

Economic repercussions of COVID-19 on micro and small enterprises: A case study in Atlacomulco, Mexico

Repercusiones económicas por el covid-19 en las micro y pequeñas empresas: Estudio de caso en Atlacomulco, México

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Abstract

Currently the whole world is going through a health contingency due to the COVID-19 disease, a situation that has triggered countless changes in different sectors of society. Among the various problems derived from this situation are the negative effects on the economy, since the condition in which the different economic agents find themselves is not favorable. Companies in all countries have been suffering the consequences within their life cycle, some of them having to close permanently and others looking for strategies not to die, or simply trying to survive. In Mexico, certain organizations analyze the damage that has affected the national economy, however, the information found in the different documents shows generalized data, and these effects cannot be identified locally. As a consequence, the objective of this study was to analyze the Micro and Small Enterprises (MSEs) in Atlacomulco, Mexico. For which, an instrument was developed with the indicators of the survey on the Economic Impact Generated by COVID-19 in Companies (ECOVID-IE) (INEGI, 2020). The study was made up of a sample of 40 MSEs from the study area, the main results show that the MSEs considered have been strongly affected.

Resumen

Actualmente todo el mundo está pasando por una contingencia sanitaria a causa de la enfermedad del COVID-19, situación que ha desencadenado un sinnúmero de cambios en los diferentes sectores de la sociedad. Entre las diversas problemáticas derivadas de esta coyuntura se encuentran los efectos negativos a la economía, puesto que la condición en la que se encuentran los diferentes agentes económicos no es favorecedora. Empresas de todos los países han estado sufriendo las consecuencias dentro de su ciclo de vida, algunas de ellas teniendo que cerrar definitivamente y otras buscando estrategias para no morir, o simplemente tratando de sobrevivir. En México, ciertos organismos analizan los estragos que han repercutido en la economía nacional, sin embargo, la información que se encuentran en los distintos documentos muestra datos generalizados, y no se pueden identificar dichos efectos de manera local. Como consecuencia, el objetivo de este estudio fue analizar las Micro y Pequeñas Empresas (Mypes) en Atlacomulco, México. Para lo cual se elaboró un instrumento con los indicadores de la encuesta sobre el Impacto Económico Generado por COVID-19 en las Empresas (ECOVID-IE) (INEGI, 2020). El estudio se integró por una muestra de 40 Mypes de la zona de estudio, los principales resultados muestran que las Mypes consideradas han sido fuertemente afectadas.

Competitiveness, Comercial Positioning, Diversification

COVID-19, Impacto Económico, Mypes

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Introduction

The year 2020 has represented a global challenge, derived from the appearance of the SARS-CoV-2 virus responsible for the COVID-19 disease, which had its first manifestations in Wuhan, a province of the People's Republic of China at the end of 2019 and that on January 30, 2020, it was declared by the World Health Organization (WHO) as a Public Health Emergency of International Importance (ESPII).

This situation has triggered a series of effects in different sectors, not only in the field of health, but also in the economy, which, although all countries are suffering the negative effects, emerging countries such as Mexico have a panorama more complex, since since before this health situation appeared, in 2019 the country's growth was -0.3, now with the measures that have had to be implemented and that have caused changes in both supply and demand, the International Monetary Fund has estimated an even lower growth, being alarming the fact that each update it carries out, this number is lower, at least for 2020, until its last update (June 2020) a growth of -10.5 is estimated, leaving thus some uncertainty as to how these repercussions will worsen, which will depend to a large extent on the duration of the pandemic and on adaptation to the new normal.

The National Institute of Statistics and Geography (INEGI), between May and June 2020, conducted a survey of companies on the economic impact generated by COVID-19. One of the results obtained is that of more than half of the surveyed companies had some type of unemployment and of these entities, 93% are represented by micro-companies.

However, the information found in the various documents shows generalized data, and the economic repercussions cannot be identified locally.

In this context, the objective of this study was to analyze the Micro and Small Companies (MSEs) in Atlacomulco, Mexico. For which, an instrument was developed with the indicators of the survey on the Economic Impact Generated by COVID-19 in Companies (ECOVID-IE) (INEGI, 2020). The study was made up of a sample of 40 MSEs from the study area, the main results show that the MSEs considered have been strongly affected.

The central hypothesis of this research supports that the COVID-19 pandemic has had a significant impact on the low level of income of micro and small companies located in Atlacomulco, Mexico.

Based on the above, the first section of this research presents the background section, also the importance of companies in the Mexican economy and a brief economic description of the study context. In the second section, an overview of the COVID-19 pandemic is provided, and particularly in the study area.

Finally, in the third section, an overview of the impact of COVID-19 on the Mexican economy is presented.

Background

Due to the development of the COVID 19 pandemic, the economies of all countries have suffered the effects of this, so certain organizations or institutions at the global and national level have been given the task of carrying out studies where they unfold the economic panorama. Based on it, they have made projections of how the economy will behave in the coming months.

At a global level, the International Monetary Fund (2020) has prepared a series of documents that address issues derived from the pandemic, such as regional economic prospects, reports on global financial stability, prospects for the world economy, among others, which As the months go by, they make updates, it is the case of the last mentioned document, in which based on the fluctuations that the economies are presenting, the projections made by this organization change, one of the indicators that has evidently been transformed with the April, June and October updates is the percentage of economic growth.

At the regional level, the Economic Commission for Latin America and the Caribbean (2020) has also issued publications regarding the effects of COVID 19 on the economy, such as the series of public policy documents where indicators such as unemployment are analyzed, poverty, liquidity of small and medium-sized companies and economic growth.

Similarly, in the month of October 2020, an economic study of the region was published, which also exposes the situation experienced by the countries of that region in the different economic sectors, taking into account indicators such as GDP, inflation, employment and informality, while posing macroeconomic policies and future scenarios.

At the national level, the Bank of Mexico produces quarterly reports, in which it is not possible to avoid addressing the issue of the pandemic and its effects on the economy. Likewise, it conducts monthly surveys on the Expectations of Private Sector Economics Specialists (2020), where the behavior of aspects such as economic growth, inflation, interest rate, exchange rate and finances are taken into account. Some of these data are later taken up by the Belisario Domínguez Institute of the Senate of the Republic in several of its publications where it makes some comparisons between previous months, such as the case of the analysis of the microeconomic framework of the General Criteria for Economic Policy 2021 (2020).

In the article in the journal plurality and consensus, Clavelina and Domínguez (2020) present a series of comparisons around indicators such as the exchange rate, the price of oil, debt, among others, analyzing the data issued by institutions such as banks, the Ministry of Finance and Public Credit, the Bank of Mexico, which, without a doubt, despite certain variations between said data, are showing the repercussions on the national economy.

Importance of companies in the Mexican economy

The company is an entity that works with various resources, which generate different benefits, not only for the owner or partners, as the case may be, but also for other stakeholders, such as suppliers, customers, because at the time that the company enters the market, opens up the range of options for the consumer, thereby generating a higher level of competition, which helps all companies that share that market focus on generating a competitive advantage to capture the largest share market possible. In this way, the government also obtains income through tax contributions to which companies that are registered under any tax regime are creditors.

Other arguments by which companies acquire importance Munch (2007) points out as follows:

- They create sources of work.
- They meet the needs of the community by producing socially necessary goods and services.
- They promote economic and social development by encouraging investment.
- They promote research and technological development.
- Provide returns to investors.

Economic sectors

The economic sectors in which companies operate in Mexico are:

a) Primary sector

It includes all activities where natural resources are used as they are obtained from nature, either for food or to generate raw materials.

b) Secondary sector

It is characterized by the predominant use of machinery and increasingly automated processes to transform raw materials obtained from the primary sector. It includes factories, workshops, and laboratories of all types of industries. According to what they produce, their major divisions are construction, manufacturing, and electricity, gas, and water.

c) Tertiary sector

Material goods are not produced in the tertiary sector of the economy; products made in the secondary sector are received for sale; it also offers us the opportunity to take advantage of a resource without becoming the owner of it, as is the case with services. Likewise, the tertiary sector includes communications and transport.

Denomination	2019		2020	
	4T	1T	1T	2T
GDP, at market Price	18,364,393	18,150,723	15,055,411	
Primary Act	595,887	600,629	588,407	
Act. Sec.	5,249,195	5,191,369	3,974,458	
Act. Terc.	11,699,255	11,594,701	9,846,249	

Table 1 Comparison of GDP in Mexico (2019-2020). INEGI, 2020

On the other hand, for the study of the data and information that is generated around all economic activities, Mexico uses the 2018 North American Industrial Classification System, with which the INEGI (2018) emphasizes that this structure serves to “standardize and harmonize the economic information that is produced in the Mexican territory (...) and thus respond to the demands of users regarding information of national interest ”

With this system that goes from the sector, subsector, branch, sub-branch and class, it is much easier to access the information derived from all the instruments applied by INEGI, and which contribute to having a general and particular panorama of the economic situation of the country.

Brief economic description of the study context

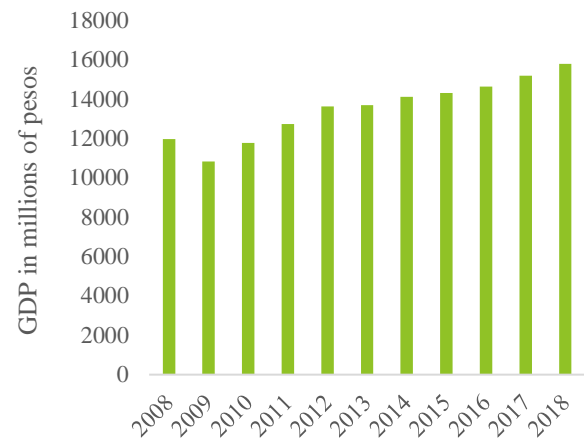
Atlacomulco is a municipality located in the northwestern part of the State of Mexico, which, according to INEGI (Intercensal Survey, 2015) has 100,657 inhabitants, made up of 33 communities, a Municipal Head called Atlacomulco de Fabela and 20 colonies (Municipal development plan, 2019).

In terms of economic units, from 2013 to 2018, these increased by 25.7%, which means that there is a record of 5437 units and with this it went from having an occupied staff of 22,305 to 28,088 people, which represents a 20.5% more of occupation.

Of these units, the economic activities that have the most presence are the retail trade, which represents 51.5% of the total businesses, which include grocery stores, self-service, sale of food, beverages, beauty items, stationery, among others. .

The second activity that stands out in the municipality is the manufacturing industry with 10.6%, which in turn has the highest number of employed personnel above retail trade with 37.2% of the total occupation. This last piece of information is understandable, since companies in the manufacturing industry tend to have a larger workforce and retail businesses tend to be micro or small companies.

Regarding the GDP that it produces, figure 1 shows how its production has increased some base points from one year to another, being that in relation to the last year, that is, 2018 is the municipality, a member of the region II, which contributes the most to the state GDP, with almost one percentage point unlike the other municipalities that make up said region that only reach .1 percentage point.



Graphic 1 Behavior of GDP in Atlacomulco 2008-2018. Institute of Geographic, Statistical and Cadastral Information and Research of the State of Mexico (IGECEM), 2019

Covid 19 pandemic

According to the World Health Organization (2020), coronaviruses are an extensive family of viruses that can cause disease in both animals and humans. In humans, various coronaviruses are known to cause respiratory infections that can range from the common cold to more serious illnesses such as Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS). The most recently discovered coronavirus causes the coronavirus disease COVID-19.

Martinez, Torres and Orozco (2020) mention that the transmission of the virus occurs “by contact with an infected person, through small drops that are expelled when talking, coughing and sneezing, or by touching a surface or object that has the virus and subsequently manipulate the mouth, nose or eyes. ”

Over the months, confirmed cases have presented various symptoms that have been added to the list, however, studies and research are still being carried out to provide more information about this new virus, since it has been seen that patients suffer from this. The disease reacts differently, depending on their conditions, which is why it is often confused with the common flu or other diseases of the respiratory system. In the same way, it is known that there are asymptomatic patients who contracted the virus, but that it is not visible, which is why the statistics on cases vary a lot due to these factors.

Development of the disease

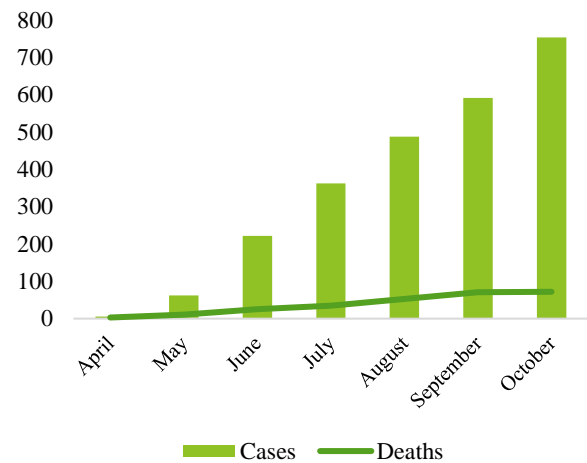
Covid.19 was first detected in Wuhan, a province of the People's Republic of China at the end of 2019. On January 30, 2020 it was declared by the World Health Organization (WHO) as a Public Health Emergency of International Importance (ESPII) and until March 11 it was declared a pandemic.

From the appearance of the first case of this disease until October 11, 2020, according to weekly reports from the World Health Organization (2020), more than 37 million infected and 1 million deaths have been recorded in the world. 48% of the cases and 55% of the deaths come from America, being the United States, Brazil and Argentina where the largest number of cases occurs.

In Mexico, the first case appeared on February 27, 2020 () and so far 814, 328 confirmed cases and 83,642 deaths have been reported due to Covid-19. Until October 11, it is in the fourth country with the highest number of infected and dead, only after Argentina.

According to the Secretary of Health of the Government of the State of Mexico (2020), in the municipality of Atlacomulco, until the second week of October 2020, 754 cases have been confirmed, of which, unfortunately, 72 deaths are reported. Of the 125 municipalities, it is in position 25 in terms of the number of cases. The behavior of the increase in cases in the municipality can be seen in graph2, where it can be seen that cases from one month to another have been increasing, the lowest percentage of increase with 27.3% was from August to September, without.

However, the epidemiological risk traffic light continues in orange, where non-essential economic activities are still operating at 30%.



Graphic 2 COVID-19 cases and deaths in Atlacomulco 2020. Secretary of Health of the Government of the State of Mexico, 2020

Impact of COVID-19 on the economy

The whole world has been suffering the ravages of the Covid-19 pandemic, not only in regard to the health sector, which is what it is directly related to, but indirectly it is also affecting other areas such as the economy, and Although all governments have been implementing certain economic, monetary and fiscal policies to cope with the effects of this pandemic, their recovery will depend on the duration of said health contingency. In the case of Mexico, as Clavellina and Domínguez (2020) note, lower economic growth, the fall in the price of oil, the depreciation of the currency and the reduction in the country's sovereign note exert pressure on public finances.

Economic growth

As time goes by, the world economic panorama changes, taking into account the behavior of the pandemic and the way in which governments are reacting to it, with all this, there is a fairly high level of uncertainty that means that the future recovery will not look clear. With these factors, various organizations and institutions have made projections of how 2020 will close in relation to economic growth, this is the case of the International Monetary Fund (IMF) (2020), which in April had predicted -3% growth, but only two months later, the same body publishes an update where the projection contracts to 4.9%.

In the particular case of Mexico, the economic scenario was not in better before the pandemic situation, since in 2019 there was a GDP of -0.3 and now the IMF (2020) projects a growth of -10.5% and is expected to start a recovery in 2021 that helps to have a growth of 3.3% for that year.

These forecasts may change according to the data that emerge at the end of the second quarter and everything that happens during the third quarter of 2020, but what is imminent is that the recovery will occur slowly and gradually, which although in the case of Mexico will depend on how the situation of the United States of America is, a country that is the most important trading partner, it will not have an immediate recovery either, despite the fact that it is an advanced economy, since the outlook in which it finds itself The pandemic is critical, ranking first in the American continent in infections.

At the level of Latin America and the Caribbean, Bárcena (2020) proposed three recovery scenarios according to the average rate and GDP that existed in 2019 before the pandemic, remaining as expressed in Table 2.

Average rate	Year to be reached in 2019 GDP
3.0%	2023
1.8% (rate of the last decade)	2015
0.4% (rate of the last six-year period)	After 2030

Table 2 Economic recovery scenarios. Economic Commission for Latin America and the Caribbean (ECLAC) 2020

The economy also depends on other uncertain factors, which the IMF mentions (2020):

- The duration of the pandemic and the necessary confinements.
- Voluntary social distancing, which will affect spending.
- The ability of posted workers to obtain employment in possibly different sectors.
- Scarring caused by company closures and the departure of workers from the workforce, which could make it difficult to recover the activity once the pandemic is over.

Methodology to be developed

In order to analyze the economic repercussions of the micro and small companies of Atacomulco, Mexico, it is established as an assumption that the COVID-19 pandemic has had a significant impact on the low level of income of micro and small companies located in said municipality.

Within the framework of the above, an information collection instrument was used based on the indicators of the survey on the Economic Impact Generated by COVID-19 in Companies (ECOVID-IE), which considers the dimensions: Income, Impact, Strategies implemented, Indebtedness and Forecasts.

The data source for this research was 40 micro and small businesses located in the municipality of Atacomulco, Mexico, which were selected through simple random sampling.

Sample size

$$n = \frac{N \times Z^2 \times p \times q}{E^2 \times (N-1) + Z^2 \times p \times q} \quad (1)$$

$$n = \frac{700 \times 1.96^2 \times 0.50 \times 0.50}{0.15^2 \times (700-1) + 1.96^2 \times 0.50 \times 0.50}$$

$$n = 40$$

Sampling frame

The sampling frame used to obtain the sample is based on the information provided by Economic Development of the Atacomulco municipality, which until November 2020 has registered 700 establishments in the central area of the municipality and the Santo Domingo Shomejé community. Based on the above, in Table 3, the sample card is established:

Universe population	Micro and small businesses in the center of the municipality of Atacomulco and the community of Santo Domingo Shomejé
Universe size	700
Measuring instrument.	Survey
Sampling method	Simple random sampling
Sample size	40
Error	0.15
Confidence level	95%

Table 3 Technical file of the investigation
Own elaboration, 2020

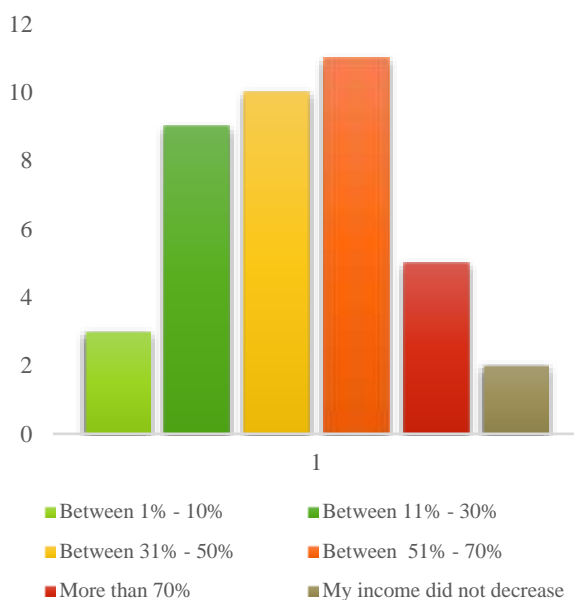
Results

Income

Income is a variable that provides valuable information so that business owners can make decisions about the profitability of the economic activity they are carrying out. As can be seen in Table 4, most of the companies surveyed have had considerable effects, since 27.5% have presented a contraction of economic income between 51 and 70%, 25% have had decreases of between 31% and 50%. A 12.5% notice a reduction in their income of more than 70% that puts the economic entity in an unfavorable situation.

Reply	Frequency	Percentage
Between 1% - 10%	3	7.5%
Between 11% - 30%	9	22.5%
Between 31% - 50%	10	25.0%
Between 51% - 70%	11	27.5%
More than 70%	5	12.5%
Total	40	100.0%

Table 4 Decrease in income in the micro and small companies of Atlacomulco, 2020



Graphic 3 Decrease in income in the micro and small companies of Atlacomulco 2020

Affectation

Regarding the level of affection of your company in the face of the contingency, the result is that 45% of these organizations were strongly affected and 42.5% were moderately affected, thus leaving only 12.5% slightly affected or not have had negative repercussions.

Reply	Total	
	Frequency	Percentage
They have not been affected	1	2.5%
Slightly affected	4	10.0%
Moderately affected	17	42.5%
Heavily affected	18	45.0%
Total	40	100%

Table 5 Levels of affection of the micro and small companies of Atlacomulco, 2020

The pandemic situation has impacted in different ways on the way micro and small businesses operate. The main impact was the temporary closure, where 45% of the businesses mentioned that, derived from the red indicator of the epidemiological traffic light, they were not allowed to work physically, since they did not offer essential products or services.

The second affectation, experienced by 37.5% of those surveyed, was the reduction in investments, a fact that is not surprising, since if there is no flow of operations in the commercialization, therefore what was already invested does not generate benefits that encourage to reinject capital, in addition to the fact that uncertainty plays a very important role in making decisions when investing, since it is not known precisely when an effective solution will be found to combat health problems, making the risk much greater, so that the owners of the establishments present aversion to said risk.

Implemented strategies

To combat the aforementioned economic and operational effects, 25% of the companies had to temporarily reduce their employment, obviously because most of them had to for physical operations. This triggers the increase in unemployment, which at the same time causes families in general to have purchasing power that contributes to the purchase of essential and non-essential products and services, thus reducing the behavior of all economic agents.

In the same way, 22.5% saw the need to implement online sales and increase their marketing efforts to publicize the new distribution channel for products and services. On the other hand, a somewhat alarming situation is seen that there are 25% of establishments that mentioned not having implemented any strategy that could promote the improvement of their situation, being that most of these organizations have had a considerable contraction in their income.

That said, it is important to recognize that the fault of the deterioration in the operations of these companies is not only the situation that is being experienced, but also that the members of these businesses are not reacting to the new way of selling, nor are they giving to the task of rethinking their value chain, so they are at greater risk, even if they themselves determine that they do not predict closure.

Indebtedness

Another variable that must be taken into account is indebtedness, which 27.5% of micro and small entrepreneurs have, taking this group as 100%, 27.2% had to choose to reprogram them as a containment measure.

Reply	Frequency	Percentage
Yes	11	27.5%
No	21	52.5%
Does not know	8	20.0%
Total	40	100.0%

Table 6 Indebtedness of the micro and small companies of Atlacomulco, 2020

Forecasts

Despite these statements, the majority of owners and managers with 77.5% do not foresee a closure of their establishments, so it can be inferred that the conditions under which they operate will not be the best, since, as has already been reviewed, the income that they have been receiving during the contingency has decreased considerably. However, 22.5% of those surveyed do predict a definitive closure of the company because the situation that began at the end of March will not allow them to continue offering their services.

Reply	Frequency	Percentage
No commercial closure is expected	31	77.5%
1 month or less	5	12.5%
6 months or more	4	10.0%
No commercial closure is expected	31	77.5%
Total	40	100.0%

Table 7 Forecast of closure of the micro and small companies of Atlacomulco, 2020

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Conclusions

According to all the data obtained and analyzed, it was observed that the micro and small companies of the chosen geographical regions, which in this case, as mentioned in the master framework, were the head of Atlacomulco and the community of Santo Domingo Shomejé have been severely affected, since most are engaged in economic activities determined as non-essential according to what was considered in the containment measures against the COVID-19 pandemic.

Likewise, it can be said that the proposed hypothesis was verified, having that 93.5% of the micro and small companies that participated in the study, presented some level of income contraction and only 6.5% had no effects on them.

It is important to highlight that transport is one of the most affected sectors since its income has decreased between 50% and 70% in the case of study.

The economic recovery presents an unclear scenario, neither in time nor in form. The Economic Commission for Latin America (ECLAC) has already projected several scenarios, where the best scenario is that the economy returns to normal levels in 2023, but it also contemplates the possibility that said improvement will occur until 2030.

This gives a guideline to reflect on the fact that the situation may worsen and that it is necessary for economic actors to be studied, must be forewarned and alert. In the case of companies, making contingency plans for those who still do not have one and those who have already worked on them, strengthen them and adapt them to what is happening and anticipating future situations, since the economy is based on uncertainty and it is necessary to find a way to minimize it, being prepared for any future scenario.

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