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The risks of sociodemographic vulnerability due to Covid-19 in Mexico 2020

Los riesgos de la vulnerabilidad sociodemográfica por el Covid-19 en México 2020

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Abstract

In Mexico we had just concluded a year of political transition and with many questions about the administration of the self-proclaimed fourth transformation, it was heading towards an economic crisis but, Covid-2019 arises, which is deepening and is accompanied by a public health difficulty in the world (a systemic social fact in times of storms that requires to be thought, rethought and unthinkable). In this context, this essay is inscribed in which we propose as an objective to make a reflection on a topic, which was followed in real time in the last eight months (March-October 2020) and that, from the sociodemography we can review its causes and social consequences in Mexico, which created psychosis and uncertainty in all areas of the world and specifically in our country as well as in the State of Mexico.

Keywords: Demographic vulnerability, risk, Covid-19, crisis of the demographic system, economic crisis, health crisis, mobility and immobility.

Resumen

En México recién habíamos concluido un año de la transición política y con muchos cuestionamientos acerca de la administración de la autodenominada cuarta transformación se encaminaba a una crisis económica, pero surge el Covid- 2019, la cual se profundiza y es acompañada por una dificultad de salud pública en el mundo (un hecho social sistémico en tiempos de tempestades que requiere ser pensada, repensada e impensada). En este contexto se inscribe este ensayo en el que planteamos como objetivo hacer una reflexión sobre un tema, al cual se le dio seguimiento en tiempo real en los últimos ocho meses (marzo-octubre de 2020) y que, desde la sociodemogafía, podemos revisar sus causas y consecuencias sociales en México, el cual creó psicosis e incertidumbre en todos los ámbitos del mundo y en específico en nuestro país, así como en el Estado de México.

Palabras clave: Vulnerabilidad demográfica, riesgo, Covid-19, crisis del sistema demográfico, crisis económica, crisis de salud, movilidad e inmovilidad.

Introduction

Since the beginning of the pandemic we proposed to follow up through the different media and statistical sources in the country, as well as its evolution, behavior, causes and consequences of Covid-19 on the demographic system. The polarized opinions in our country (until today, the adversaries of President López Obrador), some defending the governmental position, others making firewood of it, at the same time that health experts consider this year as the year of the plague because of the poor management of the health care of Mexicans. It seems that everyone was right and, the most regrettable thing is that staying at home meant systemic immobility that many did not understand and many others did not follow the recommendations of the Ministry of Health of the country. Because, those who did stay at home are mostly the bureaucracy whose conduct is governed by a system of technical rules and norms of a general type and consists in the application of those rules to each case and concrete situation,[1] they are the ones who enjoy guaranteed economic income (the allusions to the bureaucracy as an organ have an instrumentalist carácter. Moreover, it is an entity that allows the intervention of public policy in situations that make it urgent, as in the case of the Covid-19 emergency)[2] and the millions of informal workers deepen their exposure to get sick and enter into crisis in multidimensional form and their survival is one of the great challenges in this context of the pandemic.[3]

The Covid-19 disease meant a brake or immobility for the demographic system (in human mobility, but not for mortality and fertility) and the economy due to the massive contagion of the disease and a higher risk exposure for the entire population and specifically for the informal sector due to their exposure-risk and low capacity to respond to the pandemic, although at the beginning, some claimed that, at the beginning, the probability of infection was like winning the national lottery, i.e., a very remote probability. Others maintained in their projections that up to 2,000 deaths would occur (or the 60,000 death limit was considered catastrophic), while the Mexican Institute of Social Security (IMSS) maintained that there would be 42,000 and the Ministry of Health in its stenographic version declared that there

[1] Santiago Martínez Castilla, 2016, *La burocracia: elemento de dominación en la obra de Max Weber*, available in dialnet.unirioja.es, descarga articulo (06/04/2020).
[2] Antonio Olivé, 2017, *Burocracia y teoría marxista del Estado*, disponible en https://kmarx.wordpress.com/2017/03/06/burocracia-y-teoria-marxista-del-estado/ (06/04/2020).
[3] CEPAL, 2020, *Cepal: México debe dar giro en política fiscal por Covid-19*, available in https://www.jornada.com.mx/ultimas/economia/2020/04/04/cepal-mexico-debe-dar-giro-en-politica-fiscal-por-covid-19-1989.html (06/04/2020).

would be thousands and that its shape would be that of a mountain at the end of phase three in April or May 2020. The truth is that we have reached August 2020 with a catastrophic figure of more than 60,000 deaths due to Covid-19 in Mexico and there is no timetable for the decrease (which until September was already mentioned as a resurgence),[4] although the World Health Organization (WHO) had declared a slowdown, but expressed its concern about the resurgence of the pandemic in European countries.[5] A response to the systemic demographic-social vulnerability, the production and distribution of the vaccine would be a great relief, which is predicted for the first quarter of the year 2021 and in which the Mexican Government collaborates with some medical projects to have an impact on the most far-reaching pandemic of all times (which by the way in November some tests were already being applied in entities selected by the governmental authority).

In order to achieve our objectives, the text is organized as follows: we first present the theory of socio-demographic-social vulnerability (with the addition of in-mobility) and causes of Covid-19; background of the pandemic; methodology and analysis of results, as well as final comments to our essay.

Theory of the emergence, causes and consequences of SARS-CoV-2 transmission

The World Health Organization (WHO) maintains that coronaviruses are a family of viruses that can cause illnesses such as the common cold, severe acute respiratory syndrome (SARS), and Middle East respiratory syndrome (MERS). In 2019, a new coronavirus was identified as the cause of a disease outbreak that originated in China (with its variants over time). This virus is now known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease it causes is called coronavirus disease 2019 (Covid-19). In March 2020 the World Health Organization (WHO) declared this Covid-19 outbreak to be a pandemic. Public health organizations from governments around the world including Mexico, as well as the U.S. Centers for Disease Control and Prevention (CDC) and (WHO) are monitoring the pandemic and posting updates on their websites on a daily

[4] See in "Las predicciones no son promesas, afirma López Gatell; no descarta rebrotes", available in https://www.excelsior.com.mx/nacional/las-predicciones-no-son-promesas-afirma-lopez-gatell-no-descarta-rebrotes/1406841 (21/09/2020).

[5] See in "Europa sufre un rebrote grave de contagios de Covid-19, dice la OMS", available in https://cnnespanol.cnn.com/video/covid-contagios-situacion-grave-oms-europa-panorama-mundial-maria-alejandra-requena/ (21/09/2020).

basis. These groups have also issued recommendations for preventing and treating the disease.[6] The virus is accelerating. Covid-19 is ten times more lethal than the A-H1N1 pandemic: according to WHO[7] (Quiroga, 2020).

Immediately after the emergence of Covid-19, several theories were put forward about its origin as derived from globalizing neoliberalism that leads us to deglobalization (and its disenchantments),[8] health dictatorship and widespread corporate surveillance,[9] socialism, conspiracy theory (for example, the president of the United States has stated that this virus was created in a laboratory in China),[10] the pandemic and the world system, posthumanism and transhumanism (Postigo, 2011; Torralba, 2018; Armesilla, 2018; Patiño, 2020), risk theory, epidemiological theory, civilizational crisis or other not very credible source, however, serious researchers have concluded that it originated through natural processes and was not created in a laboratory (which on the other hand there are those who argue that it was).[11]

For the purposes of this paper we use the approach of the social-demographic vulnerability theory whose equation is synthesized in the exposure to risks and the inability to respond; likewise, vulnerability is equal to the exposure to risks plus the inability to face them, plus the inability (which

[6] See in *Enfermedad del coronavirus 2019 (Covid-19)*, available in https://www.mayoclinic.org/es-es/diseases-conditions/coronavirus/symptoms-causes/syc-20479963 (06/04/2020).

[7] Quiroga, Ricardo, "Covid-19 es diez veces más letal que la pandemia por A-H1N1": OMS, available in https://www.eleconomista.com.mx/arteseideas/Covid-19-es-diez-veces-mas-letal-que-la-pandemia-por-A-H1N1-OMS-20200413-0055.html (26/04/2020).

[8] Richard N. Haass, 2020, *La desglobalización y sus desencantos*, available in https://www.eleconomista.com.mx/opinion/La-desglobalizacion-y-sus-desencantos-20200513-0138.html (14/05//2020). But there are those who argue that it would be wise to focus on minimizing a disruption that would be caused by the next period of deglobalization and laying the foundations for a more sustainable process thereafter, Mohamed A. El-Erian, Navigating Deglobalization, available in https://www.eleconomista.com.mx/opinion/Navegando-la-Desglobalizacion-20200511-0151.html (16 de mayo de 2020). An example of deglobalization is the withdrawal of Great Britain, the US takes a further step towards isolationism on the issue of the Open Skies Treaty, among others, available in https://www.eleconomista.com.mx/revistaimef/EU-da-un-paso-mas-hacia-el-aislacionismo-20200521-0154.html (26/05/2020).

[9] See García Canclini, 2020, «La dictadura sanitaria por el coronavirus y la vigilancia corporativa generalizada», available in https://urbanalogia.blogspot.com/2020/04/garcia-canclini-la-dictadura-sanitaria.html?fbclid=IwAR3NY3frKm_AF_vLDn-DRTDRJbDKUv6b_PejmFXnN5G-vkmgKpbnYH-OBFHg (10/05/2020).

[10] But the CIA dismantles Trump's Chinese conspiracy theory about the origin of Covid-19, available in https://www.google.com/search?q=trump+y+covid+19%2C+conspiraci%C3%B3n+de+china&oq=trump+y+covid+19%2C+conspiraci%C3%B3n+de+china&aqs=chrome..69i57.27029j0j8&sourceid=chrome&ie=UTF-8 (07/05/2020). But 7 in 10 Americans blame the Chinese government for deaths, available in https://www.eleconomista.com.mx/politica/7-de-cada-10-estadounidenses-culpa-al-gobierno-chino-por-defunciones-20200512-0052.html

[11] For example, "No procede de la naturaleza': viróloga dice que China creó Covid-19", available in en https://www.eltiempo.com/vida/ciencia/virologa-china-asegura-que-el-coronavirus-no-proviene-de-la-naturaleza-524040 (25/09/2020).

is accompanied by immobility)[12] to actively adapt to such disease (Rodriguez, 2000); such arguments are supported by the work of Ulrich Beck (1998) which he synthesized in his widely disseminated book The Risk Society: Towards a New Modernity (which argues that risk carries implicitly the dialectical condition of progress and risk).

> The concept of social vulnerability is defined as a multidimensional and dynamic process that converges in the risk of an individual or community to be affected or harmed by internal and external changes or situations and their capacity to face adversities. Traditional studies of social vulnerability have explored the economic, political, legal, demographic, environmental and health dimensions, among others, paying attention to factors associated with the fragility, insecurity and institutional helplessness of certain individuals and communities (Sánchez and Egea, 2010: 1).

The above (social vulnerability or macro vulnerability), can be exemplified in the context of the pandemic with the succession of small (and not so small) economic crises; the increase in the volatility of the Gross Domestic Product (GDP) and household consumption; the persistent increase in poverty; the worsening of bottlenecks that prevent the generation of good quality jobs and, in general, the deterioration of labor conditions, expressed in high unemployment rates, less protection and an increase in various forms of precariousness; the persistent lags in the qualification of human resources and the capacity to absorb and generate technical progress, which result in enormous difficulty in sustaining competitiveness on virtuous foundations; the devastating effect of numerous natural disasters (El Niño current, hurricanes, earthquakes); the serious social outbursts, which are distinguished from those of the past by a growing lack of organized political leadership; the increase in daily insecurity reflected in high indexes -objective and subjective- of criminality and fear. The aggravation of political conflicts that narrow the bases of legitimacy of national authorities, which could lead them, in their most dramatic expression, to the early termination of their term of office, and which do not leave unscathed the systems of government, with respect to which there is growing distrust and mistrust.

[12] First, "mobility is a component of immobility and vice versa. The condition of being in movement produces friction, brakes or entrapments (eg confinement, quarantine, checkpoints, detention); and, in the same way, the movement originates from a static condition (eg increased social mobility through technologies in a state of physical immobility, or mobility allowed through de-confinement measures); second, it consists then in understanding how the (im)mobilities of the virus interact with the production of (in)securities, the epistemologically valuable place for this is the intersection" (Iranzo, 2020: 65).

One of these (macro) dimensions, cited, we can add that of the vulnerability of the demographic system,[13] which is expressed in families and that of the individual, in which the approach includes "the capacity for upbringing (which in the demographic equation is fertility, which is also affected by immobility or what was called confinement,[14] which for some was a privilege and for others a punishment), whose features can be grouped into three dimensions of the domestic units: (i) structuring patterns; (ii) life cycle and, (iii) basic demographic conditions (Rodriguez, 2000). A second is that of mortality, which is called demographic liabilities to explain vulnerability, among them we find over-mortality, over-fertility and high demographic dependency, which "imply monetary and non-monetary costs because they hinder the acquisition of assets" (Rodriguez, 2004: 8). From them derive "other socio-demographic liabilities such as early reproduction; the concentration of the poor within the cities; instability and family fractures" (Rodriguez, 2004: 8). The vulnerability approach can be applied to individuals, particularly to internal and international migrants (who also entered a situation of immobility due to the pandemic), even more so when their rights are violated, which is expressed in the lack of power (Bustamante, 2002, maintains that vulnerability is expressed by exclusion and discrimination within the framework of social systems with an asymmetrical distribution of power); to economic actors in a broad sense when analyzing the vulnerability of a given development pattern based on the feeling of helplessness emanating from the lack of a material (and immobilized) base; to individuals and households when talking about vulnerability and poverty based on the risk of falling below the poverty line or when dealing with vulnerability to economic shocks due to the inability to withstand the impacts of economic crises (such as the Covid-19 pandemic crisis, which led to a situation of immobility); to households when analyzing vulnerability to mobilization and immobilization of assets due to lack of assets or inability to mobilize them or insecurity and sensitivity of the actors to changes in the environment, as well as in the analysis of vulnerability of the structure of opportunities due to mismatch between as-

[13] Massimo Livo Bacci, 1993, holds that the components of the reproduction of the demographic system are: births, deaths and entries and exits by migration. From this basic theoretical "core" it is synthesized in the so-called compensating equation, See in *Qué es la demografía*, available in https://apuntesdedemografia.com/curso-de-demografia/que-es-la-demografia/ (2904/2021).

[14] Although for some confinement is a "bourgeois" concept. The idea is that we all have an individual house, a bit bourgeois, in which we can take refuge when there is a pandemic or a natural disaster, but not everyone has a home, available in (https://www.bbc.com/mundo/noticias-internacional-52216492?at_campaign=64&at_custom2=facebook_page&at_custom3=BBC+News+Mundo&at_custom1=%5Bpost+type%5D&at_custom4=BD5872B8-79AE-11EA-A1B8-4E23933C408C&at_medium=custom7&fbclid=IwAR2d373ZP5Bg-Mr6oIuCYrKbSjPQJmARgpPlSvWy8Uwiceb2Qq6KIcUwya3w# (04/09/2020).

sets and structure of opportunities (Araujo, 2015). From the point of view of vulnerability, the concept of risk constitutes an essential methodological foundation of demographic sciences and health. While risk indicates the probability of occurrence of births, mortality (or overmortality due to pandemic) and migration, but also of contracting the disease, in this case vulnerability is an indicator of inequity and inequality when it comes to contracting Covid-19. Here perhaps lies the main difficulty of demographic and health sciences, since, using the concept of risk as the foundation of its theoretical-methodological arsenal, it does not sufficiently use the concept of vulnerability (today multiple vulnerability and immobility: macro and micro), since it is more dedicated to the analysis of the probability of occurrence than to the analysis of inequities and social inequalities resulting from systemic immobility (Araujo, 2015).

In the case of migration or mobility-immobility of the population, it is argued that migrants-immigrants and those in transit (who also entered a period of immobility, some argue that at least three months) March, April, May 2020, the population was exposed to immobility, but their vulnerability to Covid-19 disease is greater for them and for the rest of the population.[15]

Background to the Covid-19 pandemic

Economic and demographic history have witnessed the great epidemics (health) that have affected the world's population with the only difference that global immobility had not been experienced. What demography has historically done is to record the "war of numbers" and the multiplicity of causes, the responsiveness of the population and economic consequences of such pandemics in the course of history. Demography has observed peoples or regions (geographical distance and contagion), analyzing a multiplicity of factors, their interrelation with demographic processes (births, deaths and migrations), their consequences, in social, technological and ecosystem changes in the world (Livi Bacci, 2012).

The following are some examples of epidemics that humanity has faced: 1) Black Death (14th Century); 2) Spanish Flu (1918-1920); 3); Asian Flu (1957); 4) Hong Kong Flu (1968-1969); 5) HIV-AIDS since 1980; 6) Mad Cow Syndrome (1990); 7) Smallpox; 8) Cholera; 9) Avian Flu (2003); 10) Influenza AH1N1 (2009); and 11) Covid-19 (Livi Bacci; 2012).

[15] See in "Los inmigrantes son al menos dos veces más vulnerables a infectarse de Covid-19 que el resto de la población: OCDE", available in https://www.eleconomista.com.mx/internacionales/Los-inmigrantes-son-al-menos-dos-veces-mas-vulnerables-a-infectarse-de-Covid-19-que-el-resto-de-la-poblacion-OCDE--20201019-0024.html (19/10/2020).

It is difficult to synthesize the history of epidemics in the world and in Mexico, but we can suggest reviewing "Historia de las epidemias del México antiguo. Some biological and social aspects" by Mandujano and his co-authors (2003), who make a great tour of that era. In a brief synthesis, we will place ourselves in more recent times, that is to say, at the beginning of the 20th century, Márquez and Molina indicate that:

> War, famine, poverty and epidemics were responsible for a stagnation or "demographic standstill". According to the 1910 and 1921 censuses, Mexico's population went from 15'160,369 to 14'334,780 inhabitants. Emigration, the civil war and the influenza pandemic were responsible for the death of 450,000 people. There are various estimates on the loss of life caused by the war and the 1918 epidemic, one of which counts two million inhabitants killed by armed conflicts and 300 thousand by influenza (Márquez and Molina, 2009: 122).

Three decades later, from 1940 to 1955, the epidemics of malaria and polio make their presence felt (CONAPRED, 2018):

a. 1940. Malaria left 24 thousand deaths per year until the end of the 20th century. In 2002 it was declared eradicated.
b. 1948-1955. Poliomyelitis, 1,100 cases were recorded. It was eradicated through vaccination.
c. 2009. Influenza A/H1N1. Virus of swine origin. The influenza A-H1N1 pandemic marked the first decade of the 21st century as the first pandemic of the century. This virus first appeared in Perote, Veracruz, and then spread throughout Mexico. It also spread to several countries in March 2020, the day on which the WHO declared that the world was facing a pandemic.

All these events have meant a brake (or change-immobility-mobility) to population growth in the world, as well as in our country. According to Massimo Livi Bacci in his book Historia Minima de la Población Mundial, 2012 version, in normal times in the 16th century mortality was 30 percent and in epidemic crisis it increased three times compared to normal times. With the Coronavirus pandemic, today the mortality rate in Italy due to coronavirus became the highest in the world: more than eight percent of confirmed cases, according to Italian government data. On the other hand, according to the World Health Organization (WHO), in China, the range

of fatalities is between two and four percent, but outside the Asian country the rate is reduced to 0.7 percent, in this case Italy is out of that range.[16]

> Coronavirus 2019 (Covid-19) disease is a respiratory condition that can spread from person to person. The virus that causes Covid-19 is a new coronavirus that was first identified during an outbreak investigation in Wuhan, China. Yes. Covid-19 is spreading from person-to-person in different parts of the world. The risk of infection with Covid-19 is highest in people who are close contacts of someone known to have Covid-19, for example, health care workers or household members. Other people at increased risk of infection are those who live in or have recently been in an area with ongoing spread of Covid-19.[17]

The family-individual response to the pandemic: to prevent the spread of respiratory illness to others, you should do the following: a) stay home if you are sick; b) cover your nose and mouth with a tissue when coughing or sneezing and c) then throw it in the trash; and clean and disinfect frequently touched objects and surfaces, and so on.

Institutional protocol: The World Bank Group is actively working with various international institutions and national authorities to help coordinate the global response (systemic immobility); quarantine, border closures, reduced travel, avoidance of contacts (healthy social distance), protection of vulnerable populations (children, elderly, chronically ill, etc.).[18]

The socio-economic costs derived from the viral disease go beyond the direct damage to the social and economic sectors affected in the world due to the pandemic and immobility. Its economic consequences have multiplied rapidly, whose expression in Mexico and the world is the fall of the Mexican Stock Exchange, decrease in economic growth forecasts, fall in the international price of oil and employment, etcetera. At the same time it is associated with the loss of millions of people due to this disease, which according to scientists still does not have an effective cure and according to projections will increase.[19]

To this is added the demographic cost, specifically in fertility, excess mortality and internal and international migration to such a degree that

[16] BBC News Mundo, 2020, *Coronavirus: qué hay detrás del alto número de muertes en Italia a causa del Covid-19* (20/08/2020).
[17] See in "Lo que usted debe saber acerca del Covid-19 para protegerse a usted y a los demás", available in https://www.cdc.gov/coronavirus/2019-ncov/downloads/2019-ncov-factsheet-sp.pdf (20/10/2020).
[18] Julia Barajas y Melissa Etehad, 2020, *CORONAVIRUS: Cómo decir hola sin tener contacto físico*, available in https://www.latimes.com/espanol/vida-y-estilo/articulo/2020-03-15/coronavirus-como-decir-hola-sin-tener-contacto-fisico (18/06/2020).
[19] See in El Financiero, 2020, *Coronavirus, el alto costo económico de no querer ver*, available in https://www.elfinanciero.com.mx/bloomberg-businessweek/coronavirus-el-alto-costo-economico-de-no-querer-ver/ (27/08/2020).

developed countries have restricted the entry of people by this route (land, air and sea), the examples are multiple, the case of the United States is important in this regard, on the one hand, will pause raids against undocumented migrants by Covid-19, and on the other, greater control of its borders and flights creating chaos in major U.S. airports due to controls by the coronavirus.[20]

Mexico has made progress in terms of risk-vulnerability and pandemic response capacity, but at times it has surpassed European countries and occupied the first places in Latin America in relation to the population exposed to Covid-19,[21] which is immersed in a social psychosis due to the coronavirus pandemic, and has polarized opinions about it.[22]

Methodology and sources of information

Based on the information available on the web and various platforms, we applied the deductive method, which is the opposite of the inductive method, because while the deductive method seeks to go from the general to the particular, the inductive method proceeds inversely: from particular premises we seek to reach general conclusions (Hernández *et al*., 2014). In it (deductive method), we start from the observation of data derived from the Ministry of Health (with a cut-off of elderly people between zero years and older) and percentages, record of general events available on line as we have cited before (as of October 20) and with them we perform a deductive analysis of the information cited, taking into account the demographic dimension and comorbidities, based on it, formulate general premises supported with the approach of the vulnerability of the demographic system. In the dimension of social consequences, the same criterion was applied, but relying on data from INEGI, CONAPO, CONEVAL, among others, to derive macro premises and the social consequences of Covid-19 in our country.

This was technically supported with the crossing of lagged variables with Covid-19 and the accumulated data from March to October 20, 2020 (86,537 deaths and 860,707 survivors of Covid-19). But today, demogra-

[20] Yolanda Monge, 2020, *Caos en los principales aeropuertos de Estados Unidos debido a los controles por el coronavirus* (15/05/2020).

[21] Véase en "México, entre los 10 países con más contagios de Covid-19 en el mundo", available in https://www.marca.com/claro-mx/trending/2020/05/16/5ebf52b7ca4741f8708b462d.html (25/09/2020).

[22] INFOBAE, 2020, *El coronavirus en México no avanza igual que en España e Italia: una gráfica lo demuestra*, available in https://www.infobae.com/america/mexico/2020/03/18/el-coronavirus-en-mexico-no-avanza-igual-que-en-espana-e-italia-una-grafica-lo-demuestra/?fbclid=IwAR1E68ZBrIGEWG6GOxpr-vWSMaUxGC3AIMS8ZKSBjf589Gvt0PK-xL1SBUY (18/06/2020).

phic vulnerability could not be understood without the use of technology. With a world of information generated by a diversity of communities offering information about Covid-19, we check the Internet information network in real time on a daily basis. That is, the rates or models we use in this work are supported by the methodology of Netnography, which is a method of Internet research. Because the Internet is an indisputable vein of generation of wealth of information that has been conveniently used given its evolutionary character and adaptability to innovative research proposals. For this reason, Netnography is valued, today, mainly by companies to track, permanently, forums, chats, newsgroups... what users think about topics as diverse as leisure, health, cars, travel, games, statistical training... and to be able to "measure", "judge" and "assess" their opinions and attitudes towards certain products or services (Aparici, 2010).

At the same time, through the Internet we can access the information available on platforms such as that of Johns Hopkins University and monitor the global and country evolution of Covid-19.[23] Likewise, the mapping or spatial distribution of the pandemic of socio-demographic characteristics is available on the platform of the said university. In the case of Mexico, the Ministry of Health has the database, tables and graphs of the daily evolution of Covid-19 in our country.[24] With this we can derive an analysis, but at the same time we rely on virtual or online newspapers, magazines, books and research results, all of them available online. All this in real time between virtual and reality. But as with everything, there are also limitations, i.e., not everything can be captured in real time: for example, fertility derived from Covid-19 and other demographic and socioeconomic issues whose variables used in this work are assumed to be constant.

The demographic system at risk by Covid-19 in Mexico

Livi Bacci (1993), in his work "Introduction to Demography", argues that Demography as a science studies the components of the reproduction of the demographic system: births, deaths and migration inflows and outflows. He calls this basic theoretical "core" the compensating equation and adds that demographic research is very diverse on the respective determinants, while including the age composition (and the patterns of each of the three phenomena in each of these ages), but also adds other behaviors and

[23] Johns Hopkins, Coronavirus Resourse Center, 2020, available in https://coronavirus.jhu.edu/?utm_source=jhu_properties&utm_medium=dig_link&utm_content=ow_jhuhomepage&utm_campaign=jh20 (22/09/2020).
[24] Secretaría de Salud, 2020, *Información general sobre el nuevo coronavirus, Covid-19*, available in https://www.gob.mx/salud (20/10/2020).

sociodemographic characteristics. Nuptiality, health, contraception, legal regulation of abortion, family and cohabitation structures, public policies on housing or the fiscal treatment of families are some examples of issues that demography can consider important, precisely because they influence its nuclear theme: the reproduction of the global or local population. Without pretending to expand on a demographic explanation, the crisis in the health of the population, demography as a scientific discipline will allow us to expose some concerns and hypotheses about the pandemic that afflicts us today.

For example, with the appearance of the coronavirus, some experts proposed mathematical models as part of the strategies to combat Covid-19 in many countries of the world.[25] For example, there were those who maintained that Covid-19 would infect 70 percent of the world's population and would last two years,[26] and at the same time, it was maintained that in Latin America the Covid-19 pandemic was advancing in a worrying manner in the region and in Mexico. López Gatell (Secretary of Health in Mexico) maintained that it would last three years.

On March 6, 2020, the coronavirus pandemic was still spreading around the world. The World Health Organization alarms were at their highest level. Total Covid-19 cases stood at 95,333 worldwide. Projections were that those infected would increase rapidly. The most affected country continued to be China. Of the total infected, 80,565 were from China and 14,768 from the rest of the world. Most alarmingly, 2,241 additional cases had been reported in the last 24 hours, of which 143 were in China and 2,098 in other countries. Covid-19 had caused 3,015 deaths in China and 267 outside the Asian nation. In Europe, the most affected country was Italy, while Bosnia and Herzegovina, Hungary, Slovenia and Palestine reported new cases of coronavirus. The most affected countries, apart from China, were South Korea (5,766 cases), Italy (3,089), Iran (2,922) and Japan (317). The first infected persons were reported in the United States. In Latin America, it reached Argentina, Brazil, Chile, Ecuador and Mexico. Tedros Adhanom Ghebreyesus, director of the WHO, acknowledged that he was "deeply concerned" about the increase in the number of countries with Covid-19

[25] Fernando Paul, 2020, *Coronavirus: los problemas con los modelos matemáticos que están detrás de las estrategias de lucha contra el covid-19 en muchos países*, available in https://www.bbc.com/mundo/noticias-52093856 (07/07/2020).

[26] Excelsior, 2020, *Covid-19 infectará al 70% de la población mundial y duraría 2 años*, available in https://www.excelsior.com.mx/global/covid-19-infectara-al-70-de-la-poblacion-mundial-y-duraria-2-anos/1370239 (24/05/2020).

cases.[27] Although as of October 5, 2020, the WHO maintained that ten percent of the world's population had already been infected with Covid-19 and obviously this could vary from one country to another.[28]

In the case of Mexico, the National Institute of Public Health created a SARS-CoV-2 epidemic monitoring dashboard to track Covid-19, in which the geographical distribution of the positivity ratio could be tracked by federal entity (where Mexico City and the State of Mexico were permanently in first and second place, respectively), the epidemiological curve, the epidemiological curve of the epidemiology of Covid-19 and the epidemiological curve of the SARS-CoV-2 epidemic in the State of Mexico, The epidemiological curve, the results by age group and sex (with a higher incidence in men than in women), as well as deaths by age group (especially among the elderly and those over 40 years of age) and sex (the same with a higher risk of infection among men).[29]

Some media disseminated chilling figures, thus recognizing the projections of infected people in the United States, while recognizing an under-enumeration worldwide, the case of China is emblematic because the number of deaths due to coronavirus in Wuhan was 50 percent more than reported.[30] In the case of Mexico, the figure was said to be 56 thousand Mexicans infected by Covid-19, on April 17, 2020, and whose lethality was 0.87 percent according to the Sentinel Model of the Ministry of Health,[31] although its multiple always pointed to double.

The figures cited here merit further discussion and reflection; however, the objective is to review what has been said about the vulnerability of the demographic and social system, which will be done in the following paragraphs.

[27] Francisco Ríos, *Incontrolable la propagación del Covid-19 por el mundo*, available inhttps://www.cambio16.com/covid-19-se-propaga-por-el-mundo-de-manera-incontrolable/ (06/04/2020).
[28] See in "El 10 por ciento de la población mundial ya se infectó de covid-19: OM", available in https://www.msn.com/es-mx/noticias/mundo/el-10-de-la-poblaci%C3%B3n-mundial-ya-se-infect%C3%B3-de-covid-19-oms/ar-BB19IwZt?ocid=msedgdhp (05/10/2020). For others, they said that the cases of Covid-19 exceed 35 million in the world, consultado en https://www.eluniversal.com.mx/mundo/casos-de-covid-19-superan-los-35-millones-en-el-mundo (05/10/2020).
[29] INSP, 2020, *Tablero interactivo sobre Covid-19*, available in https://www.insp.mx/informacion-institucional-covid-19.html (10/10/2020).
[30] El Financiero, 2020, *China admite: cifra de muertes por coronavirus en Wuhan fue 50% más de lo informado*, available in https://www.elfinanciero.com.mx/mundo/china-eleva-en-un-50-el-numero-de-muertes-por-coronavirus-en-wuhan/ (28/04/2020).
[31] Laura Poy Solano, 2020, *La Ssa estima en 56 mil la cifra de mexicanos contagiados*, available in https://www.jornada.com.mx/2020/04/17/politica/002n2pol (25/05/2020).

Fertility in the context of Covid-19

Fertility is a determinant of the demographic system and Covid-19 has an effect on this determinant. The number of children per woman presents a double reality in the world: an aging Western world and an African continent with high fertility; the same for some Latin American countries, including Mexico. High-income countries, in general, had 1.6 children per woman in 2018 while in 1960 it was three. Meanwhile, in 2018, the number of children per woman in low-income countries was 4.6, while Mexico ranks as a middle-income country with 2.1 children per woman (Table 1). However, these figures could change and express vulnerability due to Covid-19.

Table 1: Number of children per woman according to country and income level 1960-2018

Countries according to income	1960	2018
High income	3.021	1.600
Median income	5.627	2.335
Upper middle income	5.375	1.897
Lower middle income	5.690	2.554
Low income	6.582	4.604

Source: Banco Mundial, available in https://datos.bancomundial.org/indicator/SP.DYN.CBRT.IN

Demographic experts believe that Covid-19 will have a greater impact on fertility than on mortality, especially because this crisis has put a barrier to immigration (immobility), which helped to prevent the figures from being even more negative in developed countries. The aging process will accelerate.

> The birth rate will suffer in these countries. Couples do not have children for four reasons: the first is that they are too young (or they postpone marriage to study or that it is a generation that has other objectives) and reproduction is not yet part of their plans. The second is that they are no longer so young and have a partner. The third is that now that they have a partner, they do not have the means: employment, home, material things to fix with money and the fourth: they have everything, but at 38 or 40 years of age they have problems to conceive.[32]

[32] See in Albert Esteve, CED: *Covid-19 marcará más la natalidad que la mortalidad*, available in https://www.cambio16.com/albert-esteve-ced-covid-19-marcara-mas-la-natalidad-que-la-mortalidad/ (29/07/2020).

This is a first expression of the vulnerability of the demographic system and to this we add the issue of the health crisis due to the Covid-19 pandemic.

One of the prominent demographers of Latin America, José Miguel Guzmán, Regional Coordinator of the Demographic and Health Surveys Program in Latin America and Francophone Africa, on the occasion of the Pan American Day of Statistics, argues that the limited access to contraceptives and social confinement measures to prevent the spread of Covid-19, could also generate two distinct effects on fertility: reduction of potential population growth in some countries and, in others, an increase in unwanted pregnancies.[33] But at the same time, it could aggravate gender inequality in our countries and households.

Some Mexican demographers have hastily predicted the possibility of an increase in births resulting from a period of prolonged confinement. But, on the other hand, we will have an accentuation of the fall derived from the difficult economic conditions to which we are being forced by the pandemic.

These arguments are similar to those put forward by the Economic Commission for Latin America and the Caribbean (ECLAC), which argues that the impact of the pandemic on the global fertility rate:

> The impact on reproductive decisions and the postponement of childbearing in the face of the economic uncertainty associated with the crisis could be a factor in a decrease, but everything will depend on access to sexual and reproductive health services, particularly contraceptive methods, and the duration of the crisis (ECLAC, 2020).

However, even with fluctuations, the downward trend in fertility levels experienced by the region (Latin America), in principle, would not be affected. In general, in times of shocks, as was the recent case of the 2016 Zika epidemic in Brazil (Castro *et al*., 2018 and Marteleto *et al*., 2020), the number of live births decreases sometime after the beginning of the outbreak, generally nine months, returning to the expected level later. This was recorded by Stone (2020) at other times of epidemic outbreaks and by Adsera and Menendez (2011) and Lee (1990) at times of economic crises.[34]

[33] On "Demógrafo advierte que el Covid-19 provocaría dos efectos distintos en la fecundidad", disponible en https://www.eldinero.com.do/106748/demografo-advierte-que-el-covid-19-provocaria-dos-efectos-distintos-en-la-fecundidad/ (30/07/2020).

[34] CEPAL, 2020, *Día Mundial de la Población 2020: Las huellas de la pandemia en las tendencias demográficas en la región*, available in https://www.cepal.org/es/notas/dia-mundial-la-poblacion-2020-huellas-la-pandemia-tendencias-demograficas-la-region (30/07/2020).

In Mexico, the National Population Council (CONAPO) estimated that there will be 21,575 additional pregnancies on average among adolescents during the epidemic, as they stop attending sexual and reproductive health services for fear of contracting Covid-19, and because girls between 10 and 14 years of age are the most exposed to sexual violence by a family member or a close person.[35] But the most inhumane are the unauthorized surgeries on migrant women in the United States, which will undoubtedly influence their reproduction.[36]

Fertility is expressed in a differentiated manner before Covid 19 and the State of Mexico is no exception, it will undoubtedly leave its mark both in pregnancies-confinement and births in the context of the pandemic crisis,[37] which is an expression of the vulnerability of women, mainly.

Mortality by Covid-19 causes

Deaths (it is a natural determinant), in the analysis of the demographic system, allow to generate-prove explanatory hypotheses that try to show the causes of mortality or movement that generates demographic gaps in the age structure of a population due to wars, pandemics, epidemics, natural disasters, among others (or according to the theoretical interest of the researcher). In terms of Livi Bacci (2012) it is one of the souls of the demographic system or one of the endogenous factors causing population outflow.[38] In terms of the theory of demographic vulnerability, it is the exposure to the risk of death, but influenced by income inequality, as we can see in Table 2, the infant mortality rate from different causes is higher in low-income countries and lower in those with high average income between 1990 and 2018.

[35] CONAPO; 2020, *CONAPO estima 21 mil embarazos adicionales de adolescentes durante epidemia*, available in https://www.animalpolitico.com/2020/08/conapo-estimacion-embarazos-adolescentes (04/08/2020).

[36] See in *Surgen más denuncias de migrantes con cirugías no autorizadas*, consultado en https://www.jornada.com.mx/sin-fronteras/2020/09/20/surgen-mas-denuncias-de-migrantes-con-cirugias-no-autorizadas-8371.html (21/09/2020) y, en *Investigarán reporte de histerectomías masivas a migrantes* available in https://www.jornada.com.mx/sin-fronteras/2020/09/16/investigaran-reporte-de-histerectomias-masivas-a-migrantes-7449.html (21/09/2020).

[37] On this topic, see State and National Social Information Annual series from 2000 to 2009, available in http://igecem.edomex.gob.mx/sites/igecem.edomex.gob.mx/files/files/ArchivosPDF/Productos-Estadisticos/Indole-Economica/AGENDA-ESTADISTICA-BASICA/Agenda_Estadistica_Basica_del_Estado_de_Mexico_2010.pdf (30/11/2020).

[38] *Introducción de la Demografía*, available in https://estvitalesydemografia.files.wordpress.com/2013/04/intropduccic3b3n-a-la-demografc3ada-livi-bacci-massimo.pdf (30/07/2020).

Table 2: Infant mortality rate in men and women per thousand live births

Country according to income	Males (rate)		Women (rate)	
	1990	2018	1990	2018
High income	10.4	4.3	9.2	7.5
Median income	69.2	29.5	61.9	25.5
Upper middle income	43.4	11.6	37.6	9.9
Lower middle income	74.9	33.7	66.3	28.8
Low income	117.8	52.5	102.2	43.4

Source: Banco Mundial, disponible en https://datos.bancomundial.org/indicator/SP.DYN.IMRT.MA.IN

Mortality from Covid-19 has increased in absolute terms worldwide. To date (07/30/2020) there are 17 million confirmed cases worldwide. In the United States alone, more than 4.4 million cases of Covid-19 have been confirmed, in Brazil more than 2.5 million, in Peru more than 400,000, in Mexico more than 408,000, in Chile more than 353,000, in Spain more than 285,000, in Colombia more than 276,000 and in Argentina more than 178,000, as of July 30. The number of discharged patients has also exceeded nine million people.[39]

More than 669,000 deaths due to the new disease and 9.8 million recovered. Although that value seems low compared to the average annual estimate, for the period 2015-2020, of 4.2 million deaths expected in 2020 (United Nations, 2019), when looking at the excess of total deaths by contrasting the figures for the same month in 2019 and 2020, the values are significantly higher and worrying (Lima *et al*., 2020). The countries with the highest number of deaths are: United States (151,451 deaths); Brazil with more than 90 thousand; United Kingdom with more than 45 thousand; Mexico with 45,361, Italy with more than 35 thousand, India with more than 34 thousand, and so on.[40] But more recent data shows that the United States leads the number of deaths due to Covid-19, with 258,333, Brazil with 168,141, India with 132,000 and Mexico with more than 100,000

[39] Johns Hopkins, 2020, *Covid-19 Dashboard by the Center for Systems Science and Engineering (CSSE)* at Johns Hopkins University (JHU), available in https://coronavirus.jhu.edu/map.html (30/07/2020)

[40] Johns Hopkins, 2020, *Covid-19 Dashboard by the Center for Systems Science and Engineering (CSSE)* at Johns Hopkins University (JHU), available in https://coronavirus.jhu.edu/map.html (30/07/2020)

deaths, occupying the fourth place worldwide.[41] The figures express differentiated vulnerabilities that will have a differential effect on each demographic system, but certainly the world demographic system will have the pandemic footprint in its structure.

Covid 19 made the year 2020 the year with the most deaths in Mexico's recent history, although there are important differences between states.[42] In terms of exposure to contracting the disease or dying, it falls on the elderly, men, speakers of indigenous languages, migrants, mostly of Mexican nationality. However, those with the greatest exposure to death are those with comorbidities such as diabetes, COPD (chronic obstructive pulmonary disease), asthma, hypertension, cardiovascular disease, obesity, chronic kidney disease and smoking (see Table 3). In this case for the State of Mexico, we can see, as an example, greater possibilities of exposure to the risk of suffering from this disease, even death, especially if people have comorbidities and this means greater vulnerability and low capacity to respond to the pandemic.

In our country, the projected mortality per federal entity is higher in Mexico City and in the State of Mexico, as well as those observed as a result of the Covid-19 pandemic.[43] For example, the expected value of mortality in the State of Mexico was 27,502 and the observed value was 57,328 presenting an excess mortality of 29,899 (in week 31).[44] But until October 20, we can observe that the State of Mexico had a pattern of greater demographic and comorbidities affectation in relation to the national level (Table 3).

[41] See in "Se rompe techo de 100,000 muertos por Covid-19 en México", available in https://www.eleconomista.com.mx/politica/Se-rompe-techo-de-100000-muertos-por-Covid-19-en-Mexico--20201120-0031.html (20/11/2020).
[42] See in https://www.gob.mx/salud (30/11/2020).
[43] Véase en "Mapa del coronavirus en México; CdMx, entidad con mayor mortalidad", cavailable in https://www.msn.com/es-mx/noticias/mexico/mapa-del-coronavirus-en-m%C3%A9xico-cdmx-entidad-con-mayor-mortalidad/ar-BB1aXZQv?ocid=msedgdhp (13/11/2020).
[44] See in "Estado de México. Exceso de mortalidad por todas las causas, Semana 31, 2020", available in https://www.insp.mx/micrositio-covid-19/boletin-estadistico-sobre-exceso-de-mortalidad-por-todas-las-causas-durante-la-emergencia-por-covid-19 (18/09/2020). The same can be consulted in the «STATISTICAL Bulletin on excess mortality from all causes during the Covid-19 emergency», available in https://coronavirus.gob.mx/wp-content/uploads/2020/10/BoletinIV_ExcesoMortalidad_SE39MX21102020.pdf?fbclid=IwAR3V2O5XYMKrufv1ZjnOPT9rdNLrpYQJP2bIIfdqdsRj-JAVl8RqtYtnFOA (11/11/2020).

Table 3: Percentage of survivors and deaths from Covid-19 of the population aged 0 years and over, according to cause (as of October 20, 2020). Demographic data

	National		Mexico state	
	Survives (%)	Deaths (%)	Survives (%)	Deaths (%)
Age				
0 to 14 years	98.6	1.4	97.8	2.2
15 to 29 years	99.3	0.7	98.3	1.7
30 to 49 years	96.3	3.7	93.8	6.2
50 to 69 years	82.4	17.6	76.1	23.9
70 to 120 years	60.2	39.8	54.4	45.6
Total	89.9	10.1	85.6	14.4
Sex				
Woman	92.6	7.4	89.9	10.1
Man	87.5	12.5	81.8	18.2
Total	89.9	10.1	85.6	14.4
Speak indigenouslanguage				
No	89.9	10.1	85.6	14.4
Yes	83.1	16.9	76.2	23.8
Total	89.8	10.2	85.5	14.5
Migrant				
No	96.4	3.6	97.4	2.6
Yes	94.2	5.8	94.7	5.3
Total	95.9	4.1	96.8	3.2
Nationality				
Mexican	89.0	10.1	85.6	14.4
Foreigner	95.5	4.5	97.3	2.7
Total	89.9	10.1	85.6	14.4
Pregnancy				
No	92.4	7.6	89.7	10.3
Yes	98.6	1.4	98.5	1.5
Total	92.5	7.5	89.7	10.3

Source: Own elaboration based on https://coronavirus.gob.mx/

Migration and Covid-19

Before the pandemic we were used to defining internal[45] and international migration (at the beginning the concept of imported Covid-19 is used, due to international mobility) as a change of habitual residence due to economic, political, social, environmental and technological situations. And, we were discussing emigration, immigration, return and transit migration. But as of March 2020, a concept that some social scientists have called immobility related to internal and international migration (which includes repatriations)[46] enters, this because of the Covid-19 pandemic.

Internal rural-urban migration (and vice versa) and urban temporary, daily and pendular migration had a period of immobility due to Covid-19, all of them based their movements for formal and informal employment, study, medical consultations, shopping among other activities, mainly between metropolitan areas.[47] It is sufficient to note that the percentages of deaths and survivors due to Covid-19 are concentrated in the northern, central and southern regions of the country (Table 4).

[45] "Internal migration is a decisive component of the demographic system and of the spatial redistribution processes of the population and has implications for communities, households and individuals. For communities, particularly those of origin and destination, it has demographic effects - both in terms of growth and population, social, cultural and economic structures. For households and individuals, migration, particularly if it is part of an elaborate strategy, is a resource for achieving certain objectives, which can be as varied as facing an economic crisis or improving quality of life", en *Migración interna y distribución espacial de la población*, available in https://biblioguias.cepal.org/migracioninterna (31/07/2020).

[46] See in "Ebrard: 17 mil 891 mexicanos han sido repatriados ante crisis por coronavirus", available in https://www.milenio.com/politica/coronavirus-sre-17-mil-891-mexicanos-repatriados (21/10/2020).

[47] Virgilio Partida-Bush, 2013, *Migración hacia y desde 16 zonas metropolitanas de México. Una reconstrucción histórica 1965-2010*, available in http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1405-74252013000200002 (03/08/2020); also in Carlos Garrocho, 2011, *Población Flotante, Población en Movimiento: Conceptos Clave y Métodos de Análisis Exitosos*, available in https://www.gob.mx/cms/uploads/attachment/file/328284/Poblaci_n_flotante_GarrochoISBN.pdf (03/08/2020); y, en José Aurelio Granados-Alcantar, Laura Myriam Franco-Sánchez, 2017, Migración y movilidad laboral entre las zonas metropolitanas de la región centro de México, available in http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1405-74252017000100117 (03/08/2020).

Table 4: Percentage of survivors and deaths from Covid-19 of the population aged 0 years and over, by cause (as of October 20, 2020). Chronic degenerative diseases

	National		Mexico State	
	Survives (%)	Deaths (%)	Survives (%)	Deaths (%)
Diabetes				
No	92.8	7.2	88.7	11.3
Yes	74.4	25.6	68.9	31.1
Total	90.0	10.0	85.7	14.3
Epoc				
No	90.3	9.7	86.1	13.9
Yes	65.3	34.7	63.8	36.2
Total	90.0	10.0	85.7	14.3
Asthma				
No	89.9	10.1	85.6	14.4
Yes	92.2	7.8	90.6	9.4
Total	90.0	10.0	85.7	14.3
Hypertension				
No	93.2	6.9	88.8	11.2
Yes	76.2	23.8	70.9	29.1
Total	90.0	10.2	85.7	14.3
Cardiovascular				
No	90.3	9.7	86.0	14.0
Yes	72.1	27.9	71.5	28.5
Total	90.0	10.0	85.7	14.3
Obesity				
No	90.8	9.2	86.2	13.8
Yes	86.1	13.9	83.0	17.0
Total	90.0	10.0	85.7	14.3
Chronic kidney				
No	90.5	9.5	86.2	13.8
Yes	61.0	39.0	61.0	39.0
Total	90.0	10.0	85.7	14.3
Smoking				
No	90.1	9.9	85.7	14.3
Yes	88.9	11.1	85.0	15.0
Total	90.0	10.0	85.7	14.3
National region / EDOMEX				
Traditional-(ZMCM)	91.3	8.7	86.1	13.9
North (ZMCT)	89.9	10.1	85.6	14.4
Center- (ZMST)	89.1	10.9	85.4	14.6
South- (rest)	90.1	9.9	85.1	14.9
Total	89.9	10.1	85.6	14.4

Note: ZMCM = Zona Metropolitana de la Ciudad de México; ZMCT = Zona Metropolitana de la Ciudad de Toluca; ZMST = Zona Metropolitana Santiago Tianguistenco; resto (rest of the non-metropolitan municipalities).
Source: Own elaboration based on https://coronavirus.gob.mx/

Likewise, the Covid-19 pandemic is aggravating the economic and social conditions of sectors that were already highly vulnerable, such as migrant children and adolescents (children and adolescents, internal and international), agricultural day laborers, returning migrants and those seeking refuge, as well as undocumented workers in the United States (such as those in transit). This was argued in the virtual seminar "Migration and inequalities before Covid-19: vulnerable populations and support networks in Mexico and the United States", an event organized by El Colegio de México.[48] This had implications on the biological-social soul of the population by subjecting it to immobility.

The Covid-19 attacks, then, in a geographical space marked by the tension between (in)mobility and control, a tension that takes on much more violent nuances in unequal contexts. This is the case of the Americas. In recent decades, socioeconomic inequality, both between and within the countries of the continent, has deepened without historical precedent. Hence, in just two months, the pandemic has revealed the unattended and unresolved structural inequality, unleashing considerable effects in our countries. The health emergency is now compounded by the economic collapse and the collapse of social protection systems, facts that together threaten the lives of the most vulnerable populations, always racialized, such as those in conditions of human mobility.[49]

Immobilization implies elements such as border closure and hypervigilance, selective hyper-nationalism, spiral of violence, dispossession of rights, asylum and refugee rights, production of fear, confinement spaces, reverse migration, essential but disposable, children and adolescents on the verge of humanitarian crisis, and Mexico also applied such measures[50] with the deployment of the national guard, which at the same time was recognized as the wall against migration to the United States. In fact, in Mexico there were 100,000 migrants at risk from Covid-19 on July 1, 2020, according to the National Autonomous University of Mexico (UNAM).[51]

But there have also been deaths of migrants, especially Mexicans, and the most numerous were precisely in the epicenter of the pandemic in the United States: New York, California, Illinois, Arizona, Texas, Wisconsin,

[48] "Agrava Covid-19 condiciones de sectores vulnerables": Colmex, available in https://migdep.colmex.mx/publicaciones/COVID-19-Contexto-Economico-Politico-Social.pdf?fbclid=IwAR2xy_UQvUIoHKcvBGWQlVhKZLaND0S_2Sx2RqIOkUCVwaAaz5vcJK8qwxo (01/08/2020).

[49] Covid-19 *E (IN)MOVILIDAD EN LAS AMÉRICAS*, available in https://www.inmovilidadamericas.org/el-proyecto (31/07/2020).

[50] *MÉXICO*, available in https://www.inmovilidadamericas.org/mexico (31/07/2020).

[51] See in https://www.jornada.com.mx/ultimas/sociedad/2020/07/01/en-mexico-hay-100-mil-migrantes-en-riesgo-por-covid-19-alerta-la-unam-4683.html (31/07/2020).

New Jersey, North Carolina, Maryland, Minnesota, Colorado, Washington, among others, as shown in Table 5 and Figure 1.

Table 5: Deaths of Mexican men and women due to Covid-19 in the United States

Estate	Mexican people	State totals	State	Mexican people	State totals
Alabama	2	1,291	Michigan	13	6,366
Arizona	79	2,784	Minnesota	28	1,585
Arkansas	1	357	Mississippi	4	1,358
California	289	7,716	Missouri	3	1,165
Carolina del Norte	32	1,667	Nebraska	11	301
Carolina del Sur	3	1,164	Nevada	7	647
Colorado	27	1,752	Nueva Jersey	34	15787
Dakota del Sur	1	118	Nuevo México	2	571
Delaware	2	523	Nueva York*	760	32,582
Distrito de Columbia	7	579	Ohio	3	3,189
Florida	12	5,075	Oklahoma	4	452
Georgia	19	3,173	Oregón	7	260
Idaho	0	119	Pensilvania	20	7,085
Illinois	160	7,488	Rhode Island	1	995
Indiana	17	2,825	Tennessee	7	843
Iowa	5	977	Texas	60	4,063
Kansas	6	308	Utah	14	243
Kentucky	5	670	Virginia	14	2,031
Luisiana	3	3,576	Washington	25	1,454
Maryland	30	3,380	Wisconsin	56	1,454
Massachusetts	7	8,431	Totales	1,780	135,616

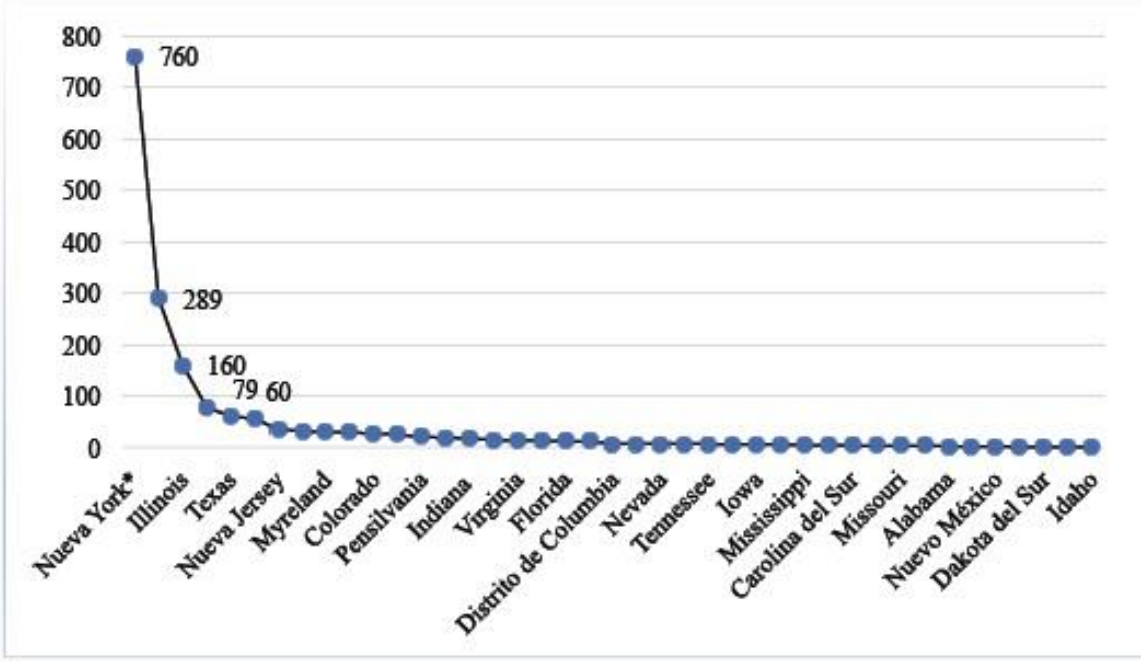
Data as of July 20.
*Includes Connecticut and New Jersey counties.
Source: Secretaría de Relaciones Exteriores, 2020, disponible en https://www.gob.mx/sre/documentos/nota-informativa-relaciones-exteriores-no-31?idiom=es (01/08/2020).

The data thus presented hide particularities, such as international student immobility[52] and the Covid-19, as well as those of day laborers, women, etc.

Among the Mexicans who died in other countries of the world, those who died in Canada, Spain and Peru stand out (Table 6).

[52] See in "Movilidad estudiantil internacional", available in https://www.jornada.com.mx/2020/11/20/opinion/024a2pol (20/11/2020).

Figure 1: Mexican people who died in the United States as of July 20, 2020



Data as of July 20.
* The figures correspond to the information reported by the RMEs and could vary.
Source: Secretaría de Relaciones Exteriores, 2020, available in https://www.gob.mx/sre/documentos/nota-informativa-relaciones-exteriores-no-31?idiom=es (01/08/2020).

Table 6: Deaths of Mexican men and women by Covid-19 in the rest of the world

Country	Mexican people	Totals in the country
Canadá	6	8,855
Colombia	1	6,736
Cuba	0	87
Chile	0	8,633
España	3	28,420
Francia	1	31,017
Irlanda	0	1,753
Italia	0	35,058
Kenia	0	238
Panamá	0	1,096
Perú	3	13,187
Portugal	0	1,691
República Dominicana	0	993
Suiza	0	1,971
Tailandia	0	58
Totales	14	139,793

Source: Secretaría de Relaciones Exteriores, 2020, disponible en https://www.gob.mx/sre/documentos/nota-informativa-relaciones-exteriores-no-31?idiom=es (01/08/2020). For updates see in https://www.gob.mx/sre/documentos/nota-informativa-relaciones-exteriores-no-35?idiom=es and in https://www.gob.mx/sre/documentos/nota-informativa-relaciones-exteriores-no-48?idiom=es (consulted on 13/11/2020).

Migrants were initially subject to the importation of Covid,19 but at the same time, they have become a time bomb in migrant detention centers at international borders, which have forced the suspension of immigration laws and reinforced the image of a border closed by the pandemic.

The demographic profile of the deceased in the world indicates that the highest percentage is concentrated in the age group of 50 years or older and, mostly male. Obviously, there are large differences between more and less developed countries.[53]

[53] *¿A qué edad se está muriendo por coronavirus en el mundo?*, available in https://www.elconfidencial.com/tecnologia/ciencia/2020-03-12/covid-coronavirus-edad-muriendo-mundo_2493175/ (02/08/2020). Likewise, in "El impacto de la pandemia por Covid-19 en las personas mayores", https://www.cepal.org/es/notas/impacto-la-pandemia-covid-19-personas-mayores (02/08/2020). Also in "América Latina: Retos y oportunidades", available in https://scielo.conicyt.cl/scielo.php?script=sci_arttext&pid=S0370-41062020000200179 (02/08/2020).

In our country, experts from the National Autonomous University of Mexico (UNAM) point to the existence of a mortality profile associated with certain demographic and socioeconomic conditions: less schooling, 70 percent are men and more than half (55.7 percent) are concentrated in Mexico City and the State of Mexico. One out of every two deaths are older adults and 45 percent correspond to the working class; almost 84 percent of those killed by the new coronavirus are concentrated in eight employment categories, among which unpaid workers such as housewives, retirees and pensioners, public sector employees, vehicle drivers and unoccupied professionals stand out. Particular attention has been drawn to the vulnerability of those who are not in active employment - unpaid, retirees and pensioners, and the unemployed - who together account for 46 percent of deaths, as well as those suffering from some chronic degenerative disease.[54]

In summary, the sociodemographic consequences of the pandemic will be reflected in the compensatory equation of the population: for example, the demographic gaps it will leave in the age structure due to mortality (whose differential per capita may vary from one country to another over time),[55] in life expectancy at birth, in the male population and, to a lesser extent, in the case of young women[56] and children. Increase or decrease in fertility according to country or federal entity due to the effect of lower marriage rates and confinement.

Moving from mobility to immobility and then back to mobility with greater protectionism in developed countries, exposes 7.5 billion inhabitants at risk, as well as 271.6 million migrants in the world, including 40 million Mexicans living in different parts of the world and 12 million born in the country and living in the United States, in addition to their second and third generations who recognize themselves as Mexicans.

The consequences of international migration are an increase in mortality in a place other than that of their birth,[57] an increase in the cost and

[54] See in *Estudio relaciona mortalidad del Covid-19 con la escolaridad*, available in https://www.jornada.com.mx/ultimas/sociedad/2020/07/14/revelan-estudio-sobre-201cmortalidad-por-covid-19-en-mexico201d-7844.html (30/07/2020).

[55] See in "El modelo Centinela, la apuesta de México para contener la epidemia de coronavirus (y que contradice las recomendaciones de la OMS)", available in https://actualidad.rt.com/actualidad/348982-modelo-centinela-estrategia-mexico-coronavirus (04/09/2020).

[56] See in "Según datos de la Secretaría de Salud, el grupo etario más afectado por la enfermedad hasta el momento es el de los 40 a los 49 años (México)", available in https://www.elsoldemexico.com.mx/mexico/sociedad/bajo-observacion-los-cuarentones-los-mas-afectados-por-el-covid-19-5123349.html (04/0/2020).

[57] See in "Migrantes, entre las mayores víctimas del Covid-19 en EU", available in https://observatoriocolef.org/noticias/migrantes-entre-las-mayores-victimas-del-covid-19-en-eu/?fbclid=IwAR07BTw8VUjJD0Cy1h_Id7tp4E7dmH1ZxVDgN5ed7TSpO_iOl1bBVuHiyE0 (04808/2020). But there is also a concentration of his death "More than a thousand Mexicans

trafficking of people after three months of immobility (March, April and May);[58] an increase in the return to their communities given the uncertainty in the places of destination; facilitates deportation: violation of their human rights in the central countries, but also from Mexico there is a differential deportation; worsens the situation of refugees and asylum seekers: quarantine in the refugee camps (which puts them in the limbo of the migratory laws in force),[59] discrimination, xenophobia and aporophobia increases (worst of all when it is institutionalized as in the United States) in the places of transit and destination; an emptying of the migratory stations of the National Institute of Migration (INAMI) occurs: riots in the stations of Chiapas, Tabasco, Sonora and Coahuila (the case of Mexico); thousands of Mexicans stranded abroad unable to return to their country of origin; greater vulnerability; according to sex (male), elderly, chronically ill-degenerative; forced internal and international migration increases; there has been a slowdown in the sending of monetary remittances worldwide and the case of Mexico to from four billion in March 2020 to 3. 5 billion in July of the same year (Figure 2).

But the character of the solidary[60] migrant is highlighted and today called blessed remittances or blessed migration that if they were not for them we would be in recession[61] or social miracle[62] (Figure 2).

have died in the US from Covid-19: Foreign Ministry; In its report, the agency indicated that the highest number of deaths of nationals in that country is concentrated in New York, available inhttps://www.elfinanciero.com.mx/mundo/mas-de-mil-mexicanos-han-muerto-en-eu-por-covid-19-cancilleria (04/09/2020).

[58] See in "La trata de personas, el negocio que resurge entre la pandemia y la crisis económica", available in https://www.jornada.com.mx/sin-fronteras/2020/09/04/la-trata-de-personas-el-negocio-que-resurge-entre-la-pandemia-y-la-crisis-economica-6740.html (07/09/2020).

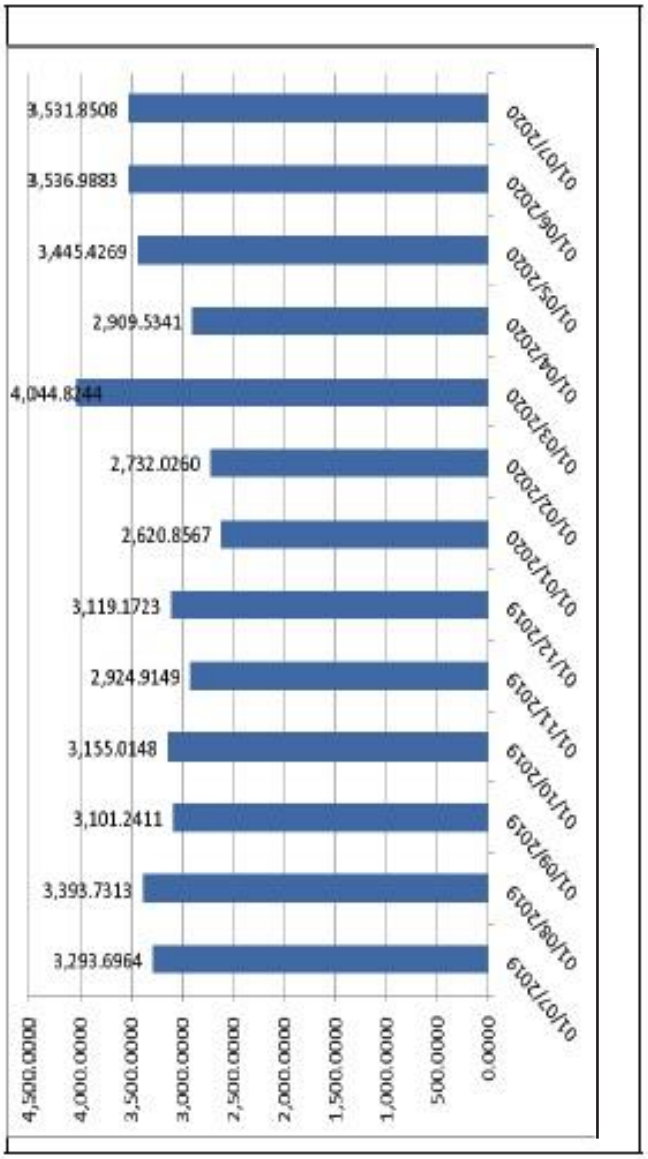
[59] At a press conference in Geneva, Switzerland, UNHCR warned that a growing situation of chronic violence and insecurity, along with restrictions related to covid-19, are putting the lives of tens of thousands of people in the North of Central America at risk, by while exacerbating existing difficulties, available in https://www.proceso.com.mx/630264/pandemia-agrava-crisis-migratoria-centroamericana-acnur (04/09/2020).

[60] See in "Nuevo récord de remesas: 38 mil mdd en 12 meses", available in https://www.jornada.com.mx/ultimas/economia/2020/09/02/nuevo-record-de-remesas-38-mil-mdd-en-12-meses-7773.html (04/09/2020).

[61] See in "Las remesas que salvan al país: "sin ese dinero, me habría quedado sin comer", available in https://www.razon.com.mx/negocios/benditas-remesas-salvando-pais-ese-dinero-me-habria-quedado-comer-402746 (19/10/2020).

[62] See in "¿Qué dijo AMLO sobre la economía mexicana en su mensaje por los dos años de gobierno?", available in https://www.eleconomista.com.mx/politica/Que-dijo-AMLO-sobre-la-economia-mexicana-en-su-mensaje-por-los-dos-anos-de-gobierno-20201201-0096.html (02/12/2020).

Figure 2: Income from remittances to Mexico July 2019 to July 2020



Source: Banco de México, available in https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CE81&locale=es (07/09/2020).

Mexico has not been the exception to the time that population happens versus depopulation of places of origin and exposed to a restrictive policy in the central countries (Europe, United States...) and their uncertainty in the participation in the electoral processes, specifically in the United States, while at the same time involving large costs for Mexico.[63]

While at the national level it was estimated that migrants sent close to $40 billion dollars to Mexico, $2.1 billion dollars entered the State of Mexico. At the same time we have slight decrease from the first quarter to the second quarter estimated at -6.6 percent and -5.2 percent in relation to the April-June 2019 quarter (Figure 3).

Economic Consequences and Risks of Covid-19 Immobility in the World and Mexico

Covid-19 plunged the world economic system into an economic crisis, the worst recession since 1929 or World War II.[64] More than half the world suffers a sanitary standstill (immobility) of production (i.e., the economy was also immobilized), trade and services, for example, led to the international fall in the price of oil (which arose from a war between Russia, Saudi Arabia and the United States as background overproduction) was associated with the outbreak of Covid-19 and until April 8, 2020, analysts pose an extreme scenario: the fall of oil to zero dollars.[65]

As for the drop in world economic growth in 2020, the World Bank projects that it will be -5.2 percent, for developed countries it is estimated at minus seven percent and for emerging and developing economies its rate will be -2.5 percent.

Obviously, with great differences from one country to another, for example, for Latin America it will have a drop of 7.2 percent (the countries with the greatest drop in their GDP will be Belize and Peru) and for Mexico it will be 7.5 percent, as a result of the immobility, the production of the different economic sectors that are not necessary.[66]

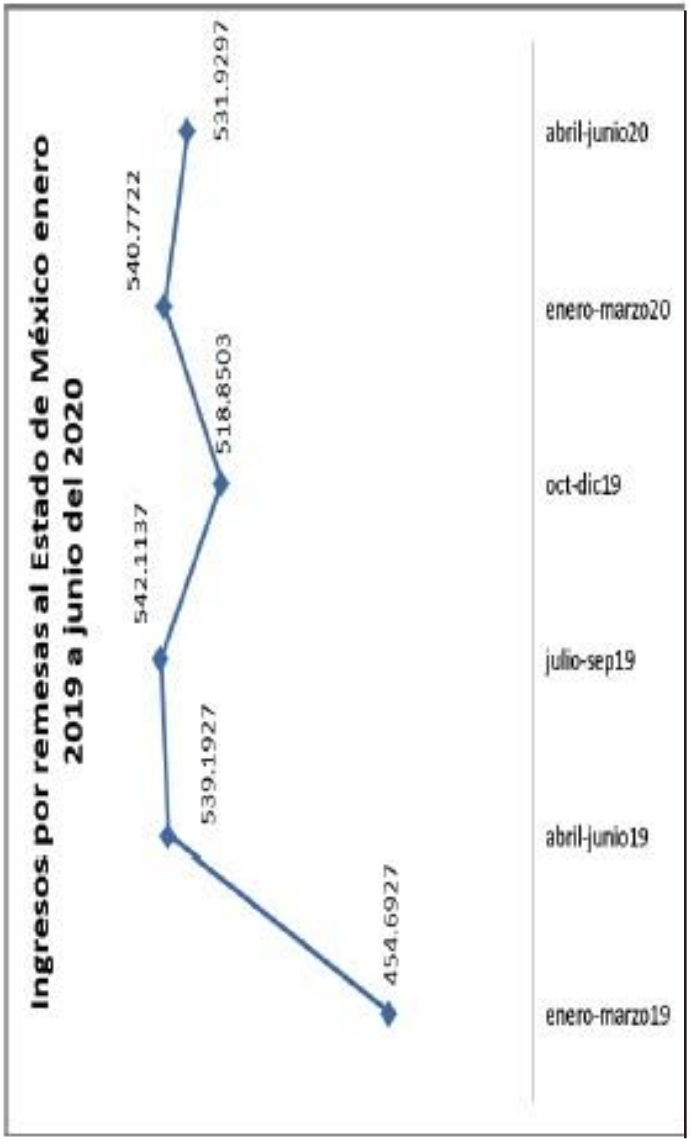
[63] See in "El precio que pagó México para ayudar a Trump a contener éxodo migratorio", available in https://www.jornada.com.mx/sin-fronteras/2020/09/08/el-precio-que-pago-mexico-para-ayudar-a-eu-a-contener-exodo-migratorio-137.html (09/09/2020).

[64] See in "La Covid-19 (coronavirus) hunde a la economía mundial en la peor recesión desde la Segunda Guerra Mundial", available in https://www.bancomundial.org/es/news/press-release/2020/06/08/covid-19-to-plunge-global-economy-into-worst-recession-since-world-war-ii (09/09/2020).

[65] Expansión, 2020, *Los analistas plantean un escenario extremo: la caída del petróleo a cero dólares*, available in https://www.expansion.com/mercados/materias-primas/2020/03/19/5e736c56468aeb58118b4641.html (30/04/2020).

[66] See in "Perspectivas económicas mundiales", available in http://pubdocs.worldbank.org/en/657071588788309322/Global-Economic-Prospects-June-2020-Regional-Overview-LAC-SP.pdf (11/09/2020).

Figure 3: Income from remittances to the State of Mexico July 2019 to July 2020



Source: Banco de México, available in https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadro&idCuadro=CE100&locale=es (07/09/2020).

Although recently the Organization for Economic Cooperation and Development (OECD) maintains that the Mexican economy will fall by 10.2 percent[67] and its growth in 2021 will be more than three percent. The original and timely estimates can be reviewed at INEGI's website where we can appreciate the large drop in GDP by economic sectors and its U-shaped recovery.[68]

The slowdown and collapse of the world economy due to the confinement or immobility disrupted the primary (food crisis), secondary (many industries stopped and consequently there were historical collapses of their economic activity) and tertiary sectors.[69] It caused the collapse of world trade (with a deficit in the balance of payments, a fall in the sales of large traders and small entrepreneurs were left to their fate). The health-economic crisis influenced the loss of jobs,[70] the increase in unemployment and self-employment and informality, layoffs of professionals, setbacks in foreign direct investment (investment in fixed assets), public investment, the fall in workers' income, layoffs, the fall in the international price of oil, the increase in applications for unemployment insurance in developed countries, the food crisis, etc. At the same time, it recognizes the increase in poverty worldwide,[71] in Latin America[72] and Mexico. In our country, it is argued that between 12.3 and 18 million people will fall into extreme

[67] See in "OCDE prevé mayor caída del PIB de México para 2020", available in https://www.forbes.com.mx/economia-ocde-prevision-pib-mexico-2020/ (18/09/2020).
[68] See in "Estimación Oportuna del PIB trimestral", available in https://www.inegi.org.mx/temas/pibo/ (20/11/2020).
[69] See in "Resultados y daños del Covid-19 en la economía mexicana", available in https://www.eleconomista.com.mx/sectorfinanciero/Resultados-y-danos-del-Covid-19-en-la-economia-mexicana-20200528-0029.html (11/09/2020). Also in "Estimación Oportuna del PIB trimestral", available in https://www.inegi.org.mx/temas/pibo/ (21/10/2020).
[70] The immobility of economic activity led to the fall of the economy brought with it the loss of employment in the world and Mexico. Mexico recovers 65% of the 12 million jobs lost during the pandemic. The recovery trend is reaffirmed with the return of 608 thousand people to the labor market in August, but the figures are still far from the pre-crisis scenario, available in https://elpais.com/mexico/2020-09-28/mexico-recupera-el-65-de-los-12-millones-de-empleos-perdidos-por-la-pandemia.html (28/09/2020).
[71] By 2021, for every 100 young men living in extreme poverty there will be 118 women. Women bear most of the responsibility for caring for the family, earn less, save less and have much less secure jobs, a situation that has been intensified by the coronavirus crisis, available in https://news.un.org/es/story/2020/09/1479872 (05/10/2020).
[72] In this context, ECLAC projects that the number of people in a situation of poverty will increase by 45.4 million in 2020, with which the total number of people in that condition would go from 185.5 million in 2019 to 230.9 million in 2020, a figure that represents 37.3% of the Latin American population. Within this group, the number of people in extreme poverty would increase by 28.5 million, going from 67.7 million people in 2019 to 96.2 million people in 2020, a figure that is equivalent to 15.5% of the total population. available in https://www.cepal.org/es/comunicados/contraccion-la-actividad-economica-la-region-se-profundiza-causa-la-pandemia-caera-91 (05/10/2020).

poverty, that is to say, up to 16.4 million people in Mexico[73] will fall into poverty.

Education and the coronavirus; the educational system responded to the suggestions of the World Health Organization (WHO) by suspending activities worldwide (i.e. educational activity was immobilized), according to the United Nations Educational, Scientific and Cultural Organization (UNESCO), more than one billion students and young people around the world were affected by the closure of schools and universities due to the outbreak of Covid-19 and whose classes were conducted online, the same occurred in our country from March 19 to April 19, 2020. UNESCO recognized that the Covid-19 outbreak and resurgence is a major health problem that affected and put education in a major crisis.[74]

The multidimensional and systemic effects of Covid-19 go far beyond those discussed here. It threatens to have millions of workers left without social security by the coronavirus and, as mentioned above, it reveals inequalities starkly and may aggravate them; at the same time it is a media event, which poses challenges to epidemiologists in the network, while leaving after-effects of social paranoia, discrimination; a Church without alms? and without income; people who reject migrants coming from developing countries and even from the United States after fleeing Covid-19; challenges for health workers who are victims of the fear of the pandemic and little recognition for their work and dedication to the health care of those sickened by this pandemic that for some is syndemic.[75]

The previous argument can be supported with Table 7, which expresses the correlation of dying from Covid-19 in the 32 states of the country with those who survive; its correlation is high (0.88 percent), not so with the marginalization index (IM18), but with the population vulnerable due to social deprivation (VULCS18) (0.88); with those vulnerable due to lack of income (VULy18) (0.88); but also with those not vulnerable due to lack of income (0.88). 88); but also with the non-poor and non-vulnerable (PnoPnoV18) (0.86, which is an indication that the pandemic does not respect social class); with the employed in the third quarter of 2020 (OcupaIII), the unemployed in the third quarter of 2020 (desoIII), the working poor (po-

[73] Edgar Juárez, BBVA: *Pasarían a la pobreza hasta 16.4 millones de personas en México*, available in https://www.eleconomista.com.mx/economia/BBVA-Pasarian-a-la-pobreza-hasta-16.4-millones-de-personas-en-Mexico-20200522-0020.html (30/05/2020).

[74] UNESCO, 2020, *Coalición Mundial para la Educación*, available https://es.unesco.org/covid19/globaleducationcoalition (25/05/2020).

[75] The term "syndemic" refers to synergistic health problems that affect the health of a population in its social and economic contexts, Fernando Lolas Stepke, 2020, "Perspectivas bioéticas en un mundo en sindemia", available in https://scielo.conicyt.cl/scielo.php?script=sci_arttext&pid=S1726-569X2020000100007 (21/10/2020).

brelab) and even with the number of physicians per thousand inhabitants of the 32 states (Table 7). These indicators express the exposure to risk of the social economic system by Covid-19 and its systemic vulnerability regardless of the lags of some of the variables included here.

Table 7: Table of correlations of deaths due to Covid-19 and socioeconomic risks, 2020

		Passed away
Deaths	Correlación de Pearson	1.00
	Sig. (bilateral)	
	N	32
Survives	Correlación de Pearson	0.883**
	Sig. (bilateral)	0.00
	N	32
Vulcs18	Correlación de Pearson	0.880**
	Sig. (bilateral)	0.00
	N	32
VulY18	Correlación de Pearson	0.882**
	Sig. (bilateral)	0.00
	N	32
PnoPnoV18	Correlación de Pearson	0.865**
	Sig. (bilateral)	0.00
	N	32
ocupaIII	Correlación de Pearson	0.828**
	Sig. (bilateral)	0.00
	N	32
DESOIII	Correlación de Pearson	0.897**
	Sig. (bilateral)	0.00
	N	32
pobrelab	Correlación de Pearson	0.05
	Sig. (bilateral)	0.80
	N	32
IM18	Correlación de Pearson	-0.27
	Sig. (bilateral)	0.14
	N	32
medicox1000h14	Correlación de Pearson	0.714**
	Sig. (bilateral)	0.00
	N	25.00
meDespecia14	Correlación de Pearson	0.33
	Sig. (bilateral)	0.07
	N	32

*The correlation is significant at the 0.05 level (bilateral).
** The correlation is significant at the 0.01 level (bilateral).
Source: Own elaboration based on: http://www.conapo.gob.mx/es/CONAPO/Datos_Abiertos_del_Indice_de_Marginacion; https://www.coneval.org.mx/coordinacion/entidades/Paginas/inicioent.aspx; https://www.inegi.org.mx/app/estatal/#grafica; https://www.coneval.org.mx/Evaluacion/IEPSM/Documents/Derechos_Sociales/Diag_derecho_Salud_2018.pdf; https://www.coneval.org.mx/Medicion/MP/Paginas/AE_pobreza_2018.aspx; https://www.coneval.org.mx/Medicion/Paginas/ITLP-IS_resultados_a_nivel_nacional.aspx; https://www.inegi.org.mx/temas/itaee/.

Response capacity and public policy challenges

The population was (and is) in complete vulnerability and little response capacity because at the time there was no vaccine available. The only response was immobility (confinement), while no government could detect all those infected, they measured what they could to estimate the trend and the real contagion at a global, national or local level. At the same time, arguments such as the following emerged: society overtook AMLO (Andrés Manuel López Obrador). But the response of the Mexican Government was the implementation of several prevention protocols, some economic measures, guaranteeing the protection of the elderly and risk groups; classes were suspended; events and mass meetings were suspended; work activities were suspended to change them for the Office Home; it was recommended to keep a healthy social and physical distance; it was recommended to take care of hygiene and food, as well as the so-called digital solidarity was proposed and emerged, and so on.

The mass media were in charge of exposing these and many other ways of taking care of oneself and preventing the disease in the showcases of television, the Internet and other existing information media, which García Canclini called the sanitary dictatorship by the coronavirus and the generalized corporate vigilance.[76] Likewise, Manuel Castells argued: "We are facing the most serious threat humanity has ever had".[77]

In the same tone, we have those who argue that the mitigation mechanism or the subtle freedom of being enclosed as Fabrizio Mejia Madrid calls it, on April 8, 2020, caused systemic immobility that included pedestrians and automobiles in the cities of Mexico, Tijuana and Guadalajara,[78] "Mexico's Undersecretary of Health, Hugo Lopez-Gatell, pointed out that while the metropolitan area of the Valley of Mexico has substantially reduced its mobility, in cities such as Guadalajara and Tijuana they have not abided by these health contingency measures to combat Covid-19."

[76] Antropología Urbana, 2020, García Canclini: *La dictadura sanitaria por el coronavirus y la vigilancia corporativa generalizada*, available in https://urbanalogia.blogspot.com/2020/04/garcia-canclini-la-dictadura-sanitaria.html?spref=fb&fbclid=IwAR0A_JHNWFpyIvmZij (17/07/2020).

[77] Álex Rodríguez, Manuel Castells: "Enfrentamos desunidos la más grave amenaza que ha tenido la humanidad", available in https://www.lavanguardia.com/vida/20200406/48329582092/enfrentamos-desunidos-la-mas-grave-amenaza-que-ha-tenido-la-humanidad-ningun-estudiante-va-a-perder-el-curso-por-razon-de-la-epidemia.html (19/08/2020).

[78] INFOBAE, 2020, *Coronavirus: Tijuana y Guadalajara, las urbes que menos disminuyeron su movilidad para atemperar contagios*, available in https://www.infobae.com/america/mexico/2020/04/16/coronavirus-tijuana-y-guadalajara-las-urbes-que-menos-disminuyeron-su-movilidad-para-atemperar-contagios/ (05/05/2020).

In simple terms, the policy followed by governments to respond to the Covid-19 pandemic is to close borders: a policy of protectionism. Obviously, that carries all the fuzzy elements of personal and family care. Already for the post-Covid-19 period, the UN suggests that large-scale, integrated policy measures are needed to mitigate the impact of the pandemic, focusing on four pillars: supporting businesses, employment and incomes; stimulating the economy and employment; protecting workers in the workplace; and using social dialogue between government, workers and employers to find solutions.[79]

Concluding remarks

The socio-demographic vulnerability approach allows for a dynamic, inclusive and contextual analysis, which allows for the construction of a solid conceptual framework in relation to the exposure and response capacity to the Covid-19 pandemic. Vulnerability-risk-response-immobility allows understanding the heterogeneity of the population and its exposure to illness, death or migration, and the causes of greater impact on the demographic system of the country and the world; it also allows identifying the requirements of a person and families to be able to respond to the risk and the government policy that, as in the case of Mexico, is betting on the immunity of the herd. Because, in the argument of the Mexican Foreign Minister, Marcelo Ebrard "We will not return to normality. We need to go further, to have new initiatives to maintain cooperation even if we are no longer at the most serious point of the pandemic".[80] Which, means that the future risk after Covid-19, experts estimate that there will be resurgences like the 1918 and 1919 pandemic influenza that had its first, second and third waves. But, in addition, it will be present with us as a flu, as AIDS, etcetera.

In systemic terms, even with the vaccine, the Covid-19 pandemic will affect the demographic system: biological (birth-mortality), social (emigration-immigration = immobility) and will have economic, political, environmental, cultural, technological and psychological consequences (González *et al*., 2016).

[79] *El mundo del trabajo y el Covid-19: Cuáles son las medidas adoptadas por los países*, available in https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_741374/lang--es/index.htm (21/10/2020).

[80] "We will not return to normal": Marcelo Ebrard highlighted the importance of international cooperation in the face of the Covid-19 crisis", available in https://www.infobae.com/america/mexico/2020/11/13/no-volveremos-a-la-normalidad-marcelo-ebrard-destaco-la-importancia-de-la-cooperacion-internacional-ante-crisis-de-covid-19/ (13/11/2020).

The data indicate that we will have an accentuation in the fall of fertility due to the difficult economic-health conditions derived from the pandemic and an increase in mortality, but especially in certain age cohorts (due to the health of the elderly) and, mainly male. This is associated with chronic degenerative diseases, internal and international migration and the accentuation of poverty.

With what we have reviewed in this document, we share the arguments of ECLAC, which argues that the disease puts human health at risk, and will impact an already weakened world economy and affect it both on the supply and demand side, either through the interruption of production chains that will severely affect world trade.[81]

In the case of the country, it is not an exaggeration to say that the pandemic has caused immobility and has had a strong impact on the economy, severe reduction in consumption, in addition, tensions and negative emotions are growing in the face of an uncertain future that generates polarization. It has also had negative effects on schools, vacations, security, the environment, access to technology, poverty and finances.

Therefore, we are facing one of the greatest challenges of humanity in its demographic, social, economic, technological, environmental and cultural dimensions, which for its understanding, our narrative requires rethinking and unthinking the risk-vulnerability factor and the existing individual, social and governmental responses. On the latter, it has been proposed to implement a plan similar to the Marshall Plan for the systemic reconstruction of today's world in the aftermath of the Covid-19 pandemic.[82]

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[81] See in "Covid-19 tendrá graves efectos sobre la economía mundial e impactará a los países de América Latina y el Caribe", available in https://www.cepal.org/es/comunicados/covid-19-tendra-graves-efectos-la-economia-mundial-impactara-paises-america-latina#:~:text=Explic%C3%B3%20que%20la%20enfermedad%20pone,severamente%20al%20comercio%20mundial%2D%20como (21/10/2020).

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