

# Investigating the Consequences of Corona Outbreak from the Perspective of Economic Geography with Emphasis on Urban Economy in Iran

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## Abstract:

Covid 19 is not only a global epidemic that has affected public health, but has also severely affected the global economy and financial markets. Significant declines in income, rising unemployment, and disruption of urban transportation, services, and manufacturing industries are among the consequences of the Covid 19 epidemic. According to an initial forecast by the International Monetary Fund 2020, the global economy has shrunk by about 3% in 2020. These effects will be greater in developing countries and their metropolises than in developed countries. Therefore, this study is an attempt to explain the problems and consequences of urban economics in the face of the epidemic damage of Covid 19 as well as neglected issues that will be learned from the experience of the consequences of this epidemic in the field of economic geography for managers and the planners of urban economic development. The type of this research is descriptive-analytical in terms of method and applied in terms of purpose. The information contained in this research has been collected through library documents and the results have been achieved by analyzing them. The results show that as a result of the Covid 19 epidemic, the urban economy in Iran has suffered from a deep recession, the depth of which depends on the continuation of the disease. Urban economy in Iran from the perspective of urban governance in order to develop and finance the provision of urban services; The revenue side of the municipal budget, as well as the household economy, has suffered the most during the corona outbreak due to rising unemployment. In general, it can be said that most of the effects of Corona in Iran have been on the cities from a geographical point of view, and the economic sectors, especially the service sector, have suffered the most, in a way that recreation, transportation, tourism and services that actually deal with human communities and are influenced by the corona.

## Keywords:

Covid Epidemic 19, Urban Economics, Iran

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## 1. Introduction

Cities are home to most of the world's population. Due to overcrowding and activities, cities are exposed to various natural and human stressful factors. Every phenomenon that happens in cities will have many positive and negative aspects, the discussion of which of these aspects will prevail depends on how people face and choose the appropriate method to deal with these phenomena [1]. The corona epidemic has exposed the fragile socio-economic and spatial structure of cities [2]. The effects of the Corona epidemic may further challenge the established principles and methods of planning and managing urban infrastructure. In addition, the corona epidemic has exacerbated social, spatial, and economic inequalities in cities [3]. The Covid epidemic has severely affected the suburbs of large urban areas in Italy and Lombardy [4]. As research [4] has shown, large urban areas have played a decisive role in the spread and density of the corona epidemic [5]. Evidence and studies conducted so far show that the spread of the corona epidemic has weakened the structure of the economy in many cities around the world [6]. Here, an attempt is made to briefly examine the consequences of the corona outbreak in the world and in Iran in particular on the basis of three assumptions of economic geography. The first assumption is that economic factors are seen in the context of social and institutional relations.

### 1.1. A review of Research History

Taghipour et al.[7], studied the Study of the Application of Risk Management in the operation and Maintenance of Power Plant Projects

Taghipour et al.[8], studied Assessment and Analysis of Risk Associated with the Implementation of Enterprise Resource Planning (ERP) Project Using FMEA Technique.

Taghipour et al.[9], studied Construction projects risk management by risk allocation approach using PMBOK standard.

Taghipour et al.[10], studied Necessity Analysis and Optimization of Implementing Projects with The Integration Approach of Risk Management and Value Engineering.

Taghipour et al.[11], studied Risk assessment and analysis of the state DAM construction projects using FMEA technique.

Jalili et al.[12], studied Utopia is considered to be the physical form of an ideal human society where the goals are met.

Khodakhah Jeddi et al.[13], studied The Analysis of Effect Colour Psychology on Environmental Graphic in Children Ward at Medical Centers.

Taghipour et al.[14], studied Investigated the Relationship between Competitive Strategies and Corporates Performance. Seismic Analysis (Non-Linear Static Analysis (Pushover) and Nonlinear Dynamic) on Cable-Stayed Bridge.

Taghipour et al.[15], studied Evaluation of Tourist Attractions in Borujerd County with Emphasis on Development of New Markets by Using Topsis Model.

Abdollahzadeh & Taghipour [16], studied Identify and Priorize Suitable Area for Ecotourism Development using Multi-criteria Analysis for Development of the Tourism Market in Iran (Nathanz City).

Mirzaie et al.[17], studied The Relationship Between Social Bearing Capacities with Conflict as a Result, in the Perception of the Visiting Historical Sites.

Taghipour et al.[18], studied Analysing the Effects of Physical Conditions of the Workplace on Employees Productivity.

Taghipour et al.[19], studied Implementation of Software-Efficient DES Algorithm.

Taghipour et al.[20], studied Evaluating CCPM method versus CPM in multiple petrochemical projects.

Taghipour et al.[21], studied Application of Cloud Computing in System Management in Order to Control the Process.

Medhat & Taghipour[22], studied Investigating the Role of Social Capital in Recreating the Historical-Cultural Context of Shiraz.

## 1.2. Contextual

The second assumption is that economic trends are path-dependent, meaning that past decisions play a role in current and future economic practice.

Path dependence is when the decisions presented to people are dependent on previous decisions or experiences made in the past.

The third assumption is probability in economic trends, which means that we cannot analyze economic trends based on physical and mathematical laws and space laws.

Contingent: occurring or existing only if (certain circumstances) are the case; dependent on. Subject to chance.

## 2. History of Epidemics and Their Economic Effects

Epidemic diseases are not a new crisis and have occurred in different periods of human history [23]. As can be seen in Table 1, many catastrophes have occurred based on these diseases, but it is noteworthy that since 2000, due to the increase in viral diseases in animals, there has been a significant increase in the frequency. Epidemics are observed [24]. Given the increasing prevalence of epidemics, many researchers [24,25,26] argue that all Large-scale global capture is inevitable. Ferguson et al. of the Imperial College London team on the Covid 19 virus claim that Covid 19 is the most serious epidemic since the outbreak of the Spanish flu in 1918. Barro concluded that non-pharmacological interventions during the Spanish flu epidemic of 1918 were not successful in reducing mortality [27]; This is because the interventions have not been implemented for a sufficient amount of time. They estimate that the average duration of school closures and community bans has been only 36 days. This number is very small compared to the number of days that the Spanish flu was active.

*Table 1. Epidemic diseases throughout human history.*

Name	Time Period	Type/Pre-human host	Estimated Death Toll
Antonine Plague	165-180	Believed to be either smallpox or measles	5 million
Japanese smallpox epidemic	735-737	Variola major virus	1 million
Plague of Justinian	541-542	Yersinia pestis bacteria/rats, fleas	30 to 50 million
Black Death	1347-1351	Yersinia pestis bacteria/rats, fleas	200 million
New World Smallpox	1520-	Variola major virus	56 million

Outbreak	onwards		
Great Plague of London	1665	Yersinia pestis bacteria/rats, fleas	100,000
Italian Plague	1629-1631	Yersinia pestis bacteria/rats, fleas	1 million
Cholera Pandemics 1-6	1817-1923	V. cholerae bacteria	1 million+
Third Plague	1885	Yersinia pestis bacteria/rats, fleas	12 million (China & India)
Yellow Fever	Late 1800s	Virus/Mosquitoes	100,000-150,000 (US)
Russian Flu	1889-1890	H2N2 (avian origin)	1 million
Spanish Flu	1918-1919	H1N1 virus/pigs	40 to 50 million
Asian Flu	1957-1958	H2N2 virus	1.1 million
Hong Kong Flu	1968-1970	H3N2 virus	1 million
HIV/AIDS	1981-present	Virus/chimpanzees	25 to 35 million
Swine Flu	2009-2010	H1N1 virus/pigs	200,000
SARS	2002-2003	Coronavirus/bats, civets	770
Ebola	2014-2016	Ebolavirus/ wild animals	11,000
MERS	2015-present	Coronavirus/bats, camels	850

Source: World Economic Forum (2020)[28]

Epidemic diseases are predicted to have severe negative effects on economic activity, at least in the short term [29]. These effects include the following:

- Avoidance reactions due to social distancing (eg, people may refrain from consuming and buying certain goods and services).
- Direct costs on a micro scale (for example: hospital and medical expenses increase and medical expenses increase).
- Indirect costs on a large scale (loss of labor and production).
- Sudden effects (disruption in transportation and travel and other cases).

A number of studies have also attempted to predict the economic disadvantage of an epidemic. For example, [30] predicted in their study that a global epidemic due to both supply and demand factors would lead to a 1.6% drop in GDP for the EU. Other studies analyze the impact of epidemics by comparing historical diseases with past ones. For example, what would be the number of loses during the Spanish flu in 1918 if repeated today? Barro et al, estimates that by keeping all other cases constant, the 2.1% mortality rate during the Spanish flu outbreak of 1918-1920 will approximately reach 150 million deaths worldwide (compared to the world population of 7.5 billion). By 2020) during COVID-19 the epidemic. The researchers also found that an average of 2.1 percent of deaths would be due to a 6 percent drop in GDP and an 8 percent drop in consumption. (Table 2)

**Table 2.** Other studies on the economic effects of the corona epidemic.

Country	economic domain	economic Outcome Measure	Methodology	Author(s)
US	Labor Market	Impact of Safer-at-Home Policies on Labor Market Outcomes	Difference-in-Differences	Béland et al. (2020)
US	Labor Market	Impact of Social Distancing Policies on Labor Market Outcomes	Difference-in-Differences	Gupta et al. (2020)
US	Labor Market	Impact of Safer-at-Home	Data Analysis	Yasenov

		Policies on Different Occupations		(2020)
US	Labor Market	Impact on Job Market Conditions in Response to COVID-19 infections and Mitigation Policies	OLS	Rojas et al. (2020)

### 3. Research Methods

The type of this research is methodical, descriptive-analytical and applied according to the purpose. The information in this research has been collected through library documents and by analyzing them, the desired result has been achieved. Government portals, ministries, departments and relevant government institutions of the Islamic Republic of Iran on various issues related to the spread and consequences of the Covid epidemic 19, economic effects on cities and citizens, are the key sources of data in this study. Other sources, including reports, articles in national and local newspapers, are also included in this study.

### 4. Results and Discussion

#### 4.1. The Effects of the Corona Epidemic on the Global Economy

Globally, there are two approaches to dealing with Covid 19 disease. The first considers economics as the exchange and acquisition of money. This view means natural selection. In this view, the intelligent human being will be able to overcome this crisis and the disabled, the elderly and the consuming will disappear, which means imposing less cost on society and more profit. Second, the economy serves the lives of the people. This view is based on the well-being of the people and relative justice in society. Gourinchas, P.-O. (2020). Accordingly, Covid 19 is an economic shock different from other global economic shocks, and that is because, first of all, there is no information about the end of the corona epidemic. Second, in different countries, empowerment management (single management) does not participate in the fight against corona disease, and third, the power of different countries varies according to their geographical and socio-economic characteristics. By observing the geographical dispersion of the corona, it becomes clear that this dispersion follows the world trade and trade routes of the World Economic Forum (2020). The difference is that in this dispersion, its severity and damage in different regions depends on the economies of the countries affected by the disease. At the domestic level of different countries, three factors have been effective in the amount of damage and effects of this disease:

- Poverty: In the United States, black people suffer 2.5 times more than others. In Spain, poor people are seven times more likely to be affected by the disease. In general, the number of poor people affected is 10% higher worldwide (Eduardo Levy Yeyati, Federico Filippini, 2021). Therefore, it can be said that the level of vulnerability of people with Covid 19 disease with different financial capacity is not the same.

- Age: Older people are more likely to get sick than younger people. The difference is that in poor communities and individuals, the age of onset is 15 years earlier than in individuals with better economic status [31].

- Underlying disease: People with underlying diseases have been 10 times more likely to be affected by the disease [23]

In general, the effects of Quidditch 19 disease on the global economy can be examined from three perspectives:

- Investment: Uncertainty about the future economic situation can be mentioned in this regard. Based on the facts mentioned above families try to save more. At the level of enterprises, the consumption of intermediate goods has decreased. Many problems have arisen in foreign direct investment due to banking, legal and insurance insecurities. Globally, foreign direct investment has fallen by 30 to 40 percent. While the emerging economies attracted \$ 79 billion in foreign investment in 2019, they lost \$ 70 billion in just two months in 2020 (exported from the country).

Labor force: According to the International Labor Organization [32], the disease has affected the lives of 81% of the world's workers. In the United States, 25 million people lost their jobs in two months. This reduction in labor force has broken the global production chain and only two pharmaceutical and food industries have been able to maintain their market and capital in this crisis.

Digitalization: With the spread of the Quaid 19 epidemic, transportation has declined, energy consumption has declined, and developed economies will rapidly expand their IT-based infrastructure [33].

#### ***4.2. The Effects of the Corona Epidemic on the Urban Economy***

Epidemic diseases have short-term and long-term financial and economic effects on countries around the world [1]. Efforts to spread the disease include imposing quarantine costs, preparing medical centers, human resource costs and implementing public health, and providing antibiotics and medical equipment [34]. Covid 19 epidemics can also lead to lower tax revenues and higher costs, putting financial pressure on citizens and residents of cities affected by the epidemic. These effects are especially prevalent in lower-income countries. This economic impact was observed during the Ebola virus in Liberia due to rising public health expenditures, economic downturns, and declining revenues due to the government's inability to increase revenues due to quarantine and curfew regulations [34]. Economic shocks are common during epidemics due to labor shortages (due to illness), increased mortality, and fear-induced behavior. Apart from labor shortages, disruptions in transportation, workplace closures, trade and travel restrictions, and land border closures are among the causes of economic recession during epidemics.

#### ***4.3. Corona and its Consequences for the Urban Economy in Iran***

Regarding Iran, it can be said that despite all the political restrictions and international relations, it is not separate from the global communication system. But it has three special features in relation to economic geography in corona conditions that cause the Iranian economy to see the most damage from the epidemic conditions of Covid 19.

Iran has not had an effective economic policy in recent decades, which has led to limited economic growth, rising inflation and rising unemployment. The second issue is the UN and US sanctions that have been imposed on Iran's economy in recent years, and in these circumstances, the corona has fueled the recession. The third issue is that the destructive effects of Corona on the economy are concentrated in the service sector, while in Iran it is 50% of GDP and 50% of employment in the service sector. The major part of tax collection in the budget of 1400 depends on the service sector. The fourth issue in Iran is the informal economy. More than 70% of employment is in

workshops with less than 5 workers and informal. In the lower income deciles, 87% of people do not have insurance and support coverage. Therefore, in times of economic recession, support organizations and insurance are not able to help and solve the economic and livelihood problems of uninsured people. Thus, in this situation, the realization of income in the labor market is faced with uncertainty, which makes the government unable to function properly to support businesses and medical expenses. Corona's experience in large metropolises, including Tehran, has shown that in times of crisis, people's willingness to use large shopping malls is very high in a very short period of time, and people store their medium-term and even long-term necessities. (Deputy of Infrastructure Research and Production Affairs, Office of Infrastructure Studies, 1399). Incentive structures and high-volume shopping facilities in these shopping malls generally greatly increase the incentive to attend these uses. The main problem with this approach is that it causes far more damage to the small business, leaving small local stores without customers for a long time and leading to bankruptcy. We need strong and preventive measures to protect our local economies. While most small businesses such as hairdressers, restaurants and retailers are expected to be severely damaged in the first wave of the epidemic, in the short term Granting a variety of interest-free loans, tax breaks, and tolls, along with advising and guiding them on safe reopening, can reduce the effects of this devastating forced shutdown.

Many of the city's cultural industries, such as cinemas, art galleries, museums, theaters and music venues, have also been severely affected by the crisis. Cities have lost some of their diversity and public social life. Public cinemas have become home theaters. Some even believe that if the process of corona virus continues or prolongs, many municipal service jobs will be lost, and even the virus can increase social unrest in developing cities and informal settlements, widening the urban divide and class gap. Slow. Thus, the economic consequences of corona on the urban economy can be far greater than its health consequences. In this regard, municipalities are no exception to this crisis. With the cessation of urban management activities in some pillars of sustainable development, such as the tourism industry, the city's economy is under threat. Many experts predict that municipalities, especially those in tourist cities, will face severe budget deficits. Tourism, as one of the important pillars of sustainable income and development of the urban economy, has been completely shut down. Undoubtedly, if the outbreak of this virus continues, most cities in the world will be empty of tourists and businesses related to this sector will be completely destroyed (Tehran Center for Urban Studies and Planning, 1398). Therefore, the inability of one-dimensional cities in terms of income, especially Iranian cities, to withstand the economic consequences of quarantine, will play an effective role in the recession of the urban economy. On the other hand, it has an impact on many municipalities in the country that are dependent and cause urban developers to retreat from investment to unsustainable income and urban construction) Tehran Center for Urban Studies and Planning, 1399). Reduced revenues will result in reduced urban investment.

On the other hand, the economic impact of Corona on cities, according to researchers such as Florrida 2020, is that, as has happened throughout history, due to the sudden decline in population and changes in the shopping and lifestyle of citizens, people have the opportunity to access job opportunities with better and higher wages by using creative ways of providing services and economic production. Slowly, after the epidemic, the city will provide more opportunities for the creative unemployed entrepreneurs who previously had no place to show off. Robert Mega (2020), in his

book *One Hundred Plans to Survive the Next 100 Years*, sees urban change and the emergence of urban sewage and related jobs as the result of the Black Flu epidemic in London. Therefore, in general, it can be said that the change in providing and smartening services and online shopping, especially in Iranian metropolises, has been related to changes in the urban economy during Corona and post-Corona. On the other hand, it should be noted that the closure of the city in the tourism sector, creates problems for the urban management systems of the country's cities, which were planned to attract and maximize tourism revenue, and makes a large part of the projected revenues of the urban management system in the municipalities budget of 1400 unrealistic, and at the same time in recent months, unforeseen costs have been imposed on municipalities to maintain and develop public health. The economic impact of the corona is such that many citizens anticipate declining household incomes. According to a survey conducted by the Iranian Student Opinion Polling Center (ISPA) (2016) entitled "Assessing the views of Tehran citizens about coronary heart disease" which was commissioned by the Office of Social and Cultural Studies of Tehran Municipality on May 2-4, 2016 with a sample size of 1042 people, 76% Citizens consider the corona to be a real danger based on what they have seen and heard during the corona And 57.2% of citizens have high and very high expectations and 26.9% have low and very low expectations about their decreasing household income this year due to the corona 14.7% of citizens expect their household income to decrease at a moderate level this year. In this regard, the suburbs of large cities and parts of the so-called southern metropolitan areas can be the centers that are most affected by this crisis, because the residents of these areas are dependent on daily incomes. This can be seen in a joint survey of the Office of Municipal Studies and ISPA (1399) (third wave). Citizens' views on the continuation of quarantine and the start of activities (third wave) show a significant relationship between different areas of development in Tehran. As the residents of the developed areas of Tehran, more than the undeveloped areas, have stated that in order for the corona to disappear completely, people must continue to stay at home and stay in their homes. In contrast, residents of underdeveloped and less developed urban areas of Tehran more than residents of other areas believed that even with the corona, economic activities should begin.

## 5. Conclusion and Summary

Corona is a global phenomenon that must be studied in terms of its economic trends and economic effects. From the perspective of geographical economics studied in the present study, four scenarios can be proposed to deal with the economic effects of the Quid 19 epidemic. The first scenario, the welfare state, means a wealthy state that protects the lives and property of the people. The second scenario is the mutual cooperation of the people and the government. This method has been used in South Africa to fight Ebola and has had positive results. The main problem with this scenario is the inability of groups to mobilize large financial resources. The third scenario is public capitalism, in other words, Keynesian economics, which helps businesses get started and helps them. This method will lead to a higher death rate, which in turn can have many political consequences. The fourth scenario is poor governance and mismanagement at the highest levels of the country's management, in which case there is no coordination between the various economic and social sectors with the health sector and due to economic problems, people are not able to observe health points and social distancing, which is why the rate of death and devastating economic effects is very high. Although the experience of the 1918 flu shows that

cities thrive after the virus has subsided, it is important for cities, city managers, and metropolitan areas to come up with different strategies to resolve the economic crisis and ensure that cities thrive with the help of experts. During the Corona era, although many urban services sectors experienced crises and recessions, sectors such as e-commerce, distribution, advanced production for health care, food processing, and distribution in urban areas grew during the same period. Thus, with all the crises it has created in urban areas, but has provided an opportunity for urban planners and entrepreneurs to make better progress in digitalization, Corona has warned officials and governments to create smart cities. In the smart city, most activities are done remotely. The citizens of such cities do many of their daily chores in their homes and do not see any need to go out of their homes and go to the relevant institution to carry out current activities such as banking, etc. Creating a smart city requires proper strategic planning, cross-sectoral cooperation between institutions, centers, organizations, government, civil society, and so on. In conclusion, we can say that since the spread of the virus has disrupted economic activities and had a negative impact on manufacturing and service industries, especially in the metropolises of the world and Iran, we expect financial burdens to remain unstable. The question still remains as to whether this expanding crisis will have a lasting and long-term structural impact on the urban economy or, to a large extent, short-term economic and financial consequences. In any case, it is obvious that infectious diseases such as Covid 19 can cause severe economic and financial costs to the global economy and cities. Due to the expansion of trade and tourism links and high transportation, it has been difficult and costly to control the corona virus and reduce its risks after the onset of the disease in various places. This requires collective international action and global investment in the production and distribution of vaccines, as well as preventive measures and increasing the capacity of cities nationally and internationally. As the outbreak of new infections is unlikely to go away in the near future, just as the fifth wave of corona in Iran has shut down metropolitan markets, including Tehran's Grand Bazaar (Ministry of Health, July 1400), preventive measures not only save lives but also It is also necessary to protect economic prosperity and urban businesses.

## Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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