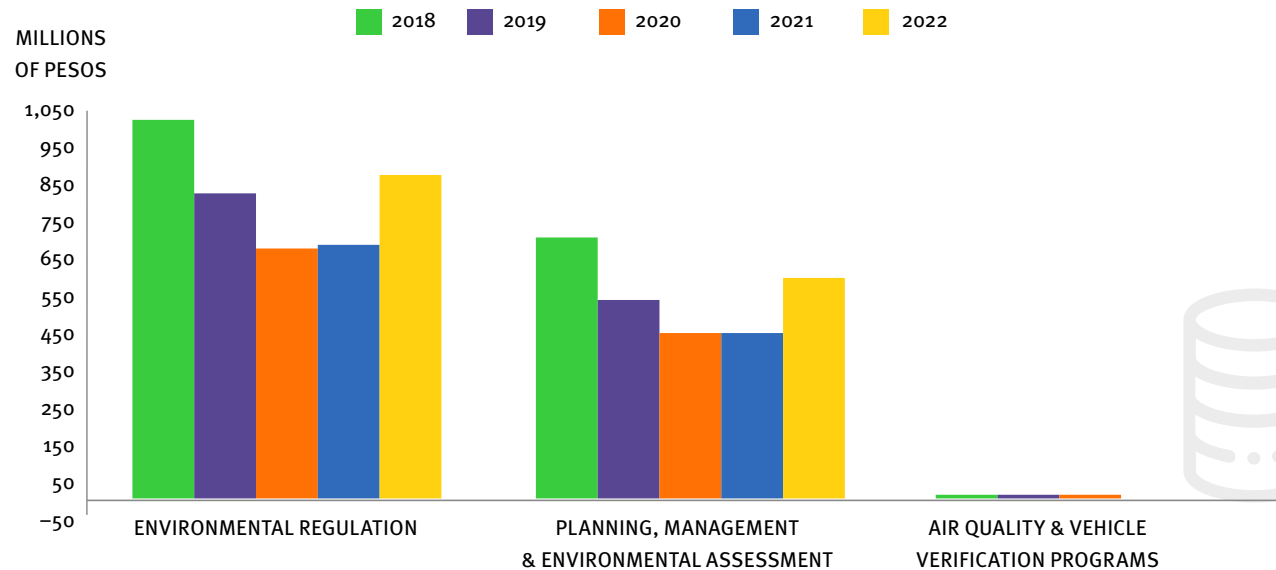
TABLE 34. MOST POLLUTED MEXICAN CITIES IN LATIN AMERICA RANKING 2020

NO.	CITY	STATE	METROPOLITAN AREA
4	Toluca	State of Mexico	Valle de Toluca
5	Tijuana	Baja California	Tijuana
6	Puebla	Puebla	Puebla–Tlaxcala
7	Guadalajara	Jalisco	Guadalajara
8	García	Nuevo León	Monterrey
10	Emiliano Zapata	Morelos	Cuernavaca
12	Nezahualcóyotl	State of Mexico	Mexico
14	Minatitlán	Veracruz	Minatitlán
15	Juárez	Nuevo León	Monterrey

Source: In-house elaboration with data from IQAir (2020).

established in the mid-six-year governmental period to improve air quality (beyond the “Today it does not circulate”); to ensure the availability and water supply (other than distribution through pipes and water tensions), and conserve forest-resources to reduce the soil progressive-deterioration. This shows that there is no real action by the federal government in Mexico that avoids or minimizes the high numbers of premature deaths that occur annually in the country.

GRAPH 34. EXPENDITURE ON ENVIRONMENTAL MATTERS AND AIR QUALITY IN MEXICO
MILLIONS OF PESOS 2018–2022



Source: In-house elaboration with data from SHCP (2018c; 2019c; 2020c; 2021b; 2022e).

THREE YEARS OF GOVERNMENT: A SETBACK AND DISMANTLING IN ENVIRONMENTAL MATTERS



In the environmental legal field, the country is considered one of the most complex in terms of environmental legislation. However, “the standards are quite loose compared to international guidelines; when we compare the parameters in the national standards with those of the WHO, we have flunked,” says Ricardo Torres⁵⁶ (Camhaji, 2021).

The country’s low capacity for legislation and environmental justice contributes to actions and violations that undermine sustainability and social welfare. As of 2021, data from the Secretariat of the Environment and Natural Resources (Semarnat) focuses on more than thirty “urgent” environmental conflicts. Among them is the water management of the Zapotec peoples in the Central Valleys of Oaxaca, the Port of Topolobampo in Sinaloa, the Constellation Brands brewery in Baja California, the Transistmic Corridor in Oaxaca, the Mayan Train in Yucatan and Campeche (Ramírez, 2021).

⁵⁶ Researcher, UNAM Institute of Atmospheric Sciences and Climate Change.

Although the conflicts are diverse (social, private, and public), the origin and continuation of them are a consequence of the regulatory non-compliance and the low capacity of environmental governance, result of the low institutional performance, the constant budget reductions in the area, and the consequent decay that the dismantling of environmental institutions brings in recent years.

Institutional dismantling puts the environment at risk. Among the most important aspects are the budget decrease; the weakening of the presence and the capacity to act in the territory (staff cuts (40%) in the State Delegations of the Environmental Sector); the dismantling of the management systems for the issuance of acts of authority (in 2019, it was decided to disappear the Undersecretariat of Management for Environmental Protection, which was the largest of all Semarnat); the delay in compliance and updating of the regulatory framework; the alignment of environmental policy to the strategic projects of a political force (and not of strategic projects for environmental policy) (Ramírez, 2020).

Other aspects lie in the abandonment of alternative institutional models, such as the attack on the autonomy of the National Commission for Knowledge and Use of Biodiversity (CONABIO for its acronym in Spanish) and the attempt to make it an appendix of Semarnat, despite being a widely recognized body with an institutional and financial structure that has allowed it to act as an independent body with decisions linked and articulated with various secretariats of state, academic institutions, and international organizations (Ramírez, 2020).

In addition, President López Obrador's proposal to disappear the National Institute of Ecology and Climate Change (INECC), although the INECC is a crucial research body for the coordination of national policy on issues of biosafety, sustainable development, environmental protection, air quality reports, preservation and restoration of ecological balance, as well as in the conservation of ecosystems and climate change, and the Mexican Institute of Water Technology (IMTA), a public research body, stands out for its management work, conservation and rehabilitation of water (Animal Político, 2021).

Suitable environmental institutional performance ensures comprehensive management of resources and the environment. Mexico's international environmen-

tal performance is poor. As of 2020, according to the Environmental Performance Index (Yale Center for Environmental Law & Policy, 2020), Mexico ranked 51st in the world, with a score of 52.6 out of 100. The Mexican performance, comparable to that of Colombia, Costa Rica, or Armenia, is the result of the progressive institutional deterioration that exists in the country (Table 35).

TABLE 35. ENVIRONMENTAL PERFORMANCE INDEX RANKING

2020

INTERNATIONAL COMPARISON			COMPARISON OF SIMILAR COUNTRIES		
RANKING	COUNTRY	SCORE	RANKING	COUNTRY	SCORE
1	Denmark	82.5	47	Kuwait	53.6
2	Luxembourg	82.3	48	Jordan	53.4
3	Switzerland	81.5	49	Belarus	53
4	United Kingdom	81.3	50	Colombia	52.9
5	France	80	51	México	52.6
6	Austria	79.6	52	Costa Rica	52.5
7	Finland	78.9	53	Armenia	52.3
8	Sweden	78.7	54	Argentina	52.2
9	Norway	77.7	55	Brazil	51.2
51	Mexico	52.6	56	Bahrain	51

Source: In-house elaboration with data from Yale Center for Environmental Law & Policy (2020).

The absence of administrative commitment to provide a healthy environment complicates climate conditions. It projects a panorama of environmental insecurity if it continues along the current path of institutional dismantling, budget reductions, and zero ecological governance, putting the fulfillment of national and international environmental projects at risk.

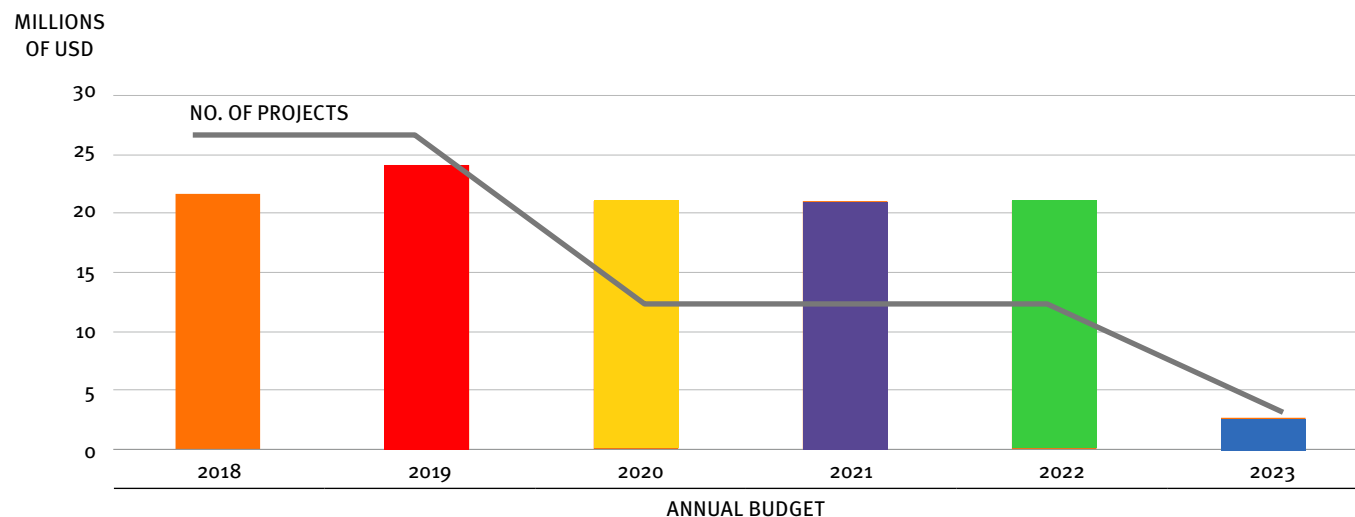
Environmental projects under the United Nations Environment Programme (UNEP) are being depleted. In Mexico, of the nine projects functional in 2018–2019 in environmental matters, with international coordination, only four remain in force by 2022, and one by 2023, and despite the support of international institutions, environmental conditions represent minimum results of these programs (UNEP, 2022b) (Table 36).

The country has, before itself, a long list of environmental challenges to address (Gómez, 2020), the end of the project, and the budget is exhausted. However, the current administration has no willingness and interest to generate actions that contribute to sustainability when considering achievements and goals achieved in projects of this magnitude.



Image: “Cut down 20 thousand trees for the Maya Train construction; and it will not run there” /Factornueve.com at <https://tinyurl.com/yz8n76ms>

**GRAPH 35 & TABLE 36. INTERNATIONAL ENVIRONMENTAL PROJECTS IN EXECUTION
AND AN AVERAGE ANNUAL BUDGET IN MEXICO**
USD 2018–2023



PROJECTS IN EXECUTION

PROJECT ID	PROJECT NAME	STATUS	BUDGET USD	STARTING DATE	TERMINATION DATE
PIMS-02077	Mobility Without and Low Emissions	Under implementation	13,431,076	24/10/2019	30/06/2023
PIMS-02026	Valuing the Essential	Under implementation	21,067,974	16/10/2018	30/06/2022
PIMS-02011	Strengthening Consumer Information for Sustainable Consumption and Production	Under implementation	4,964,809	21/03/2018	31/12/2022
PIMS-01554	Climate and Clean Air Coalition to Reduce Short-lived Climate Pollutants ("La Coalición")	Under implementation	145,000,000	18/09/2012	31/12/2022

Source: In-house elaboration with data from UNEP (2022b).

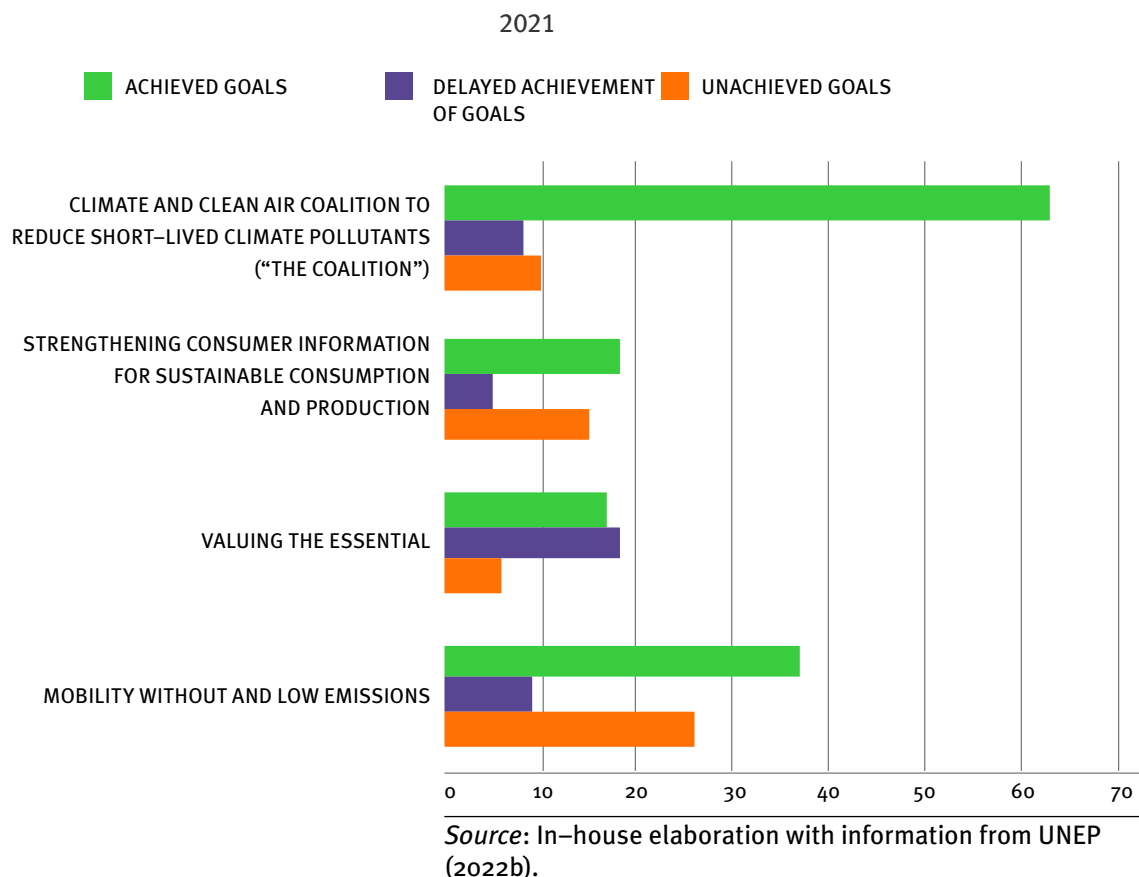
UNFULFILLED ACHIEVEMENTS AND GOALS



The country's low environmental performance generates non-compliance with the objectives of international projects. As of 2021, UNEP data (2022b) reveals that of the 232 goals to be achieved for current projects, 135 (58%) have been met promptly, 40 (17%) late, and 57 (25%) have not been achieved (Graph 36). The project Mobility Without and Low Emissions has the highest number of unfulfilled commitments (26) (Graph 36).

The country's actions and policies do not meet the commitments made in international projects. By the end of 2022, three of the four current projects will conclude. Of these, 31 objectives are classified as unfulfilled and without accurate forecasts of compliance (UNEP, 2022b), which will affect Mexico's image with the world and the environmental conditions in which Mexican society will continue to develop, highlighting the dangerous and growing government negligence. As of 2021, data from the Atlas of Environmental Justice places Mexico in the fourth position internationally as one of the countries with the highest number of environmental conflicts (174 conflicts), just below India (345), the United States (186), and Brazil (174).

GRAPH 36. FILED ACHIEVEMENTS OF CURRENT ENVIRONMENTAL PROJECTS



BY 2021, DATA FROM UNEP (2022B) REVEALS THAT OF THE 232 GOALS TO BE ACHIEVED FOR CURRENT PROJECTS, 135 (58%) HAVE BEEN MET PROMPTLY.

Result of the dismantling and insufficient institutional legal and environmental capacity promoted by the austerity policy of the current administration (Atlas de Justicia Ambiental, n.d.)⁵⁷ (Table 37).

Political and institutional conditions are making the country an environmentally challenging territory. The main ecological conflicts in the country come from mineral extractions and construction materials, fossil fuels and climate/energy justice, and water management (Atlas de Justicia Ambiental, n.d.)⁵⁸. Private and public actions generate environmental problems, so the struggle and dispute over territories and natural resources increasingly forecast more severe and complex conflicts into the future.

TABLE 37. GLOBAL ENVIRONMENTAL CONFLICTS		
2021		
LOCATION	COUNTRY	NO. OF CONFLICTS
1	India	345
2	United States	186
3	Brazil	174
4	Mexico	174
5	China	157
6	Colombia	134
TOTAL: 168 countries in the world. 3,570 filed cases.		

Source: In-house elaboration with information from the Atlas de Justicia Ambiental (Atlas of Environmental Justice) (n.d.).

⁵⁷For more reference see the Environmental Justice Atlas available at <https://tinyurl.com/2s3tvs84>
⁵⁸For more reference see the Environmental Conflict Map in Mexico of the Atlas of Environmental Justice available at <https://tinyurl.com/99vmjx3s>

BUDGET AND CONSTRAINTS IN THE IMPLEMENTATION OF AN ENVIRONMENTAL POLICY

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The budget is reduced, and the environmental deterioration grows. The austerity policy has involved a reduction in the budget and expenditure allocated to the environmental area. In analyzing the budget allocated to Semarnat by the administrative unit, these units have presented significant budget cuts. Among the most affected dependencies are the Undersecretariat of Planning and Environmental Policy with a reduction of 83.1% (458.6 Mp) of its budget in 2021 compared to 2018, the Undersecretariat of Management for Environmental Protection presented a -69.8% (-470.8 Mp), and the National Agency for Industrial Safety and Environmental Protection of the Hydrocarbons Sector of -50.1% (-307.9 Mp) (Semarnat, 2021) (Table 38).

As of 2021, the dependencies with the largest absolute budget cuts were the National Water Commission with 2,448.2 Mp (40.1%) and the National Forestry Commission 1,629 Mp (40.8%) compared to 2018. Relevant institutions such as the National Commission of Protected Natural Areas (23.5%), the

Mexican Institute of Water Technology (21.7%), and the National Institute of Ecology and Climate Change (24.3%) are also part of the budget cuts of the current policy, generating consequences that accumulate and contribute to environmental decay in Mexico (Semarnat, 2021).

Image: “The access to potable water in Mexico’s capital is every day more difficult (EFE)”/Elconfidencial.com at <https://tinyurl.com/mrurcvmj>



TABLE 38. BUDGET ALLOCATED TO SEMARNAT BY ADMINISTRATIVE UNIT
MILLIONS OF PESOS 2018–2021

DEPARTMENT	2018	2019	2020	2021
National Industrial Safety and Environmental Protection Agency for the Hydrocarbon Sector	\$614.7	\$397.1	\$324.7	\$306.8
National Commission of Natural Protected Areas	\$1,132.0	\$843.6	\$869.5	\$866.4
National Water Commission	\$27,369.8	\$23,727.2	\$22,985.3	\$24,921.7
National Forestry Commission,	\$3,991.4	\$2,765.2	\$2,586.2	\$2,362.3
Semarnat Federal Delegations	\$600.0	\$505.8	\$529.9	\$530.0
Mexican Institute of Water Technology	\$256.9	\$224.4	\$205.0	\$201.2
National Institute of Ecology and Climate Change	\$221.4	\$170.8	\$178.0	\$167.7
Administrative Office	\$709.0	\$570.3	\$0.0	\$0.0
Office of the C. Secretariat and other areas	\$387.8	\$295.3	\$229.1	\$227.1
Federal Bureau of Environmental Protection	\$989.0	\$796.2	\$793.1	\$742.1
Undersecretariat for Environmental Promotion and Regulation	\$82.6	\$62.9	\$48.9	\$50.0
Undersecretariat of Management for Environmental Protection	\$674.2	\$510.8	\$301.7	\$203.4
Undersecretariat for Planning and Environmental Policy	\$551.7	\$151.0	\$92.0	\$93.0
Administration and Finance Unit	\$0.0	\$0.0	\$726.0	\$676.4
Total budget	\$37,580.6	\$31,020.5	\$29,869.5	\$31,348.2

Source: In-house elaboration with information from Semarnat (2021).

THE DECLINE IN ENVIRONMENTAL MATTERS IN MEXICO



The Environmental Performance Index of Mexico shows that the country presents problems in each area that integrates it in terms of environmental health. Regarding Environmental Health, Air Quality (Place 75), Sanitation and Drinking Water (83), and Exposure to heavy metals (101) position the country above the value obtained in the General Index (51). The condition is similar for Biodiversity and Habitat (53rd place), Ecosystem Services (98th), Fisheries (67th), Polluting Emissions (69th), and Agriculture (Sustainable Nitrogen Management Index) in the area of Ecosystem Vitality (Table 39) (Yale Center for Environmental Law & Policy, 2020).

Environmental performance in terms of pollutant emissions, air quality, biodiversity, habitat, ecosystem services, waste management, and sanitation and drinking water is a clear example of the harsh reality that society faces day by day in terms of water, soil and air pollution and that generate a loss of well-being. A consequence of low levels of investment to conserve the country's environment and natural resources.

As countries invest millions in policies and projects to ensure a healthy environment and combat climate change, Mexico stagnates and recedes. A clear example, the German government, in 2019, announced a plan for the fight against climate change that includes investments of up to 54 billion euros (1 trillion 148,780.9 Mp) in energy, transport, innovation, and development with the aim of reducing by 2030 55% of its CO₂ emissions (compared to 1990) (DW, 2019).

In Mexico, Environmental Protection Expenditures (EPS for its acronym in Spanish) is insufficient and decreasing. According to INEGI (2020b), in 2018, the EPS represented 0.6% of GDP (126.176 Bp). Since that year, expenditure has been on a downward trend. In 2019, 17,650 Mp (–14%) was reduced compared to 2018. For 2020, the amount was –7.227 Mp (–6.7%) compared to 2019, accumulating a reduction of 24.877 Mp (19.7%) from 2018 to 2020 (Graph 37).

Although the level of environmental degradation is critical, this is indifferent to the authorities. Policy priorities that focus on the development of environmentally damaging macro-projects run counter to

TABLE 39. ENVIRONMENTAL PERFORMANCE OF MEXICO
2020

AREA	CATEGORY	RAN INTERNATIONAL	SCORE	RAN REGIONAL	REGIONAL AVERAGE
National	National Environmental Performance	51	52.6	3	45.6
Environmental Health	ENVIRONMENTAL HEALTH	75	47.5	15	46.8
	Air quality	83	40.8	24	46.9
	Sanitation and drinking water	73	52.8	8	47
	Exposure to heavy metals/lead	101	45.7	20	50.8
	Waste handling	44	74.3	5	42.2
Vitality of the ecosystem	VITALITY OF THE ECOSYSTEM	41	55.9	1	44.7
	Biodiversity & habitat	53	72.9	9	58.4
	Ecosystem services	98	32.5	17	32.6
	Fishing	67	12.8	16	13.4
	Climate change	41	65.2	3	51.7
	Pollutant emissions	69	71.4	8	50.5
	Agriculture /Sustainable Nitrogen Management Index	90	38.8	9	32.7
	Water resources	48	31.6	4	9.7

Source: In-house elaboration with information from Yale Center for Environmental Law & Policy (2020).

global guidelines for mitigating the effects of climate change, distancing us from sustainability and leading us to non-compliance with international treaties.

The energy sector plays a major role in national politics. Legislative reforms in the energy sector, initiatives for constitutional reforms in the electricity sec-

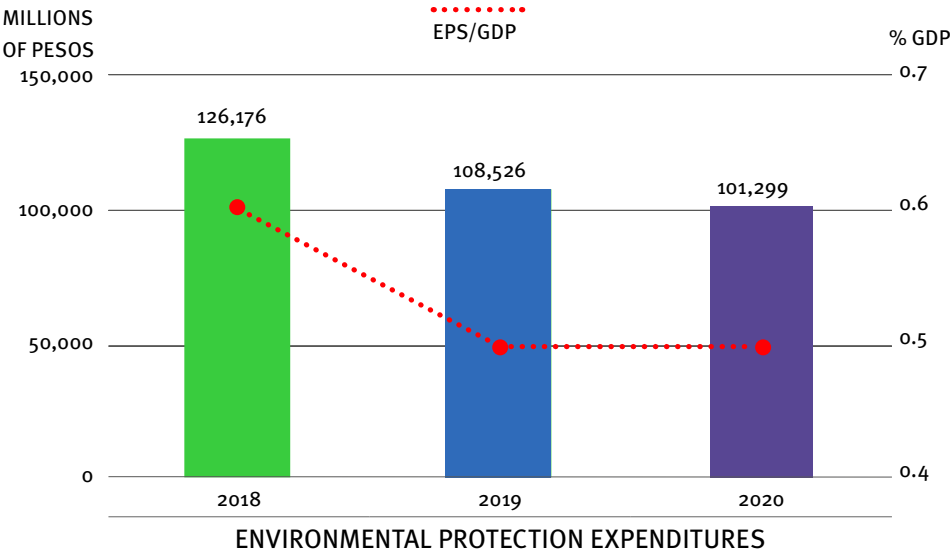
tor, and refinery projects are the basis of the federal government's actions that, along with projects such as the Mayan Train and Sembrando Vida, implement structural actions that put the country's environmental security at risk.

As of 2022, based on the 2022 Federation Expenditure Budget (PEF), the total programmed expenditure on Environment and Climate Change (Transition and Use of Cleaner Technologies and Adaptation and Mitigation of the Effects of Climate Change) in the country is 76,710.9 Mp (Chamber of Deputies of the H. Congress of the Union, 2021d). This is 65,321.2 Mp less than intended only for the Mayan Train, Sembrando Vida, and Dos Bocas Refinery projects (Graph 38).

The Sembrando Vida program has promoted deforestation and lacks environmental impact indicators. The World Resources Institute (WRI) has correlated to the program the loss of 72,000 hectares of forest expanse, mainly in the country’s south (Carabaña, 2021b). The Mayan Train causes the deforestation of 2,500 hectares of humid and dry jungles. It has generated social conflicts due to land possession (53% of the Mayan Train’s stretch is on “terrenos ejidales”(common land) and impacts on Protected Natural Areas, habitat loss, among others, also lacking indicators and Environmental Impact Manifestation (Mexican Center for Environmental Law (CEMDA for its acronym in Spanish), n.d.).

The Dos Bocas project lacks an environmental risk analysis, in addition to specific mitigation measures

GRAPH 37. SPENDING ON ENVIRONMENTAL PROTECTION (EPS)
MILLIONS OF PESOS AND GDP (%) 2018–2020



Source: In-house elaboration with data from INEGI (2020b).

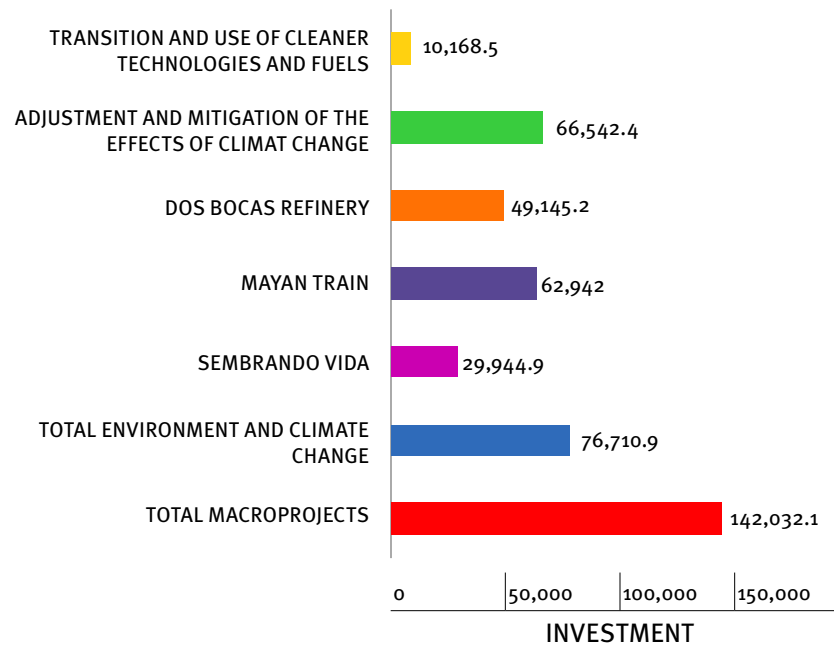
to counteract environmental impact (García, 2021). The 2021 Superior Auditor of the Federation (ASF for its acronym in Spanish) audit expressed doubts about its economic, technical, legal, and environmental viability, not considering the externalities due to the social and ecological impact that will be generated during the construction and operation of the refinery (Tourliere, 2021). Despite the many environmental risks these projects entail, the government has decided to ignore them (Carabaña, 2021a).

Macro-projects contribute to climate change and non-compliance with the Paris Treaty. This treaty is the most important at the international level because of the implications that achieving its objectives in environmental matters and social welfare represent. However, the government's actions and passive actions ignore the impacts and risks of an inefficient environmental policy.

Political actions to promote development in Mexico are contrary to international recommendations. When the WHO calls for urgent actions to promote the reduction of dependence on fossil fuels for energy production and the guarantee of clean energy alternatives (PAHO, 2021); the federal government is committed to a constitutional reform in energy matters that, due to its environmental implications, "lead to the violation of human health rights, an adequate standard of living and a healthy environment" (UNEP, 2021c). It underestimates the risks of environmental insecurity that a policy of this magnitude brings with it. And as we know, the most vulnerable population suffers the most from the effects of environmental deterioration.

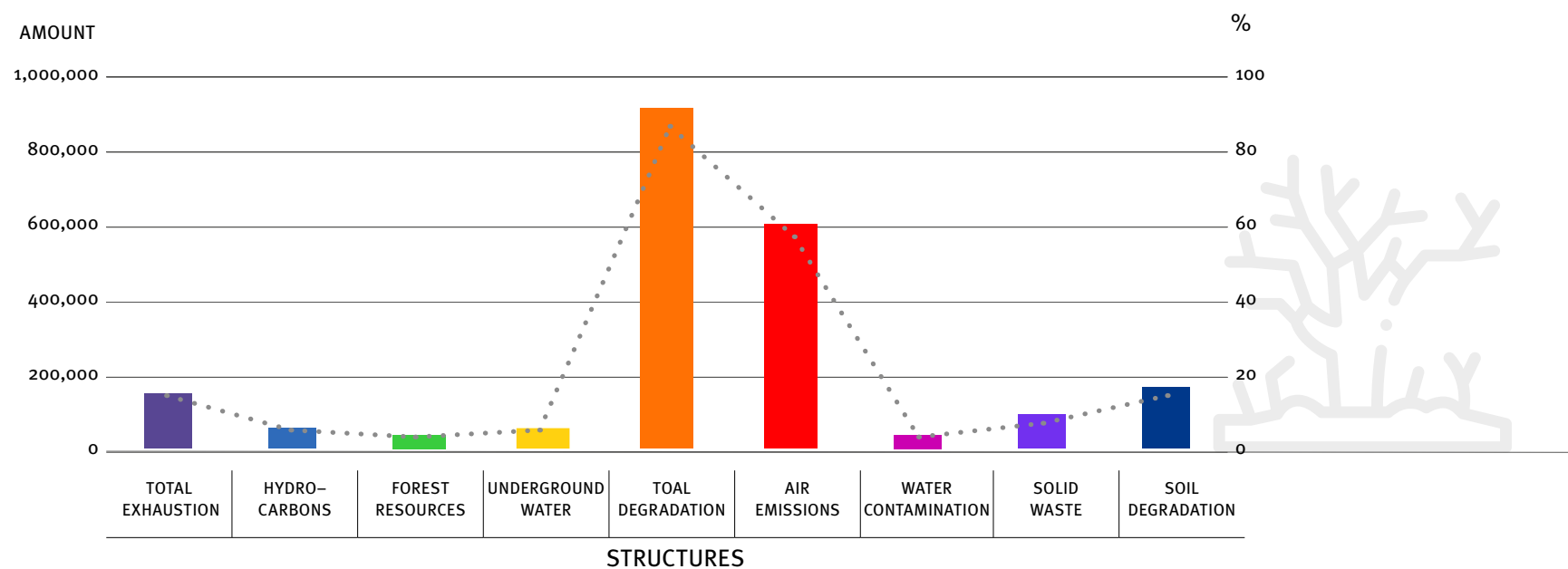
Environmental degradation generates economic impacts. Data from INEGI (2020b) establish that the

GRAPH 38. SPENDING ON PROJECTS, ENVIRONMENT AND CLIMATE CHANGE IN MEXICO
MILLIONS OF PESOS 2022



Source: In-house elaboration with information from the Presidency of the Republic (2021).

GRAPH 39. STRUCTURE OF CTADAS IN MEXICO
MILLIONS OF PESOS AND % 2020



Source: In-house elaboration with data from INEGI (2020b).

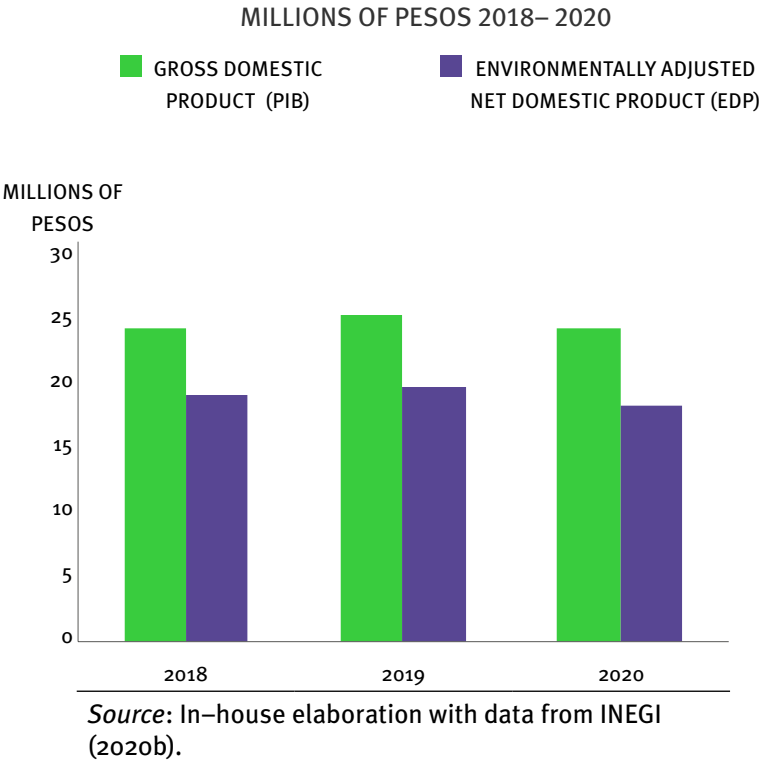
Total Costs of Depletion and Degradation of the Environment (CTADA for its acronym in Spanish) in the country have exceeded one trillion pesos in recent years. In 2018, the CTADA amounted to 1,041,050 (Mp) (4.5% of GDP), in 2019 to 1,107,162 (Mp) (4.5%) and for 2020 they were 1,066,853 (4.6%), representing a variation of +0.2% of GDP and +2.5% compared to the CTADA of 2018.

CTADAs reflect high levels of environmental degradation in the country. As of 2020, Hydrocarbon Depletion (60,810.6 Mp), in conjunction with air emissions degradation (611,306.8 Mp) and soil degradation (164,295.4 Mp), are the leading causes of environmental depletion and degradation, generating high economic costs and loss of productivity (INEGI, 2020b) (Graph 39).

As environmental degradation increases, economic costs and productivity loss rise. In 2020, the country’s GDP presented a negative variation of –1,095,918 Mp compared to 2019, a consequence of the effects of the pandemic, an amount almost equivalent to the CTADA of 2020 (1,066,853 Mp), which together would represent a decrease in productivity for a value of 2,162,771 Mp, a result of the negative impact that environmental degradation has on the economy and the effects of COVID–19 on productivity in various sectors (INEGI, 2020b) (Graph 40).

As of 2021, the country’s actions continue to be considered “Highly Insufficient” to meet the objectives established in the Paris agreement. Mexico is sending negative signals to the international community of the government’s performance and the little seriousness that the country gives to its commitment to reduce greenhouse gas emissions in line with the climate objectives of the Paris Agreement (Climate Action Tracker, 2021).

GRAPH 40. GROSS DOMESTIC PRODUCT AND ENVIRONMENTALLY ADJUSTED NET DOMESTIC PRODUCT OF MEXICO



INTERNATIONAL IMAGE FOR BREACH OF INTERNATIONAL AGREEMENTS

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The decision to favor the generation of fossil fuels over renewable energy puts Mexico on an even more inconsistent path with the Paris Agreement. Its plans for the electricity sector, especially the decision to continue investing in coal, strongly contrast with what is required to reach the 1.5°C limit (Climate Action Tracker, 2021).

Consequently, the growth strategy of strengthening the energy and fossil fuels sector is generating forecasts of non-compliance with internationally acquired objectives and an image of passive-negative governance of the country before the world. While there are currently no strict requirements and measures in the face of treaty non-compliance, the future outlook envisages that the rules around treaties will change so that the economic sanctions that we will have to pay in the global context will be high.

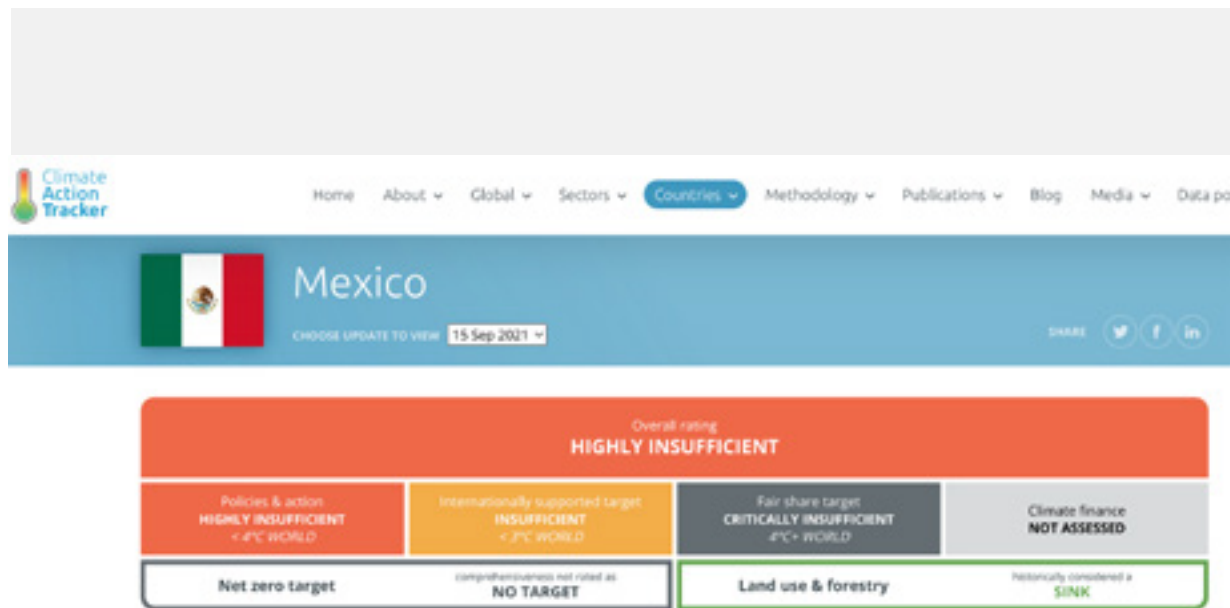


Image: Website of the Climate Action Tracker that shows the highly insufficient environmental actions of the Federal Government at <https://climateactiontracker.org/countries/mexico/>

THE COVID-19 CRISIS: A MISSED OPPORTUNITY



The dramatic situation created by the pandemic corroborates that the reduction of emissions effectively combats air pollution (Ecologistas en Acción, 2021). In 2021, the UN Secretary-General reminded the world that “with the pandemic, we are at a crossroads, with decisions that will bring consequences and collapse or benefits and the path to progress” (UNEP, 2022a).

The pandemic is considered internationally as an opportunity to progress towards sustainability. However, the Federal Government is condemning the country to national and international environmental, social, economic, and political setbacks in the coming years, which will cost more than repentance and will become a difficult generational problem to solve, thus representing a missed opportunity and an environmental setback in these first three years of government.



THE ABSENCE OF AN ADEQUATE
environmental governance in Mexico has the consequences of a disordered growth which will result unsustainable, affecting the natural surroundings.



8

BACKWARD MOTION IN MEXICO'S SCIENCE AND TECHNOLOGY POLICIES





WITH AUSTERITY POLICIES, such as the disappearance of funds, trusts and research incentives, the science and technology areas suffer one of the worst onslaught ever registered. The attacks on academia have not ceased, which put at risk the continuity of thousands of contributions that are developed in this sector.

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Although science, technology, and innovation (STI) have played a leading role in development and growth in any country in the world, in Mexico, their advancement and promotion are at risk (Romo and Bazdresch, 2005). Economic disincentives and the absence of government policies in favor of science threaten the accumulation of physical and human capital, thus the country's growth.

Historically, Mexico has been a country that allocates few resources and incentives to STI. The implementation of public policies in this area has not always been consistent, inclusive, participatory and has lacked a long-term vision. Consequently, the development of STI in the country has been random and has lacked a high priority definition for national development (Valero *et al.*, 2019).

At present, these areas of knowledge are even more threatened. Even though this government presented the 2020–2024 Institutional Program of the National Council of Science and Technology, which contemplates some achievements and goals that are simply not congruent with the enormous needs and deficiencies that the country has; in practice, the authorities show ignorance of the issue, a rigid narrowness and budgetary opacity of resources, attacks on everything that is based on science and educational institutions. This detonates a contempt for all the advances made previously. Based on a language of hatred and contempt, the president calls “neoliberal science” the element that, according to him, has not allowed Mexico to advance and achieve its social goals. This aversion to the good practices of STI is putting at risk for the next ten years, at least, the preparation of human capital, innovation, productivity, competitiveness, and with it the economic growth and development of Mexico.

With unsound and inconsistent arguments, the president attacks and disqualifies all those research and higher education spaces that think contrary to what he indicates. Although it is not new, this dynamic has been spreading to different areas until finally arriving at STI. As mentioned before, the institutions that

have been attacked the most by the head of State are the Monterrey Institute of Technology, the National Autonomous University of Mexico (UNAM), and more recently, the Centre of Research and Higher Education Specializing in Social Sciences (CIDE). These are at least four research centers in which it has been possible to impose directors related to the head of the National Council for Science and Technology (Conacyt for its acronym in Spanish) through mechanisms that are sometimes doubtful and sometimes openly illegal. Acts that show that any institution that is not aligned with the narrative and ideology of the president is not an ally of the government (Herencia, 2022), thus violating the rights of university autonomy and defiling the rights of the academic community.

Others exemplify the president’s power to destroy, dismantle or disappear everything that is not aligned with his discourse and way of thinking. A similar attack on the education sector refers to radical changes in the interpretation of Mexico’s history in textbooks and changes in curricula, arguing that they have a “neoliberal” tendency. However, this meaningless shift in rhetoric confuses and hinders progress. Additionally, some actions violate the rights of children and young people, such as non-compliance

with the SEP on the elimination of Full-Time Schools published in the DOF on February 28, 2022⁵⁹. Associations such as “Mexicanos Primero” have described this act as a contempt for the rights of 3.6 million children and their families who are left without the possibility of additional class hours through the extended school day and without food service at their school, a grievance for teachers and a regressive measure for human rights. (Mexicanos Primero, 2022)

STI policy in Mexico has lacked a priority historical vision having little support from resources despite evidence that it would promote human development. According to the Human Development Index (HDI), among the countries with the highest HDI values, three are also countries that devote high resources to research and development, with averages above 2% of GDP. While countries with lower human development (less than 0.796) generally allocate less than 0.30 % of GDP to science and technology (UNDP, 2020) (Table 40).

Mexico is in a catastrophic situation in many areas that promote and encourage development. The STI is one in which the country has not only not shown signs of being able to make positive progress, but

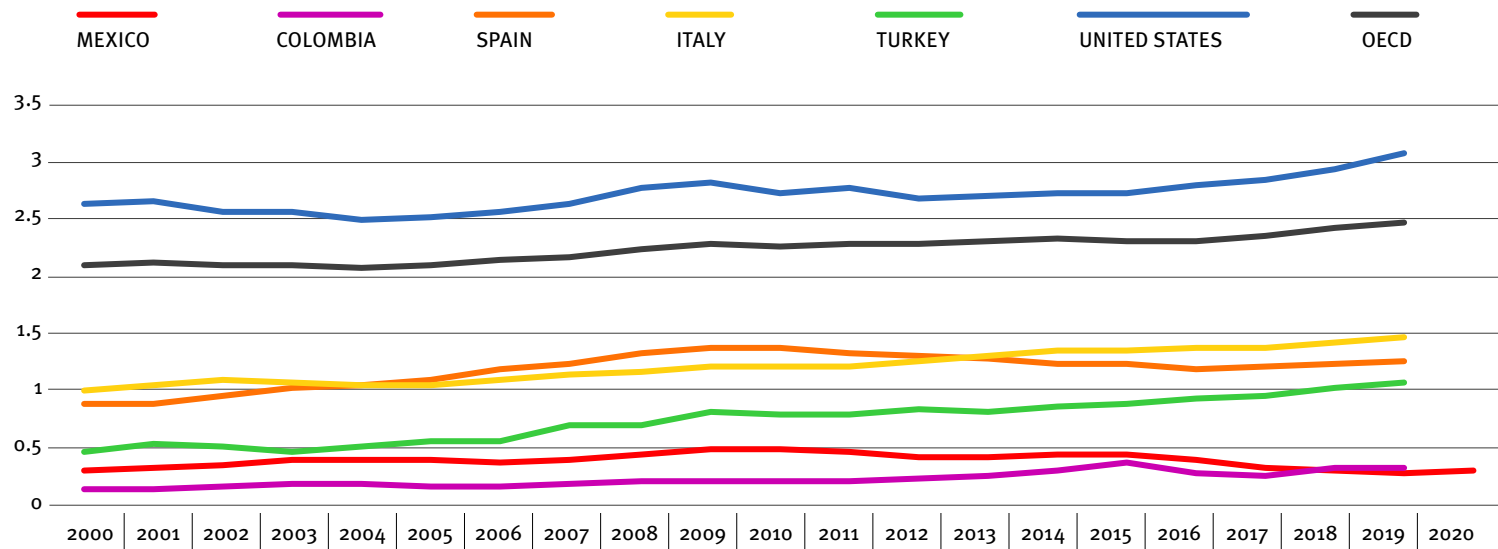
TABLE 40. COUNTRIES WITH HIGH VALUES OF HDI AND S&T SPENDING

DEVELOPMENT LEVEL	COUNTRY	HDI VALUE (2020)	HDI POSITION	SPENDING ON S&T/GDP (%)
Very high HDI	Germany	0.947	6	3.13%
Very high HDI	Norway	0.957	1	2.07%
Very high HDI	Iceland	0.949	4	2.04%
High HDI	Mexico	0.779	74	0.31%
Medium HDI	El Salvador	0.673	124	0.16%
High HDI	Peru	0.777	79	0.13%
Medium HDI	Iraq	0.674	123	0.04%

Source: In-house elaboration with information from UNDP (2020) and the World Bank (2019c).

⁵⁹ SEGOB, 2022. Available at: <https://tinyurl.com/yckuudej>

GRAPH 41. EVOLUTION OF RESEARCH AND DEVELOPMENT (R & D) EXPENDITURE
PERCENTAGE OF GDP



Source: In-house elaboration with data from OECD (2022).

with policies of confrontation and destruction, this area is increasingly stagnant. In 2018, Mexico ranked 74th on the HDI with a value of 0.779, allocating only 0.31 % of GDP to Science and Technology. The need to allocate resources to strengthen public policies in this area is not only *necessary* but *urgent*. Spending on research and development indicates that Mexico is below the OECD average, below countries such as Turkey, Spain, and Italy, with a downward trend (UNDP, 2020) (Graph 41).

In Mexico, private funding for STI has been stagnant at 30%, a lower percentage compared to other developed countries, which is up to 50% of spending (Conacyt, 2017 and OEI, 2018). This implies a limitation and an obstacle for Mexico to move towards a knowledge-driven economy, capable of linking the public sector with public and private universities, research centers, and the private sector mainly (Signos Vitales, 2021c).

DEEPENING THE CONTRACTION OF THE BUDGET



In Mexico, the main body responsible for promoting the country's technological and scientific development is Conacyt, whose objective is to “contribute to the promotion and strengthening of scientific research, technological development and innovation in the country, through the generation and application of the humanities sciences and technologies that generate a science committed to society and the environment, and achieve scientific sovereignty that elevates the well-being of the population” (SEGOB, 2020). Despite this titanic mission, the budget allocated to this sector has decreased dramatically since 2015 (Fundar, 2022) (Graph 42).

For 2022, Conacyt has a budget increase of 9.2% compared to last year; in fact, with 29.564 Bp, the allocation of PEF 2022⁶⁰ is the highest recorded in this administration. However, it still does not reach

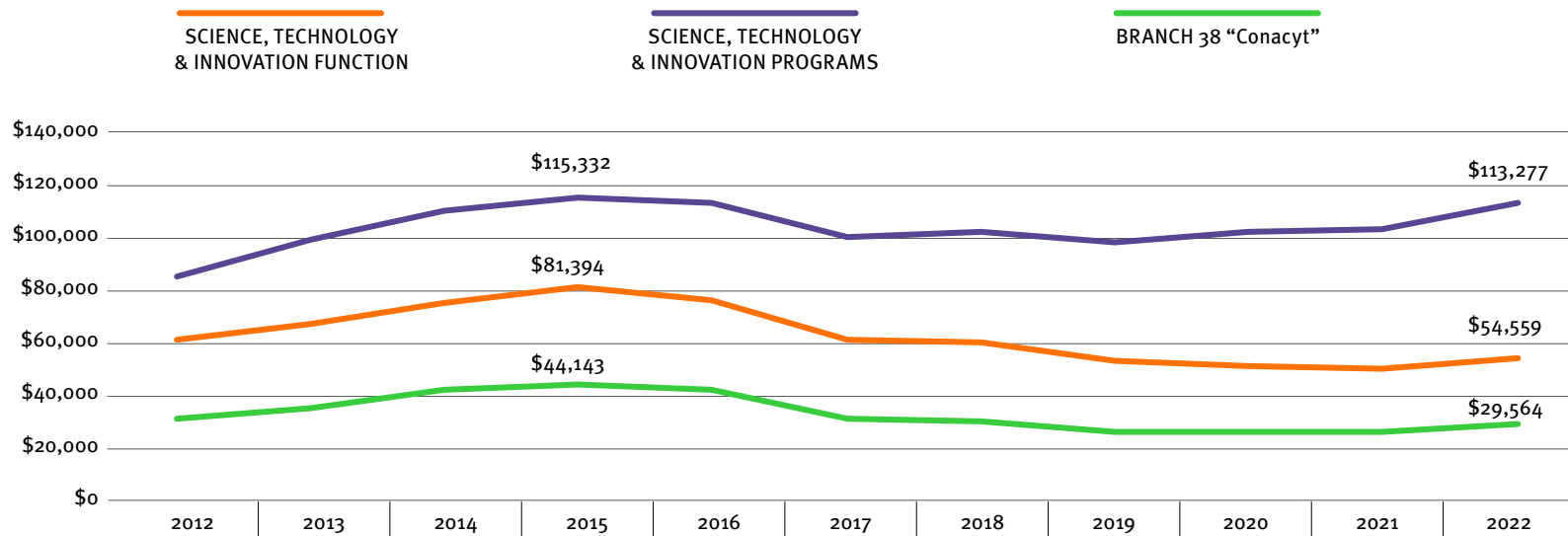
⁶⁰There are three possibilities to observe the budget allocations that the federal government makes to science and technology: the first and most direct, the budget to Branch 38 National Council of Science and Technology (Conacyt); the second, according to the functional classification, the resources destined to the function science, technology and innovation, and the third, through the transversal program of the same name.

the levels of 2018, much less 2015, which was the year with the highest budget for S&T (SHCP, 2022c) (Graph 42).

One of the contempt signs for science is the lack of transparency in the resources flowing into this sector. Hundreds of members of the scientific community and at the same time experts in STI policies (Ma. Brenda Valderrama and Gabriela Dutrénit) show that the Special Program of Science, Technology, and Innovation (PECITI for its acronym in Spanish), which is a government program that Conacyt prepares through which resources are allocated to different dependencies –unlike the previous six-year term, it does not include strategic projects that approach priority problems and it is presented without correcting the flaws due to the disappearance of research funds (Díaz, 2022). This represents a total of more than 50 Bp of a total of 113 Bp of resources for 2022. The question that many of them ask themselves is: so where is that money?

The importance of PECITI, being a government program developed by Conacyt, implies its ability to co-

GRÁPH 42. BUDGETARY EVOLUTION TO SCIENCE, TECHNOLOGY AND INNOVATION IN MEXICO
2012–2022



Source: In-house elaboration with información from CEFPI (2020) and SHCP (2022c).

ordinate federal science and technology disbursing by guiding spending. However, Table 41 shows how the different agencies labeled the resources for 2022 being the ISSSTE, IMSS, and the Ministry of Communications and Transport, the three agencies that correctly labeled the resources to comply with the PECITI and in cases such as Energy which receives almost 10,000 Bp only labeled 9%. In total, of the 113 thousand Mp that is considered for the fulfillment of the PECITI, only 49% could be traced, leaving in total opacity the budget for STI for 2022 (Díaz, 2022).

CONACYT HAS A BUDGETARY INCREASE OF 9.2% IN RELATION TO LAST YEAR'S BUDGET; THE ALLOCATION OF THE FEDERAL EXPENDITURE IN 2022 IS THE HIGHEST REGISTERED IN THIS ADMINISTRATION. HOWEVER, IT HAS NOT REACHED THE 2018 BUDGET LEVEL.

**TABLE 41. AMOUNTS OF THE 2022 FEDERATION EXPENDITURE BUDGET
ALLOCATED TO UNITS WITH FILES IN THE SCIENCE, TECHNOLOGY, AND INNOVATION FUNCTION**

2020

DEPENDENCIES WITH FILES IN THE SCIENCE, TECHNOLOGY, AND INNOVATION FUNCTION	FILES	AMOUNT IN MILLIONS OF PESOS	2022 BUDGET MILLIONS OF PESOS	% OF THE BUDGET ASSIGNED TO THE CTI FUNCTION	BUDGET PER UNIT FOR COMPLIANCE WITH THE PECITI	% OF PECITI BUDGET IN CTI FUNCTION
Agriculture and Rural Development	203	\$1,687	\$55,788	3%	\$5,562	30%
National Council for Science and Technology	2,921	\$29,487	\$29,564	99%	\$33,872	87%
Economics	25	\$157	\$3,586	4%	\$1,474	10%
Public Education	456	\$17,180	\$364,600	4%	\$47,039	36%
Energy	83	\$898	\$47,057	1%	\$9,983	9%
Infrastructure, Communications and Transport	153	\$207	\$65,553	0%	\$207	100%
Social Security and Services Institute for State Workers	866	\$175	\$396,948	0%	\$175	100%
Mexican Social Security Institute	380	\$725	\$1,010,840	0%	\$725	100%
Environment and Natural Resources	155	\$381	\$40,795	0%	\$568	66%
Salary and Economic Provisions	1	\$2,411	\$134,623	1%	\$2,411	100%
Health	786	\$2,519	\$193,948	1%	\$8,721	28%
Security and Citizen Protection					\$71	0%
Federal electricity commission					\$2,122	0%
Attorney General's Office					\$162	0%
Culture					\$136	0%
Navy					\$14	0%
Foreign Affairs					\$2	0%
TOTAL	6,029	\$55,833.06	\$2,343,307.76	2.38%	\$113,254	49%

Source: In-house elaboration with information from Valderrama (2021).

THE DISAPPEARANCE OF FUNDS AND TRUSTS: MEDIUM TERM IMPACTS



The structure of the Mexican scientific system is built on three pillars: the postgraduate scholarship program, the national system of researchers, and the system of funds for research, despite the fact that the three components are threatened, and on the verge of disappearance, with regards to the latter, the research trusts were established with the sole purpose of providing the economic means necessary to develop scientific research projects through various award mechanisms and are evaluated by peers (Valderrama and Romero, n.d.). In the investigation-trusts case, all are public. In them, the exercise of resources is audited by the Superior Audit of the Federation and the Secretariat of the Public Service.

By early 2020, the national system of funds for developing science and technology activities was made up of 91 trusts: 27 in Public Research Centers, 24 Sectorial, 35 Mixed, and 5 Institutional. However, the concrete actions against science by Conacyt during the current administration were reflected in the cancellation of economic resources, the extinction of 65 sci-

ence trusts, the elimination of financial incentives for researchers from private universities affiliated with the National System of Investigators (SNI for its acronym in Spanish), the identification of private initiative as corrupt in the management of R&D funds, as well as the idea of the politicization of science where the private sector, society, and the state should act in favor of an ecosystem of innovation (Signos Vitales, 2021c).

The extinction of these trusts has dire consequences for the entire Mexican scientific apparatus. For many researchers, particularly those attached to the Public Research Centers, these consequences will be direct and severe, as they lose the only legal mechanism through which the application of self-generated resources in their research was allowed. According to Valderrama and Romero (n.d.), The federative entities also lose out because their only investment instrument in scientific infrastructure disappears. “Education loses out because the SEP-Conacyt fund disappears, which was the only one in the country

THE STRUCTURE OF THE MEXICAN SCIENTIFIC SYSTEM IS BUILT ON THREE PILLARS:

1. THE POSTGRADUATE
SCHOLARSHIP PROGRAM,
2. THE NATIONAL SYSTEM OF
RESEARCHERS, AND
3. THE SYSTEM FUNDS FOR
RESEARCH

that invested in basic science. Technologists lose out because the sectoral funds that were the ones that guided the research for the solution of national problems by sector disappear. Young people lose out because the resources they could carry out their thesis research disappear. And Mexican society loses out by ceasing to generate knowledge” (Valderrama and Romero, n.d.).



Image: “The happy numbers of the government on science and technology”/ Eleconomista.com.mx at <https://tinyurl.com/278t3bee>

CONACYT’S CONCRETE ACTIONS AGAINST SCIENCE HAVE BEEN:

- » THE CANCELLATION OF ECONOMIC RESOURCES,
- » THE ELIMINATION OF FINANCE INCENTIVES FOR RESEARCHERS FROM PRIVATE UNIVERSITIES AFFILIATED WITH THE NATIONAL SYSTEM OF INVESTIGATORS (SNI),
- » THE IDENTIFICATION OF PRIVATE INITIATIVE AS CORRUPT IN THE MANAGEMENT OF RESEARCH AND DEVELOPMENT FUNDS,
- » AS WELL AS THE IDES OF THE POLITICIZATION OF SCIENCE WHERE THE PRIVATE SECTOR, SOCIETY AND THE STATE SHOULD ACT IN FAVOR OF AN ECOSYSTEM OF INNOVATION.

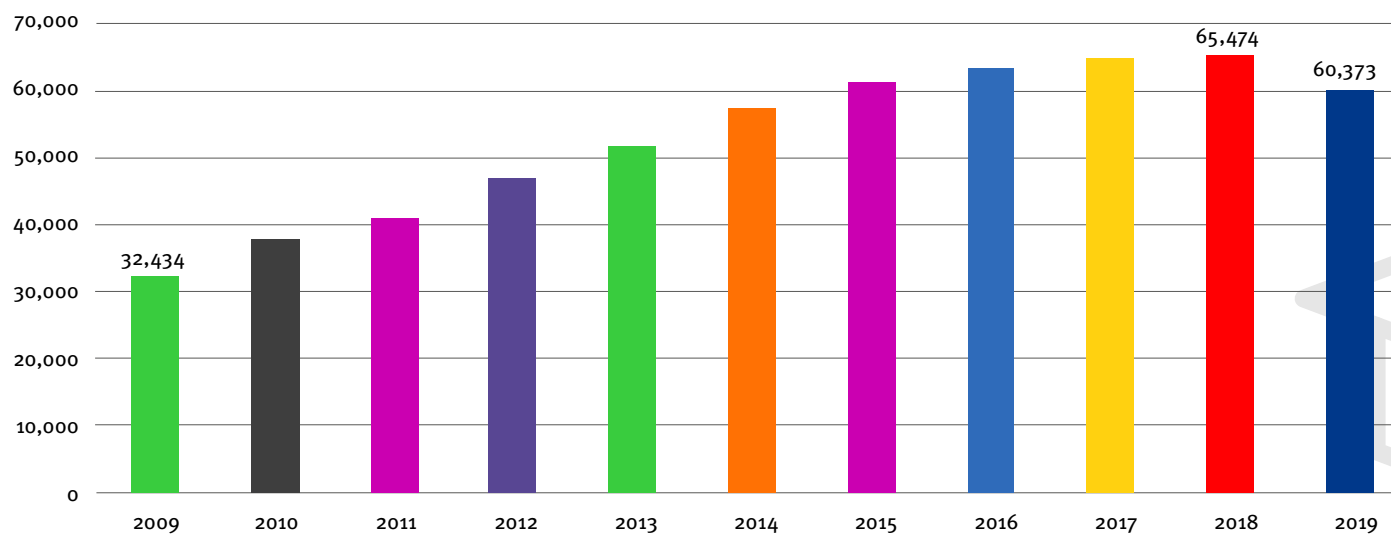
PROSPECTS IN SCIENCE AND EDUCATION: CAREER DEVELOPMENT DISINCENTIVES



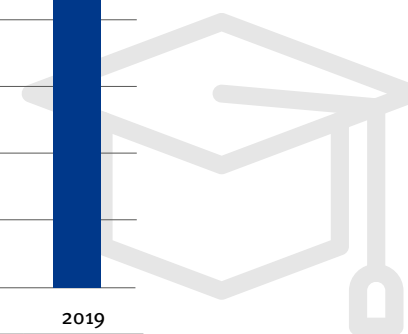
The dismantling and destruction of the traditional channels through which STI operates also have an essential part in training scientists and technologists in the country. This scenario has negatively affected scholarships that had shown growth, at least until 2019, which reflected the commitment of the Mexican state in the formation of human capital and results in the generation of knowledge (Conacyt, 2021) (Graph 43).

The destruction that the current government has implemented has also been reflected in this important component of the country's scientific, academic and intellectual life. The data on the allocation of scholarships show significant decreases stemming from the current administration's management. As of December 31, 2019, 60,373 active scholarships were supported, representing a decrease of 9.6% compared to those

GRAPH 43. SCHOLARSHIPS IN FORCE AS OF DECEMBER OF EACH YEAR



Source: In-house elaboration with data from Conacyt (2021) and Conacyt (n.d.).



granted in 2018, and an average annual growth rate of 2.7% was recorded during the 2012–2019 period. Of these scholarships, 88.5% (53,440) were National Scholarships; 7% (4,194), Foreign Scholarships, and 4.5% (2,739), specific scholarships (Conacyt, 2021).

The reflection of an anti–CTI policy, based on irrational and unjustified arguments, shows a sector on the verge of collapse. An example is the government’s position during the pandemic, where the vast majority of successful decisions have been caused and supported by STI. The resources flow to this sector has been limited, the authorities’ intimidation of this community constant, and, in many cases, perverse.

While the world has cultivated hope to emerge from this crisis, thanks to science and technology, Mexico and the rest of Latin America have exposed their weaknesses in the research, development, and distribution of vaccines, treatments, and medical devices (Valderrama *et al.*, 2021). Although the year 2022 promises to be the year of basic science for sustainable development according to UNESCO (n.d.), the development of knowledge and promotion of science should move from political discourse to act with responsibility to face global challenges, including the Sustainable Development Goals of the 2030 Agenda.



THE DEFICIENT SCIENTIFIC AND TECHNOLOGICAL POLICY in Mexico demonstrates the absent long–term vision of the government. This situation threatens physical and human capital accumulation, infringes the generation and growth of knowledge, and hurts the education of children and youth, risking social mobility and the country’s growth.

9

FINAL COMMENTS

Image: <https://tinyurl.com/5ymkh84j>





FINAL COMMENTS

«

Analyzing, studying, and comparing a country's performance is not an easy task. Several different areas and components must be considered and have the appropriate elements that allow diagnosing, quantifying, and qualifying achievements, goals, and the results obtained. Analyzing the performance of Mexico, after more than three years of government, is becoming increasingly complicated for several reasons, one of the main being the absence and lack of reliable and trustworthy information, a case that has

unfortunately permeated practically all the areas in which the government has interference.

The organization Vital Signs has been able to report the state the country keeps through a meticulous exercise of search, storage, and analysis of information from official and primary sources. An informed society allows, together with other key actors, to define the direction that a country takes over time and, at the same time, to be an element of advocacy to achieve the objectives set as a nation. The more quality infor-

The more quality information exists, the more accurate decision-making is, and the timelier the results tend to be.

Unfortunately the lack of trustworthy information has permeated practically all the government.

mation society has, the more accurate the decision-making cycle is and the timelier the results tend to be.

The strategy of basing the information contained in this report, both on data and on quality indicators that account for the progress or regression of the country, makes it increasingly difficult to deny the true scenario that Mexico is going through. The results and evidence showed here evidence a country increasingly affected by the imposition of a political and ideological project, by improvisation and bureaucratic inefficiency, and by the destruction and institutional dismantling; elements that, as a whole, contribute to the delay and stagnation that has been fostered and promoted from the national palace during this time.

Of the five areas addressed in this report, GOVERNANCE, SOCIAL, ECONOMIC, ENVIRONMENTAL, AND SCIENCE & TECHNOLOGY, all present precarious, if not zero, advances, and in many others, important setbacks that undoubtedly raise red flags about the consequences that these problems will bring in the coming years. Seen as a single element, Mexico currently has a universe of problems that it has not been able to solve, and even worse, it has not shown signs that it has the institutional capacities, infrastructure, and equipment to deal with them positively.

Two years after the COVID-19 pandemic declaration by the WHO in 2020, Mexico continues stuck in an aversion to the past-based discourse, on hatred-towards science and data, and on encouraging division and confrontation among Mexicans. Without a timely strategy to solve real problems, the president is looking for a new enemy to blame and fight every morning. Meanwhile, major issues such as ATTACKS, INTIMIDATION, HARASSMENT, OR THREATS AGAINST JOURNALISTS remain on hold without finding a solution to this serious national problem. Like the previous one, there is the VIOLATION OF HUMAN RIGHTS which, according to the United Nations High Commissioner for Human Rights, Mexico is currently the second country with the most recommendations received by this body since 2007, accumulating 1,209 (OHCHR, 2022).

According to the report on homicides against activists presented by Global Witness (2021) in 2020, Mexico is the second most dangerous country for LAND AND ENVIRONMENTAL ACTIVISTS WORLDWIDE, just behind Colombia. This topic has been a banner of the current government, the latest installment of the corruption perception index prepared by Transparency International (2021), MEXICO IS AMONG THE MOST CORRUPT COUNTRIES IN THE WORLD, and this is a situation that

The results and evidence showed here shows a country increasingly affected by the imposition of a political and ideological project, by improvisation and bureaucratic inefficiency, and by destruction and institutional dismantling.

contradicts the presidential arguments, which, according to an inadequate measurement, ensure that Mexico, the president, his family, and his officials are free from corruption.

Mexico's fall in other indicators is equally dramatic. In HEALTH, for example, the country has an excess of deaths of 54.79% compared to those reported from 2015 to 2019, being the highest percentage among OECD countries (OECD, 2021d). The same happens in THE EDUCATION SECTOR, where according to a joint report by UNESCO, UNICEF, and the World Bank (2021), Mexico and other countries such as Brazil or Pakistan, SHOW SUBSTANTIAL LOSSES IN MATHEMATICS AND READING. Of the 76 budget programs that the SEP had from 2018, there are only 38, which also disappeared by 2021, 15 key programs, such as Full-Time Schools, Educational Evaluations, Development of Significant Learning of Basic Education, among others. Between 2018 and 2020, EXTREME POVERTY increased from 7.4% to 9.2%, equivalent to an additional 2.4 million people living in extreme poverty. In Mexico, 67.6% of the population has at least one of the six social deprivations, translating into 85.7 million Mexicans, one million more compared to 2018 data (Coneval, n.d.). Data resonate in the international context, given that by 2020, Mexico

was the eighth country with the greatest poverty of the 36 OECD countries (OECD, 2021h).

In terms of growth, by 2020, the MEXICAN ECONOMY fell 8.3%, which meant the greatest calamity in modern history, having an impact in 2021, given that it only grew by 5%. (INEGI, 2021i). This means that the policies implemented to make the country grow have been insufficient because the country was at the levels in 2016. Globally, in 2020, GDP fell by -3.4%, the contraction in Latin America and the Caribbean (LAC) was -6.7%, in the North American region (NA) -3.8%, and among OECD member countries, the variation reached -4.6% (World Bank, 2020a). As a result, the Mexican economy has fallen from position 15 to 16, surpassed by Indonesia (OECD, 2021c).

In 2019, Mexico ranked 24th internationally and second in Latin America as one of the countries with the greatest WATER STRESS (WRI, 2019). Mexico and Brazil are the only Latin American countries ranking in the 15 countries that emit the most carbon dioxide (CO₂) globally, led by China, the United States, India, Russia, and Japan internationally (BBC News, 2019). By 2020, PM2.5 AIR POLLUTION caused the deaths of 163,000 people in the five most populated cities in the world: Delhi in India, Tokyo, Japan, Shanghai, Chi-

Without a timely strategy to solve real problems, the president looks for a new enemy to blame and fight every morning.

na, São Paulo, Brazil, and Mexico City, with 15,000 deaths (Greenpeace, 2020).

Finally, one of the most attacked and demonized sectors by the president himself is that of science and technology, where there is no transparency of the resources that flow into this sector. Members of the scientific community and at the same time experts in STI policies have evidenced that the Special Program of Science, Technology, and Innovation (PECITI)⁶¹, entered into force two years later, with ambiguities and without correcting the flaws in the face of the disappearances of research funds (Díaz, 2022). This represents a total of more than 50 Bp lost, out of 113 Bp of resources for 2022.

The evidence, the data, and the national and international indicators certify that Mexico's direction is not the right one. Mexico has gone from being a country that remained healthy to one where its vital signs are increasingly worse. The Mexican government has already shown that it is not going to change the course. On the contrary, it has attacked everything that goes against the promotion and dissemination of its political and ideological project. The country's health

requires a change in habits, actions, and attitudes, which, unfortunately, we will not be able to see in the current administration. Based on international standards, this report accounts for the sharp falls the country has had in areas where it was previously a leader and a pioneer. Mexico deserves more and better than we have.

Based on international standards, this report accounts for the sharp fall the country has suffered in areas where it was previously a leader and a pioneer.

Mexico deserves more and better than we have.



⁶¹ A government programme developed by Conacyt that allocates resources to different units.

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Image: <https://tinyurl.com/2ma22yz7>



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