OXFORD BUSINESS GROUP

Mexico

Covid-19 Recovery Roadmap

July 2021

Content Guide

PART 1

Resilience

PART 2

Response

PART 3

Recovery

PART 4

Reinvention

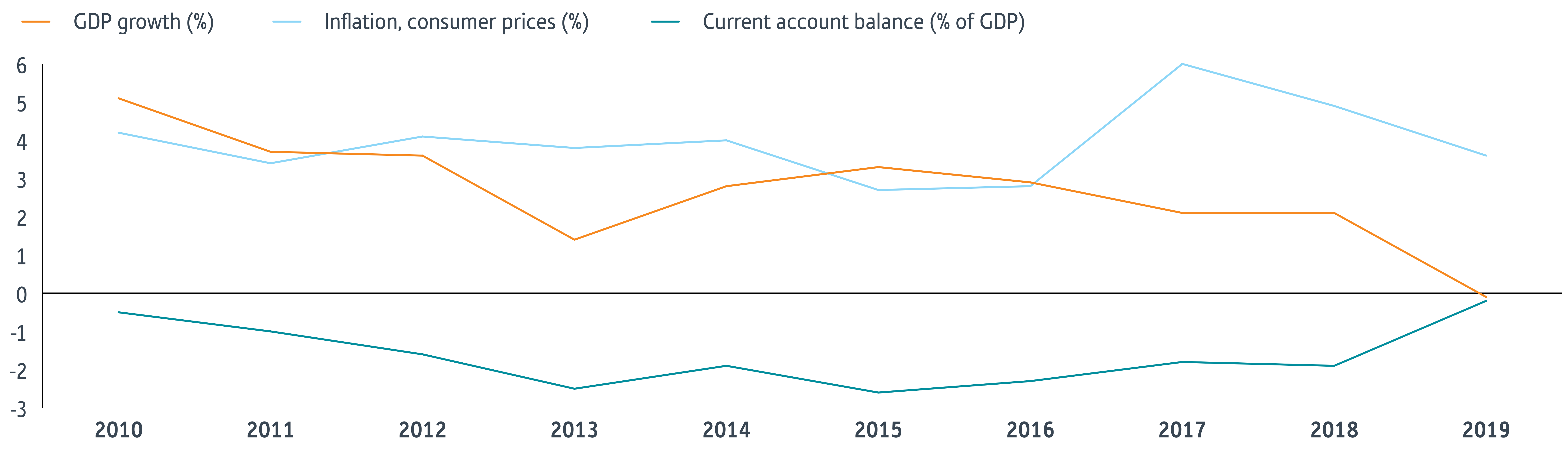
Pre-Covid-19 Macroeconomic Overview

Mexico was the world's 15th-largest economy by nominal GDP prior to the pandemic, according to the IMF. The economy is supported by stable and sustainable monetary and fiscal policies that the country has employed since the turn of the century. The Mexican peso crisis in the mid-1990s prompted the government to adopt a flexible exchange rate, tackle high inflation, grant more autonomy to the central bank, implement fiscal consolidation, improve debt management, strengthen macro-prudential regulations and open the financial sector to foreign participation.

One measure of success is the inflation rate, which averaged about 4% between 2001 and 2019 – below the average for the Latin America and Caribbean region, and down significantly from the average of 39% recorded between 1985 and 2000. Mexico's prudent macroeconomic policies have made it stand out in the upper-middle-income bracket and have brought the country credibility internationally. They have also bolstered the attractiveness of the currency: the Mexican peso was the second-most highly traded emerging market currency after the Chinese yuan before the pandemic.

Despite this macroeconomic stability, economic growth in Mexico has been slow since 2011, although marginally outperforming the regional average. In line with the global economic slowdown in 2019, Mexico's economy contracted by 0.1% that year, down from growth of 2.1% in 2018. The weak performance was driven by a fall in oil prices and domestic production, a decrease in manufacturing activity in the US and a continued slowdown in investment. Moreover, the ongoing financial unravelling of PEMEX, the state-owned petroleum company, led to a downgrade in its credit rating that had a spillover effect on Mexico's sovereign rating. In March 2019 the country was issued a credit rating of "BBB+" with a negative outlook by Standard and Poor's, while in June of that year Fitch gave a rating of "BBB" with a stable outlook and Moody's issued "A3" with a negative outlook.

Macroeconomic indicators, 2010-19



Graph source: *World Bank*

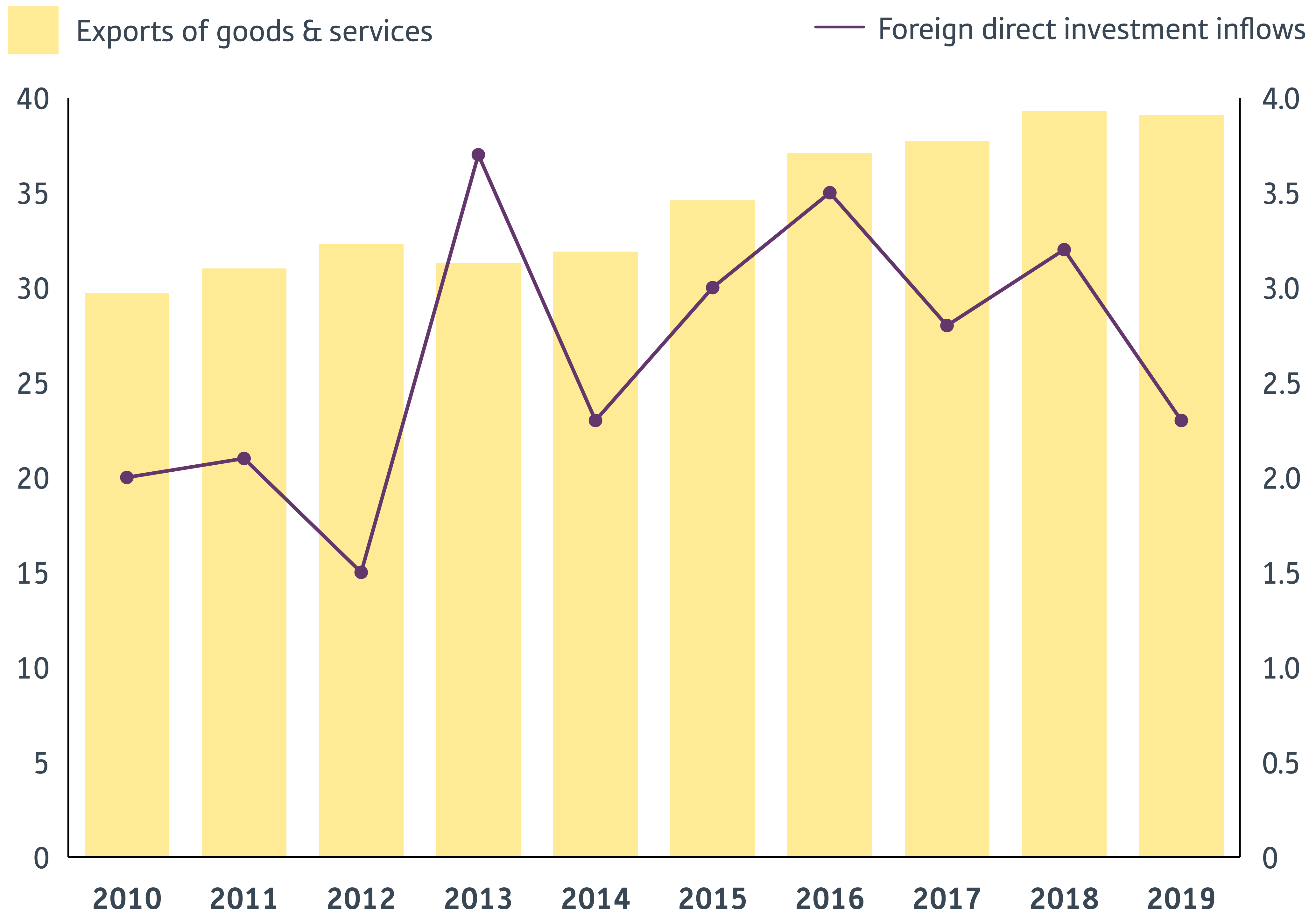
Trade and Investment

Mexico has become one of the most open countries in the world since the 1990s, partly due to its 12 free trade agreements with 46 countries as of 2020. Indeed, the US Department of Commerce characterises the Mexican market as "one of the most open and competitive in the world". Mexico is also a signatory to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which covers 11 economies, including Australia and Vietnam. In light of these deals and Mexico's broader export-oriented economic profile, total trade value was equivalent to 78.2% of GDP in 2019. Although Mexico is the 15th-largest economy in the world, it ranks as the ninth-largest exporter. Before the pandemic, the country was the top global exporter of beer, tractors, delivery trucks and tropical fruits. Its principal exports also include cars, computers, auto parts and crude oil.

Mexico's most important trade partner has historically been, and continues to be, the US. The relationship was strengthened in 1994 with the inception of the North American Free Trade Agreement (NAFTA), which greatly facilitated Mexico's current global trade volume and economic ties with the US. It also laid the groundwork for the US-Mexico-Canada Agreement, which was negotiated in 2017 and 2018 to update the provisions of NAFTA. Exports to the US totalled $18.5bn in 1990 and this rose to $358.1bn in 2019. US imports increased from $20bn to $256.4bn over the same period, creating a trade surplus of $101.7bn by 2019. In addition to the US being Mexico's largest trade partner, Mexico was the US' top partner prior to the pandemic.

In terms of investment, Mexico's economic liberalisation over the past three decades has increased the inflow of foreign capital. Foreign direct investment (FDI) inflows have grown from 1% of GDP in 1990 to 2.3% of GDP in 2019 – $33bn that year and $35bn in 2018 in absolute terms. Estimated FDI stock was $628bn as of 2019. The top sectors for FDI are automotive and manufacturing more broadly, as well as telecommunications, financial services and retail. The top sources of FDI in Mexico in 2019 were the US (36.8% of the total), Spain (12.1%), Canada (9.7%), Germany (9.2%) and Italy (4.5%).

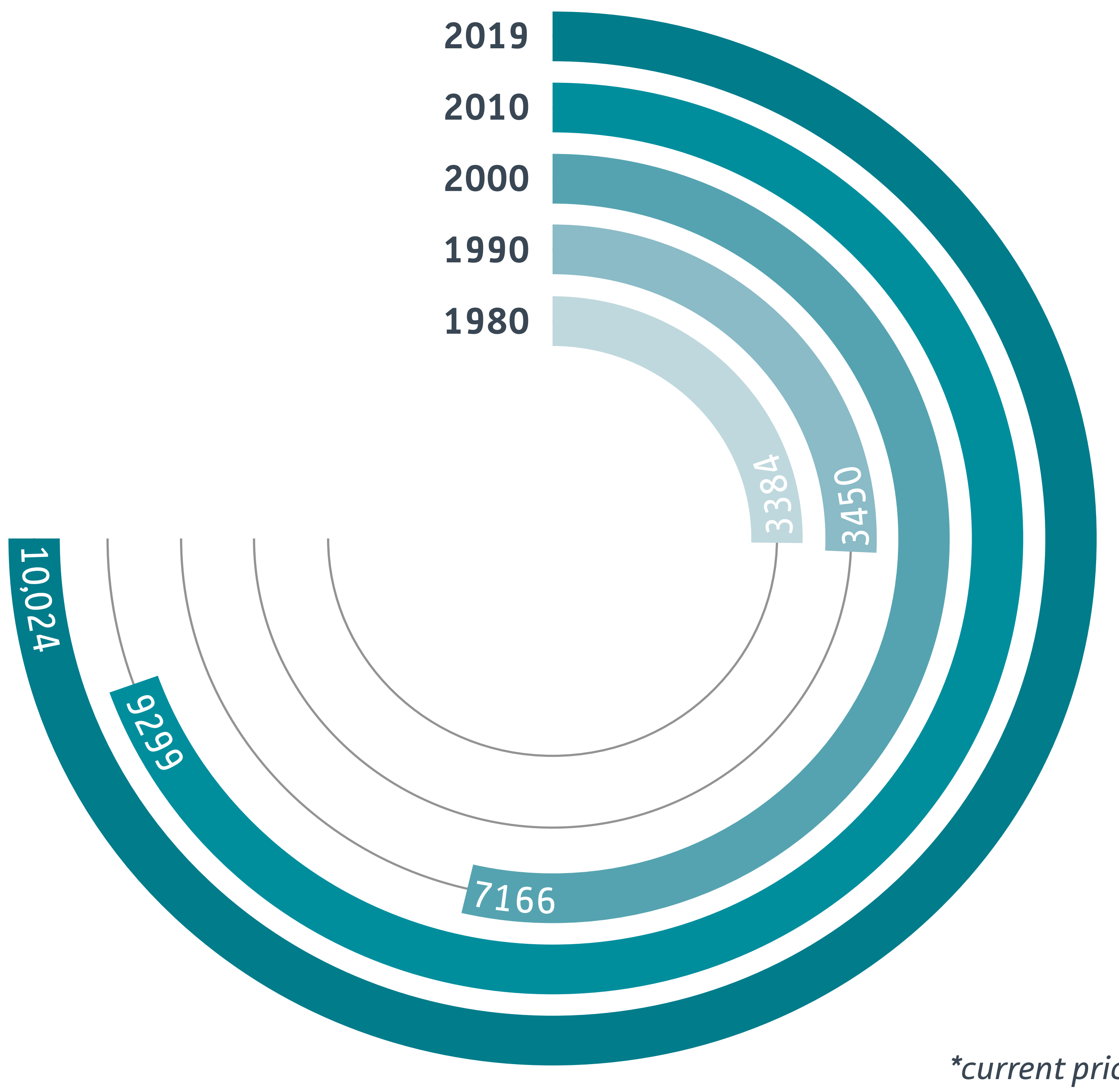
Trade & investment volume, 2010-19 (% of GDP)



Graph source: *World Bank*

Economic Vulnerabilities

GDP per capita*, 1980-2019 ($)



*current prices

While Mexico has enjoyed relative macroeconomic stability over the past 25 years, the country has not enjoyed the growth seen in Africa, South-east Asia or elsewhere in Latin America. According to the World Bank, Mexico's economy has underperformed in terms of growth, inclusion and poverty reduction compared to its peers. Real GDP growth has fallen short of that of many other emerging economies, while GDP per capita has increased at a compound annual growth rate of around 2.8% since 1980, diverging from that of the US: in 1980 Mexico's GDP per capita was 27% of the US figure in current dollars, but by 2017 it had fallen to 16%. Mexico's economic gap with higher-income economies has therefore widened, while other countries such as Chile have experienced per capita convergence with the US, moving from 20.5% to 25% of US GDP per capita during that time.

Several factors explain Mexico's prolonged economic underperformance. The main issue to contend with is deep-seated inequality that manifests in different ways across the economy: overall per capita income growth is low and varies significantly by industry and region. A primary reason for this is overall low total factor productivity (TFP) growth, which follows similar patterns as per capita income. In essence, TFP captures the efficiency and intensity with which factors of production are employed and is therefore linked to technological progress and innovation. The World Bank estimates that "the contribution of TFP to growth was negative (-1%) between 1991-2016". A contributing factor to low TFP is insufficient capital accumulation and relatively low public investment. Mexican public investment in infrastructure stood at an average of 3.2% of GDP between 2008 and 2015. In 2017 that figure was 1.7% of GDP when investment in PEMEX was excluded. This is far below the 5% or more spent in other Latin American economies.

Another important economic vulnerability is Mexico's high level of informality, which exposes much of the population to economic shocks without a sufficient social safety net. This is especially the case for the large number of indigent elderly people who have worked outside the formal employment system their entire lives. Not only does this level of informality pose issues for individuals, but it also reduces Mexico's tax base, which impacts the country's overall rate of development by way of public spending.

Graph source: *IMF*

PART 1

Resilience

PART 2

Response

PART 3

Recovery

PART 4

Reinvention

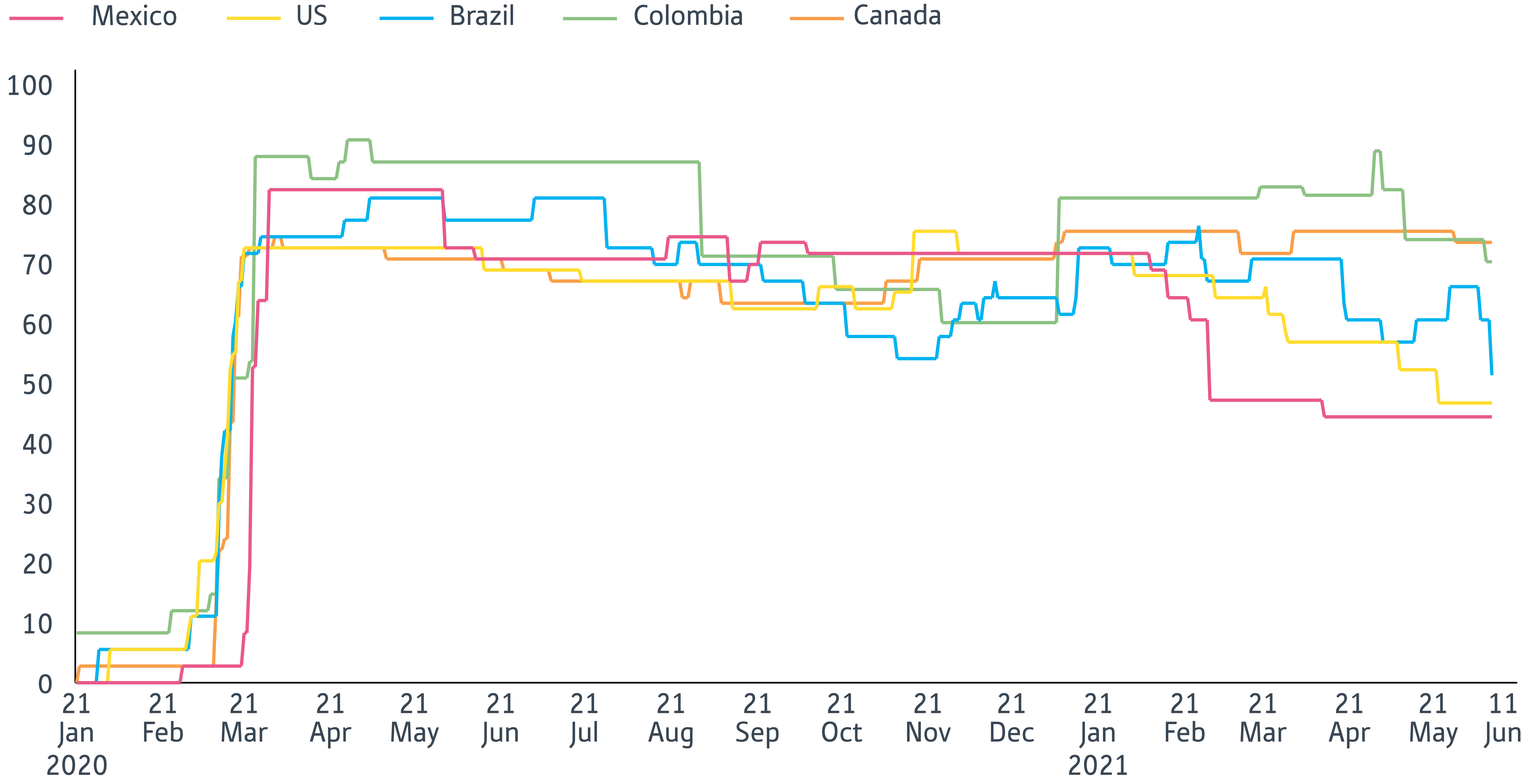
Stringency Measures

Despite establishing a three-phase contingency plan – known as the Preparedness and Response Plan – in early 2020, the Mexican administration differed from many of its counterparts in Latin America by not implementing stringent measures in response to rising domestic cases. The absence of an early concerted and comprehensive response saw Mexico record the fourth-highest national death toll as of mid-June 2021, at 230,624 – surpassed only by the US, Brazil and India.

On March 30, 2020, as Mexico reached 1000 cases, a health emergency was declared and measures were tightened, including further curtailing social gatherings, encouraging quarantining and suspending all non-essential activity. In mid-May the government announced its New Normal roadmap, which extended essential activities to include construction, mining and the manufacture of transport equipment. From May 18 municipalities with no cases of Covid-19 not bordering areas with Covid-19 cases could resume non-essential activities. A four-level traffic light system, which was rolled out on June 1, gradually reopened economic activities across the country.

Covid-19 has had heterogeneous effects across Mexico's regions and economic sectors. Overall, the economy contracted by 19.9% and 22.7% in April and May 2020, respectively, compared to the same months in 2019. Economic activity in the second quarter of 2020 fell by 19-20% – the largest year-on-year drop for that period in recorded history. Between March and June 2020 over 1.1m formal jobs were lost, which were disproportionately concentrated among low-income workers. Despite the notable contraction in formal employment, however, the unemployment rate did not increase significantly, rising by only 0.7 percentage points between May 2019 and May 2021.

Government Response Stringency Index*



The Oxford Covid-19 Government Response Tracker (OxCGRT) systematically collects data on different policy responses governments have taken in response to the pandemic on 17 indicators such as school closures and travel restrictions

Graph source: *Stringency Index: Oxford Covid-19 Government Response Tracker (OxCGRT)*

Fiscal and Monetary Measures

Bank of Mexico Monetary Measures

Swap lines	Agreements that are made between central banks to exchange and hedge currencies to reduce market tensions. This was done in collaboration with the US Federal Reserve to boost liquidity in the market and control the exchange rate.
Monetary regulation deposit	The collection of deposits that banks must have in the Bank of Mexico was reduced from MXN320bn to MXN270bn, which gave intermediaries room to inject liquidity into the market
Government bonds	The trading of long-term government bonds for shorter-term ones was enacted to provide banks immediately with more resources, thereby increasing overall liquidity in the banking system
Interest rates	By bringing down the interest rate, as the central bank did on March 26, 2020, from 7% to 6.5%, and subsequently to 6% and 5.5%, the financial system had enough liquidity to encourage consumption
Direct liquidity injection	MXN750bn was injected into the market, which is equivalent to around 3.3% of GDP. This was allocated as funds for micro-, small and medium-sized enterprises, which in turn gave banks more room to issue loans

Mexico's response to the Covid-19 pandemic in terms of both fiscal and public health was more modest than many countries with similar GDPs. This is in line with the federal government's strict fiscal policy. Mexico has allocated approximately one-fifth of the fiscal support earmarked by emerging countries, and even less when compared to the Latin American average.

While many of its neighbours have opted to borrow from multilateral institutions, Mexico did not access its $61.4bn IMF flexible credit line. Although it borrowed $1bn from the World Bank in late May 2020, Gabriel Yorio, the deputy minister of finance and public credit, told international press that the loan was for a development policy and not the country's Covid-19 response programme.

Instead of issuing significant debt, the government was authorised to reduce up to 100% of the primary balance approved in the 2020 budget, equivalent to 0.7% of GDP. It then reallocated the budget towards essential activities, and relied on monetary policy to bolster the financial markets and facilitate lines of credit and liquidity channels for companies and households. Overall, the budget reallocation aimed to provide 3m loans to individuals and small family businesses and create 2m jobs – without taking on extra debt, increasing fuel prices or raising taxes.

On April 23, 2020 the federal government announced fiscal austerity reforms, whereby 75% of the available budget for general services, and materials and supplies would not be spent, with the exception of the Ministry of Health and the Ministry of National Defence, leaving MXN622.6bn available for welfare and infrastructure programmes. The day prior Mexico issued $6bn in bonds, with five-year, 22-year and 31-year maturities, at yields of 4.125-5%.

Infographic source: *Banxico*

Logistics

Arguably one of the greatest achievements of the pandemic was the overall resilience of supply chains, both locally and globally, despite disruptions. This underscored the strength of the logistics industry, even under immense pressure. The sector did face challenges, however. The closure of the US-Mexico land border to non-essential traffic created obstacles to trade. While the flow of goods was exempt, the situation still presented complications for the industry.

The US is Mexico's largest trade partner, and while the border closure affected transnational supply chains, a number of key measures implemented by the Mexican government and the private sector helped mitigate the challenges. The Customs Technological Integration Project (Proyecto de Integración Tecnológica Aduanera, PITA) was already in operation pre-pandemic, but it was expanded in 2020 and became available at 60 checkpoints across the country. PITA streamlines the Customs process by using a more efficient technological system to track goods moving in and out of the country. Not only did this make Customs checks more seamless, but it also reduced the need for human contact. The Inter-American Development Bank cited it as a model for other countries in the region such as Costa Rica, Nicaragua and Panama, with whom it is working to improve their Customs systems.

While many cross-border trade flows – in the automotive industry, for example – slowed as a result of the slump in global demand for certain goods, much of the logistics sector benefitted from the substantial increase in e-commerce activity. According to the Mexican Association of Online Sales, e-commerce sales in the country grew by 81% in 2020. This had an immediate knock-on effect for the logistics market, as 86% of survey respondents said they preferred online purchases to be delivered to their homes.

E-commerce sales in Mexico grew by **81%** in 2020

Case Study

ONE
OCEAN NETWORK EXPRESS

Ocean Network Express (ONE) was established in 2017 as the result of the integration of three major Japanese carriers, "K Line, MOL and NYK Line. The company has regional headquarters in Hong Kong, Singapore, the UK, the US and Brazil, and serves more than 100 countries. With an initial combined capacity of around 1.5m twenty-foot equivalent units, ONE has the sixth-largest fleet in the world.

Covid-19 affected the global logistics supply chain and forced shipping lines to contend with changing operational practices and delayed trade cycles. Mexico was experiencing a slowdown prior to the pandemic, as was reflected in lower container volumes; however, the crisis caused a more drastic reduction in imports and exports. Throughout the disruption and recovery phases, ONE's response measures, technological investments and capacity optimisation positioned it to support evolving trade requirements. From March 2020 onwards ONE focused on health and prevention, sending all its staff to work from home while establishing health protocols for the few employees required to work at ports.

ONE has seven shipping routes serving Mexico – four in the Pacific and three in the Gulf of Mexico – all of which were key to facilitating trade in and out of the country. As was the case in the wider shipping industry, ONE demonstrated rapid response and preparedness during the pandemic, anchored in effective fleet management, cost efficiency and balanced use of container capacity.

"Despite the unpredictable nature of the challenges posed by the pandemic, we were able to maintain our operations and communications thanks to technological advantages," Artur Bezerra, CEO of ONE México, told OBG. "As business transforms, driven by e-commerce and evolving consumption habits, technology will be critical to align our business with emerging trends."

Pharmaceuticals

The pharmaceutical sector in Mexico has had a strong productive capacity before the pandemic, but since then its importance has grown substantially. One of the principle challenges for stakeholders to respond to were the supply chain disruptions, as many of the raw materials involved in medicine production come from India and China. Although supply chains largely held up despite border closures, manufacturers had limited options when importing the necessary supplies. Many supplies were transported by commercial aircraft, which were largely grounded in the early months of the pandemic.

While major associations such as the Mexican Association of Pharmaceutical Research Industries and the national Chamber for the Pharmaceutical Industry helped the effort by donating funds for personal protective equipment, the real value of the sector was derived from its production and distribution of essential medicines to the public. The manufacture of generic drugs increased significantly in response to the pandemic, which was attributable to demand from Mexico and abroad, particularly the US. Generic drug sales grew by 19.1% in the first half of 2020, while patented medicine sales fell 0.1%. This can be attributed to the economic situation and the resulting cost-cutting measures from households prioritising their health while looking for more affordable options. More broadly, the increase in demand for medicine was met from the supply side by pharmaceutical producers who in some cases tripled their productive capacity and hired more staff to meet heightened demand.

The sale of generic drugs grew by 19.1% in the first half of 2020

Although Mexico has not yet produced a fully approved vaccine, research into the Mexican-made Patria vaccine is under way, with phase one trials having commenced in April 2021.

Case Study

STENDHAL
Queremos tu salud, pensamos en tu calidad de vida

Stendhal is a pharmaceutical laboratory with operations across Latin America that produces, imports and markets specialised medications. As a result of its mission to contribute to the wider community's health and well-being, the company has maintained steady levels of growth in recent years. In addition, it has partnered with multinational firms looking to penetrate the Mexican and other Latin American markets.

Throughout the pandemic Stendhal worked to meet the needs of physicians and other health care professionals involved in the diagnosis and treatment of Covid-19. Similarly, the company utilised patient support programmes in order to ensure treatments were accessible and adhered to.

Over the long term Stendhal aims to address and mitigate highly prevalent diseases, as well as meet growing demand for medicines such as antibiotics, oncology medications and orphan drugs. It will also prioritise bridging gaps in other categories.

Having forged a pre-pandemic partnership with technology and data analytics firms, Stendhal's digital strategy included e-detailing for more efficient interactions with health care professionals; a telemedicine platform to ensure communication between doctors and patients despite social-distancing restrictions; and experience in virtual events – the latter of which is particularly important for the new normal.

Taken together, these experiences allowed the firm to deploy a hybrid sales model and enhance the data-driven approach of its commercial team. The pandemic altered business models and realigned the investment strategies of pharmaceutical companies and laboratories, which increased appetite for licensing and distribution agreements with companies such as Stendhal.

Part 3: Recovery

Initial Rebound

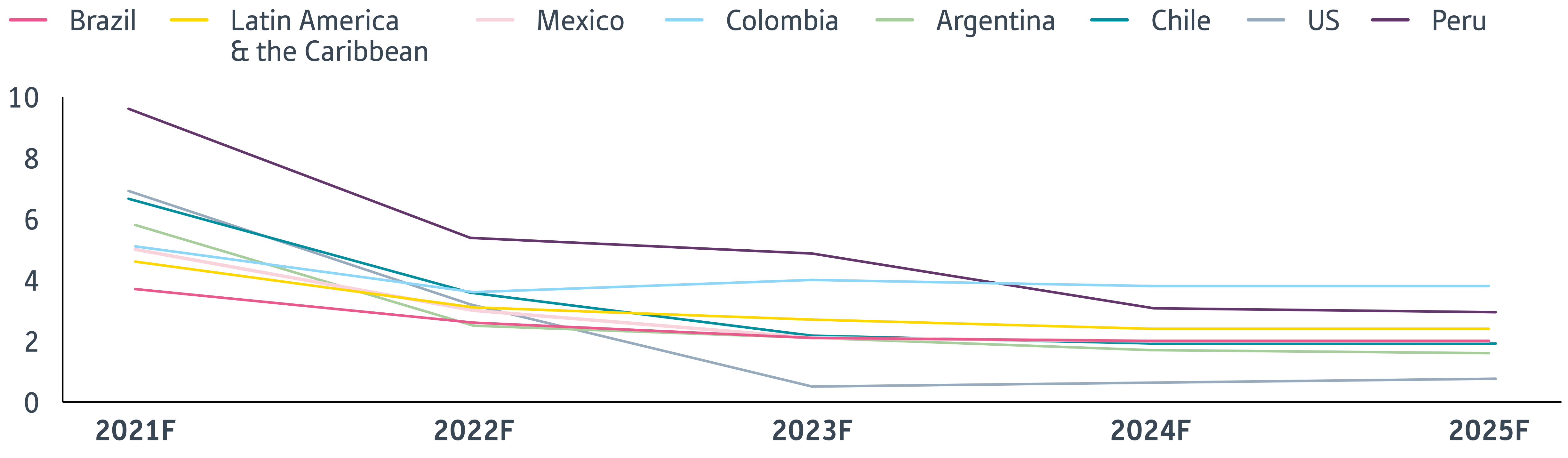
The pandemic sparked Mexico's deepest recession since the 1930s, and it was one of the most severe globally. However, there are some factors that are expected to favour the country's economic rebound. Unlike many countries in Latin America, Mexico never experienced a full lockdown or curfew, and officials permitted travel and social gatherings in each of the 32 states, which helped to maintain more robust consumer spending than in more locked-down places.

Furthermore, tourism – one of the country's most important sectors – benefitted from the government's open-border policy during the pandemic, whereby there were no restrictions on inbound travel activity. As a result, Mexico's tourism sector fared better than most, with the country ranked as the third most visited in the world in 2020. Overall, in the fourth quarter of that year the Mexican economy as a whole recovered faster than previously projected.

Remittances to the country have continued to grow throughout the pandemic, despite the economic difficulties seen in the US, the origin of the vast majority of remittance inflows. In 2020 there was an 11% increase in remittance transfers, totalling MXN875bn – equivalent to more than the 2021 federal government budget for five ministries.

Despite this dynamism, the recovery has been slowed by a lack of substantial fiscal stimulus packages aimed at combatting the negative economic effects of the crisis. Additional public spending during the pandemic as a proportion of GDP has been lower in Mexico than anywhere else in the region. While Mexico's strong fiscal position provides the space to fund and implement more substantial countercyclical, expansionary policies, it appears the administration is set on an austere fiscal policy. According to the World Economic Forum, Mexico's GDP is not expected to return to pre-pandemic levels until 2023, largely due this absence of substantial fiscal stimulus.

GDP growth, 2021F-25F (%)

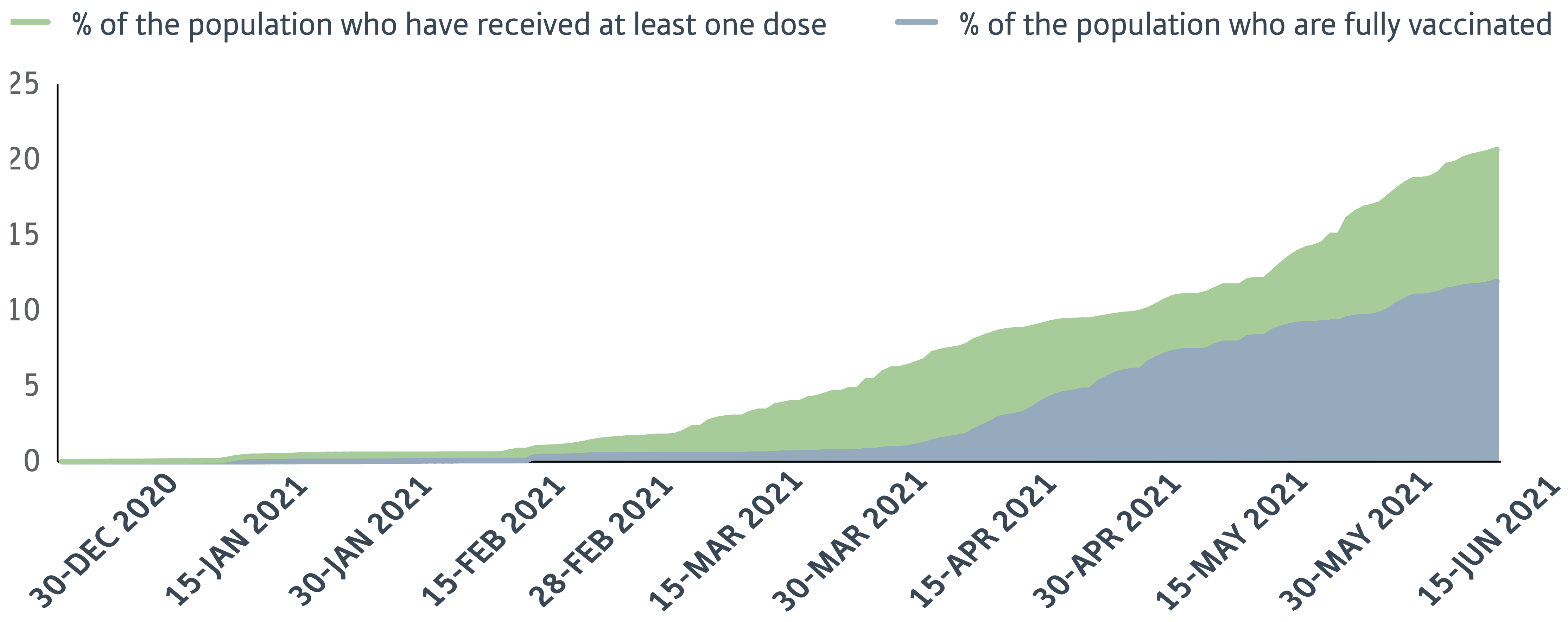


Mexico was the **third-most visited country** in the world in 2020

Graph source: *IMF*

Short-term Outlook

Vaccination progress will be a key determinant of Mexico's economic recovery



Mexico was among the **first countries in the world to start administering vaccines** in December 2020

Several factors will determine the trajectory of Mexico's short-term economic recovery from the 2020 recession. As Mexico's largest trade and export partner, demand from the US economy will have a significant influence on its southern neighbour's economic activity, particularly in manufacturing. As such, Mexico's recovery is intrinsically linked to the resilience and recovery of the US economy. There are reasons to be optimistic: as of mid-2021 the US had exceeded expectations in terms of employment and consumer spending. In mid-2021 economists predicted that US GDP would reach pre-pandemic expectations for the end of the year. Furthermore, the unemployment rate in the US dropped significantly from 14.8% in April 2020 – the highest rate observed since data collection began in 1948 – to 5.8% in May 2021.

Mexico's recovery will not be uniform, however, given the structural inequalities between the northern and southern states. In the south much of the workforce is informal, with many individuals working in lower-value-added sectors that are less integrated into global value chains. These differences have manifested in socio-economic inequalities such as lower per capita income that may make it more difficult for these communities to rebound from the pandemic.

Due to decentralisation, available resources and responses to the pandemic varied regionally. While the federal fiscal response to date has been limited, the state governments have utilised their high levels of autonomy to implement initiatives to reactivate their economies. A primary driver of economic recovery in the short term is the vaccine rollout. Mexico was among the first countries in the world to start administering vaccines in December 2020. After a slow start, distribution has picked up, and the government announced in mid-May 2021 that it aims to give at least one dose to its population by October of that year.

The pace of the vaccine rollout will be important to Mexico's economic recovery in the short term, especially given that it has managed to avoid imposing restrictions in the face of the third wave that hit Latin America in March 2021.

Graph source: *Our World in Data*

Long-term Outlook

Mexico's automotive segment is **expected to grow by 12-24%** in 2021

Mexico's longer-term rebound from the pandemic is closely linked to addressing vulnerabilities and structural inequalities. By tackling these issues, Mexican officials will be able to create a more sustained and equitable economy, both in terms of regional and social differences.

One of the key vulnerabilities that has affected economic performance is underinvestment in public infrastructure. President Andrés Manuel López Obrador – commonly known as AMLO – made reversing this trend a centrepiece of his policy agenda. Although the 25% of GDP in combined public and private investment promised by AMLO during his 2018 presidential campaign has yet to be achieved, there have been several infrastructure-related projects with the potential to provide localised economic benefits. These include the Dos Bocas oil refinery in Tabasco state, a new international airport to serve Mexico City, and train projects in the Yucatán Peninsula and the Isthmus of Tehuantepec. Though opinions on the wider economic benefits of these infrastructure developments are mixed, investment is expected to support the region's integration into global value chains. This will be key in narrowing regional differences, and will be an opportunity to leverage public-private partnerships should the administration choose to expand the use of this financing tool.

Given that three of Mexico's three most important exports – cars, vehicle parts and delivery trucks – are automotive, a strong recovery in the segment will be important for the long-term health of the manufacturing sector and broader economy. The short-term growth projections for the automotive segment are positive: according to Fausto Cuevas, director of the Mexican Association of the Automotive Industry, the segment will grow by 12% in 2021, while Óscar Albin, president of the National Auto Parts Industry Association, predicted growth of 24%. However, if the recovery takes longer, sales will need to remain strong globally to ensure Mexico's vehicle and automobile parts producers can operate at healthy capacity. The country's position is expected to be bolstered by the US-Mexico-Canada Agreement, under which the rules-of-origin regulations could increase the proportion of US automotive-related imports in the sector, which stood at 38% in mid-2021.

Key infrastructure projects

Dos Bocas refinery	**$9.9bn**	Bolster Mexico's refinery capacity to reduce reliance on fuel imports
Maya Train	**$6.3bn**	Bring development to the Yucatan Peninsula by boosting the local tourism industry, improving social inclusion and generating employment in a predominantly rural area of Mexico
Toluca-México City Intercity Train	**$4.5bn**	Improve connectivity between Mexico City and nearby Toluca while also reducing road traffic
Felipe Ángeles International Airport	**$16.12bn**	Alleviate congestion at Mexico City's current international airport
Tehuantepec Isthmus Rail Corridor	**$13.6bn**	Accelerate economic development in an underdeveloped part of the country by creating a new industrial and logistics corridor

Table source: *Proyectos Mexico*

Automotive

The commercial benefits of adopting Fourth Industrial Revolution (4IR) technologies continue to steer innovation in the global automotive sector. The added value of connectivity, autonomy, shared mobility and electrification technologies are transforming the Mexican automotive landscape. These technologies target greater flexibility, efficiency and speed by combining production processes, big data and smart digital technologies.

Given the economic importance of Mexico's automotive sector, the successful implementation of 4IR technology is seen as a key factor in boosting international competitiveness and foreign investment inflows. The state of Nuevo León has taken on a leadership role in Latin America with the implementation of the Nuevo León 4.0 initiative, which seeks to align public, private and academic efforts to modernise production systems and introduce advanced technologies. Through such programmes, state governments can help reduce the costs of logistics and supply chain inputs, which are estimated to account for 10-40% of the total costs of passenger vehicle sales, according to the Trade and Logistics Innovation Centre of Mexico.

Light vehicle production in Mexico is forecast to reach **3.9m** units by 2027

Building digital ecosystems in Mexico's vehicle production chains will present its own set of challenges, one of which is the shortage of talent to ensure continuous and fast-paced innovation. The human capital necessary for the 4IR is in high demand and will require Mexico's automotive players to make significant investments. To address this, Nuevo León is focusing on developing technological skills in areas such as cloud computing, robotics, additive manufacturing, internet of things (IoT) and artificial intelligence. Moreover, the global shortage of semiconductor chips used in cars has highlighted the importance of reducing dependence on technology imports from China and other Asian markets, and instead focus on developing the technical skills at home.

Case Study

Grupo Cedva was founded as an automotive technician training school in 1973 and has grown into a diversified educational group offering more than 20 programmes across a network of over 60 campuses throughout Mexico. The group awards technical diplomas, baccalaureate certificates and engineering degrees in programmes ranging from automotive tech and nursing to gastronomy, the latter offered exclusively at the undergraduate level.

While the Covid-19 pandemic adversely affected enrolment, it also led to the deployment of distance learning. The biggest challenge of the process, however, was that up to 30% of students live in rural areas and have unreliable internet service. Others were financially impacted by the pandemic and required flexible tuition payment terms. Grupo Cedva continued to deliver its courses despite these headwinds, and nursing programmes saw unprecedented demand during this time. Still, due to its origins, the group has maintained a close strategic relationship with the Mexican automotive industry, which has proved highly beneficial during the pandemic. It established dedicated curricula and classrooms over the years for global automakers like BMW, Mercedes Benz, Volkswagen and Porsche, which have in turn been supportive in giving free conferences, webinars and training to students. Grupo Cedva's vast alumni network within Mexico and abroad has also resulted in collaborations with former students who deliver talks and conferences, and help to strengthen linkages between academia and industry.

For in-person classes to resume, the group carried out a number of classroom improvements and modifications to instruction materials to accommodate students in a safe environment. The transformation is not only aligned with new health protocols, but is in step with investing in long-term capabilities – especially given the industry's focus on electric vehicle technology.

Energy

Electricity's digital transformation is opening up opportunities across the generation, transmission and distribution segments. From digital twins in generation to the use of autonomous technologies in transmission and new customer platforms in the retail segment, sector players stand to gain from making bold investments in new digital strategies.

Private sector leaders understand the vital importance of expanding and upgrading Mexico's transmission network to respond to increased demand. Fewer technical losses and a digitalised transmission network are the first steps for the smart revolution to take hold. The 2020-24 budget of the Federal Electricity Commission (Comisión Federal de Electricidad, CFE) saw the addition of 46 new projects, four of them requiring more than MXN1bn in investment. An additional 24 projects were endorsed by the Development Program for the National Electrical System 2019-33.

Along with Mexico's expanding market size, the fundamental tenets of the global electricity market are also changing. The future of power flow is no longer unidirectional, from generator to consumer, as home generation and distributed energy resources transform the utility market. Mexico's system transformation will undoubtedly take time, and will create new opportunities and challenges for the utilities sector. Power exchange between customers, connected homes, battery storage and the integration of renewable energies will affect how citizens consume energy and, in turn, the business models of companies in today's market. The CFE has increased smart grid investment. Between 2018 and 2020 CFE's smart meter deployments averaged 1.4m end points per year. Dozens of domestic and international players have a presence in Mexico's smart meter and smart grid infrastructure markets, which are expected to see increased opportunities in the coming decade.

The Development Program for the National Electrical System 2019-33 foresees **$110bn** in power-related infrastructure projects, of which **$8.9bn** is earmarked for distribution and **13%** for smart grids

Case Study

GENERAC

Generac is a US manufacturer of back-up power generation products sold for residential, commercial and industrial use. Mexico is the base for its Latin American operations.

Because of the intrinsic need for power for homes, businesses and industry, Generac experienced a record year for sales in 2020, principally from the residential sector. This was combined with an unusually active hurricane season, which boosted sales in the US.

Hospitals and telecoms firms have also been important buyers of power generation units during the pandemic. Additionally, given the increased importance of internet connectivity, growth in data centres has driven the sale of generators as back-up power sources. Uncertainty in the energy sector in Mexico has also been beneficial for the sale of generators. In terms of manufacturing, there have been definitive signs of a shift in the production chain in light of the disruption that occurred in early 2020, resulting in a shift away from China by many multinational firms. This is set to boost Mexico's position within global value chains given its proximity to the US – a substantial sales market for power generators.

Looking ahead, pre-pandemic sales volumes are expected in 2021. Energy is always essential, but its demand profile is expected to evolve as consumers and businesses look to secure their own supply, alongside the arrival of smart grids on a macro scale.

"The way that we live has fundamentally changed. Connection to the internet is everything, and behind this lies the importance of electricity: to be able to shop online, to work and to study, connection is essential," Bulmaro Rojas, CEO of Generac, told OBG. "On the demand side, we see that decision-makers have postponed rather than cancelled their investment plans, which bodes well for a strong recovery in the industry," he added.

Energy

Digital oilfields, run by advanced sensors and automated software, are receiving more attention in the post-pandemic environment, with companies looking to boost production and human capital. Intelligent technologies can augment up to half of a worker's time performance, and a quarter of processes can benefit from automation. It will be important for conventional energy players to showcase the potential of digitalisation to increase efficiency, productivity and security.

From real-time workflows to predictive maintenance, the oil and gas supply chain is working to utilise sustainable technologies. The big-three oilfield service companies are developing new technologies to be deployed in facilities around the world. Shell, for example, has carried out at least $3bn in investment in digital oilfield tools in the Perdido corridor in the Gulf of Mexico. Meanwhile, other players will be looking at opportunities to enhance exploration and production in Mexico's competitive market.

Moreover, the importance of environmental, social and governance (ESG) strategies continues to grow as investors, rating agencies and consumers demand more transparency and accountability. The EU's plan to tax products not manufactured under strict ESG standards could impact firms that service the oil and gas industry. Energy companies have the opportunity to reimagine how they build and communicate future drivers of value.

In Mexico companies are focusing on returns on capital and ESG, instead of volume production targets, to calculate growth and competitiveness. Stakeholders have noted that they are measuring, reporting and compensating for carbon, nitrogen and methane emission. Opportunities that align with added value for communities are more likely to be supported by the federal government.

Mexico's energy demand is forecast to grow by **2.9%** annually from 2017 to 2035

35% of the energy mix is expected to come from renewables by 2024

Case Study

fermaca

Fermaca is a Mexican private energy company focused on the midstream sector and the transport of natural gas, for which it has built the necessary infrastructure.

The company is the largest operator of natural gas infrastructure in Mexico and also offers an integrated range of energy marketing services through affiliated companies like Santa Fe Gas.

The firm is playing an integral role in delivering natural gas infrastructure in Mexico, which will boost the country's long-term energy security. In 2020, for example, the company finalised the last 388 km of the Villa de Reyes-Aguascalientes-Guadalajara gas pipeline, a system connecting Texas with Mexico's pipeline network. As of 2020, the entire system – dubbed as Wahalajara – can transport approximately 5.3bn cu feet per day and spans 2150 km – of which 1828 km is located in Mexico's national territory.

As part of an essential industry, Fermaca deployed a business continuity strategy anchored in health and safety principles to mitigate the effects of the Covid-19 crisis on its operations and employees.

From the onset of the pandemic, the company established a Covid-19 crisis committee to spearhead its health and safety priorities, sent all administrative staff to work from home and developed strict operational health protocols for technical field staff. Furthermore, remote staff were given the necessary equipment to operate properly and psychological assistance was offered to help workers cope with the new environment.

In addition, a comprehensive information campaign was maintained in order to keep workers up to date about Covid-19-related developments, and technicians and operators were isolated in private accommodation to enable them to continue to work safely.

Mining

The global mining industry saw its 2020 net profits increase by 15% compared to 2019, and is projected to reach record-high levels of revenue and net profit in 2021. In Mexico the sector is buoyed by increased gold and silver prices on international markets, as well as its ability to attract additional foreign investment. This primarily comes from Canada, which raised the value it invested in the Mexican mineral sector five-fold in 2020. Following the steepest fall in demand during the early months of the Covid-19 pandemic, the economic rebound of markets in China and elsewhere in Asia have increased the demand for copper, silver, lithium and zinc, among others, from Mexican mines.

This positive financial and operational shape enables Mexican mining players to make significant advances in incorporating ESG goals into their organisational strategies. Approximately 40% of mining companies in Mexico are signatories of the UN Global Compact, but only one company, Fresnillo, is aligned with standards set by the Task Force on Climate-Related Financial Disclosures. Moreover, Industrias Peñoles is the only player reporting indicators from the Sustainability Accounting Standards Board.

In 2020 the Mexican mining sector accounted for around **4% of GDP**, was the sixth-largest generator of foreign currency and provided 2m jobs indirectly

Advancing ESG metrics can increase shareholder value and access to capital, due to a growing investor focus on these areas. Companies can capitalise on their existing experience with environmental impact assessments and social programmes with communities. While this is not new for the Mexican mining sector, companies in the country can benefit from strategic communication and reporting efforts. Firms that strengthen their indigenous consultation strategies stand to benefit from the government's focus on the community when reviewing concessions. President Andrés Manuel López Obrador froze new mining concessions in 2019 to ensure that ESG goals were being followed and were in line with the International Labour Organisation's Indigenous and Tribal Peoples Convention to avoid legal challenges.

Case Study

Orex Minerals is a Canadian junior mineral exploration company with a portfolio of gold, silver and copper projects in Canada and Mexico. The firm's Mexican assets are the Sandra silver-gold project, a joint venture (JV) with Vancouver-based Pan American Silver, and the Coneto silver-gold project, a JV with Mexico City-headquartered Fresnillo. Operating under the Belcarra Group, a private firm that oversees junior explorers, Orex Minerals has focused its exploration efforts on the states of Durango, Zacatecas and Guanajuato, which host some of the world's largest silver deposits.

As the largest silver producer in the world, Mexico attracts significant investment in the extraction of precious metals. In order to maintain this position, the country has worked to adopt innovative technologies to better understand geology. Indeed, the strategic use of technologies such as x-ray florescent spectrometers used in drilling core scanners to sample, analyse and generate data in an economical and timely manner has proven to be central to a project's success. "New technologies are important tools in an exploration company's discovery toolkit," Ben Whiting, CEO of Orex Minerals, told OBG. "However, they do not replace the scientific interpretation of the results. Understanding and deciphering the data relies on engineering and geoscientific talent."

Due to the strength of its mining sector, Mexico has a well-established ecosystem of service providers such as drilling companies and laboratories, as well as talent. This has been a critical enabler of Orex's operational continuity during the Covid-19 pandemic. Looking to the future, a professional registration system similar to those used in the US and Canada could further develop the talent pool in terms of accreditation and quality. Foreign mining companies have relied more on local talent because of pandemic-related travel restrictions, a trend that has highlighted the need to train future generations of experts and professionals.

Mining

Metals and minerals linked to decarbonisation will benefit from rising demand as the world moves increases investment in renewable technologies. Mexico, for its part, is moving to boost exploration and production in the silver and lithium segments. The country is the world's largest silver producer, a valuable industrial metal used in the manufacturing of electric vehicles, 5G and solar power.

With a bullish market on silver prices and its strong prospects in the decarbonised economy, there is potential for companies to increase investment and attract new clients. From projects by Telson Mining and SilverCrest Metals to production expansions by Discovery Silver, the segment is attracting renewed investor attention. In 2021 Gatos Silver, which produces the metal in Chihuahua, turned cash-positive, and listed its initial public offering on the New York and Toronto stock exchanges.

At **1.7m tonnes**, Mexico had the world's eighth-largest reserves of lithium in 2020

Bright prospects also surround lithium, a sought-after mineral for the production of car batteries. Over 36 mining projects in over 500,000 ha of land are awaiting approval in the world's largest reserves of lithium in the state of Sonora. The wide range of industrial applications for lithium creates an additional revenue source, should barriers be eased for potential investors and lithium prices give investors long-term confidence.

Tesla suppliers such as the UK's Bacanora Lithium and China's Ganfeng Lithium are positioning themselves in Mexico through a mining project in Bacadéhuachi, Sonora. According to Bacanora, the supplies of lithium in Mexico are destined for Tesla's Nevada automobile plant, which is located 400 km away from the reserves in Sonora. The lithium segment presents significant opportunities that could boost foreign direct investment inflows. The government is no longer looking to nationalise the segment and will instead encourage private investment – with the Ministry of Economy open to opportunities for joint ventures and public-private partnerships to develop lithium-based industries.

Case Study

New Gold is a Canadian intermediate gold producer whose assets include the gold-silver Rainy River mine in Ontario, the New Afton gold-copper mine in British Colombia and the Cerro San Pedro gold-silver mine in San Luis Potosí, Mexico. The company's gold-silver Cerro San Pedro mine commenced operations in 2007 under the firm's subsidiary Minera San Xavier, and active mining operations concluded in mid-2016. In the years since the company has undertaken a comprehensive mine closure programme tackling the economic, social and environmental legacy of the project.

At the onset of the Covid-19 pandemic Minera San Xavier had two immediate priorities: protect the vulnerable population both onsite and in the surrounding communities; and suspend all activities related to the biophysical closure of the mine. As a Canadian company, New Gold adhered not only to local Covid-19 safety protocols, but also aligned itself with the international standards applied to projects around the world. As closure activities resumed, the mine introduced several Covid-19 safety protocols, including modified work spaces to maintain physical distancing and other protocols to help stop the spread of the virus.

New Gold maintained a focus on industrial and environmental safety throughout the life cycle of the Cerro San Pedro mine as well as during its closure phase. The end programme complies with technical biophysical closure and remediation specifications, as well as reinforces the economic and social sustainability of the surrounding communities. To that end, the firm has introduced skills training and other initiatives for employees at the Cerro San Pedro mine. "It is important to demonstrate that mining can successfully co-exist with the environment, social development and even preserve cultural heritage," Armando Ortega, Mexico country manager for New Gold, told OBG. "In doing so, we can leave a tangible legacy for future projects once they reach the closure stage."

Digitalisation of the Broader Economy

Achieving digital maturity could boost Mexico's GDP by 7-15% and add more than $240bn to the economy by 2025, according to consulting firm McKinsey. Less than 1% of the country's exports of goods and services are related to ICT, highlighting the role digitalisation could play in boosting productivity and employment. The machine age will require upskilling, while new digital initiatives can encourage sustainability.

Significant investment will be needed to achieve this. Microsoft's $1.1bn investment in Mexico for the 2021-25 period will establish cloud data centre clusters to enhance access to digital technologies. The plan also focuses on education and upskilling, with the creation of three laboratories in collaboration with public universities.

Mexico partnered with the EU to cooperate on various digital policy areas, including e-commerce, the digitalisation of industry, e-governance and data protection. Data privacy and security will require establishing new regulations to ensure customer protection and enable innovation.

Robust strategies will be needed to boost digitalisation and bridge access inequalities. Approximately 92m people had access to the internet in Mexico as of early 2021, standing at an internet penetration rate of around 71%. This, coupled with a low banking penetration, have created challenges for e-commerce. Addressing these issues can help drive future economic growth. The authorities have already kick-started efforts to address these barriers: the Better than Cash Alliance established in collaboration with other Latin American countries had 77 members as of mid-2021, and aims to drive inclusive growth by accelerating the transition from cash to digital payments. On the private side, financial technology (fintech) firms have experienced growth in recent years, with the number of start-ups in the segment growing by 14% between 2019 and 2020 to 441.

Increased investment to achieve digital maturity could boost Mexico's GDP by **7-15%** and add more than **$240bn** to the economy by 2025

Case Study

COMMSCOPE®

CommScope is a US-based international network infrastructure solutions provider. It offers broadband and wireless services to individuals, businesses, venues, campuses and essential services such as emergency response. In Mexico, CommScope has focused on delivering a wide range of network solutions to the telecommunications industry.

The Covid-19 pandemic exacerbated logistical and supply chain challenges stemming from US-China trade disputes. A steep rise in demand for network solutions brought on by remote work, distance learning and gaming needs further strained supply as fewer components such as chips, capacitors and motherboards were produced due to social-distancing restrictions imposed at the factories. As CommScope was categorised as essential, it was able to keep its factories and distribution centres operational. This allowed it to maintain partial levels of production during the health crisis, with CommScope engaging with clients in early 2020 to develop new delivery schedules. As such, the provider become critical to connectivity at a time when people were turning to technology to facilitate remote communication. Moreover, the company has worked to make its manufacturing plants a safe place for its employees, implementing security measures, offering support to workers and their families, and building health centres with medical supplies and Covid-19 tests.

While the pandemic negatively impacted investment in some areas, longer-term prospects are positive as facilities such as malls and stadiums continue to implement end-to-end connectivity initiatives. Similarly, there are high levels of demand for reliable and fast connections in households. CommScope is working with 5G operators and is positioned for expansion during the rollout of the next-generation technology. It is also working to expand its value-added offerings to include data mining, network optimisation and preventive diagnostic services.

Open Banking

Despite Mexico's delay in the implementation of secondary provisions under the 2018 Fintech Law, the industry is embracing the potential of open banking. Financial institutions are working on releasing open data application programming interfaces (APIs), with Citibanamex having already launched an API in June 2021. Mexico is the only country in the world to opt for a bidirectional data exchange, with both traditional financial institutions and fintech firms required to share transactional, aggregate and open financial data. This dual flow among over 2300 entities presents opportunities to create a more dynamic financial ecosystem, where traditional players can also capitalise on digitalisation and dual-shared data flows to collaborate with multiple parties, migrate clients offline and strengthen customer engagement.

Open banking adds pressure for banks to be more innovative to maintain their market edge, but also offers them new tools, such as enhanced fraud-prevention measures through stronger customer identification and authentication systems. Moreover, open banking's levelling of the playing field for fintech companies could act as a catalyst and expand the financial services market in Mexico and the region. Positive spillover effects of digitalisation and innovation should improve financial inclusion, a particularly important endeavour given that 63% of Mexico's population remains unbanked, according to the World Bank. Additionally, the new regulatory framework is customer-centric, with clients owning their data and facilitating movement across financial service providers. The banking sector's transformation poses challenges, however, particularly for data security, which will require reinforced authentication in data-processing, prior consent of clients and secure APIs. This will translate into new opportunities for data protection services and cybersecurity companies to help secure the new financial platforms.

Fintech firms are forecast to hold up to

30%

market share in Mexico's banking sector by 2030

Case Study

everis an NTT DATA Company

everis NTT DATA is a multinational consulting and outsourcing company offering business and strategic solutions, as well as development and maintenance of technological applications. The firm operates in a wide range of sectors, including telecoms, financial services, industry, utilities, energy, public administration and health.

As technology gained unprecedented relevance during the pandemic, the enabler role of everis NTT DATA expanded across a variety of industries. Banking and telecoms, for instance, are two sectors that have historically integrated technology as part of their business processes. However, updated operational models and stakeholder expectations drove new challenges that everis NTT DATA sought to address.

In the case of the banking sector, higher pressure to capture and retain clients led to a strong emphasis on customer experience and insights to identify, target and segment current and future consumers. Likewise, within a growing financial technology and open banking environment, financial institutions aim to maintain their relevance to customers by expanding channels through non-traditional partners to make products and solutions more efficient and accessible.

Market opportunities are not limited to banking and telecoms, as everis NTT DATA has deployed its capabilities to add value in key sectors of the Mexican economy, such as manufacturing and health. Robotic process automation has been particularly attractive for the manufacturing industry as it sought to drive optimisation and reduce labour needs during the pandemic.

Moving forwards, the growth of emerging technologies like artificial intelligence will rely on data availability and governance, which is why it is increasingly important for companies to digitalise their processes and machines, in addition to prioritising talent management and development to foster innovation.

Infographic source: *Finnovista*

6 Key Takeaways

1

Macroeconomic stability over the past 25 years and its status as one of the world's most open economies belies Mexico's economic growth underperformance. The country's high level of informality and lack of social safety net were key vulnerabilities in the advent of the Covid-19 pandemic.

2

Mexico adhered to strict fiscal measures to respond to the pandemic, opting not to borrow from multilateral institutions and reallocate federal budgets. Monetary policies focused on bringing down the interest rate and increasing liquidity in the market to encourage lending and consumption.

3

Mexico is well placed for a swift economic rebound due to less strict lockdown regimes, open tourism policies and growing level of remittances throughout the pandemic. The lack of a substantial fiscal stimulus package is expected to affect the dynamic rebound.

4

The country's automotive industry is experiencing a strong rebound in 2021 and looks to be bolstered by new rules-of-origin regulations in the US-Mexico-Canada Agreement. Mexico has received investments for electric vehicle production, which could be a new driver of growth for the industry.

5

Increased efficiency and productivity in the energy sector is being targeted by companies investing in new technologies to digitalise their operations. ESG practices strengthened during the pandemic, especially in regard to communities, with companies able to build on these initiatives.

6

Concerted public and private investment efforts in digitisation initiatives showcase Mexico's view of the resulting economic potential. Bridging current access inequalities and responding to data privacy and protection challenges will be key to enable the country's digital ecosystem.

In collaboration with

OXFORD BUSINESS GROUP

Designed by Brash
www.brash.agency