6.1 Introduction

Major macrosocial trends include the forces that are expected to have an impact on shaping the elements of the social structure, while also changing the economic conditions and, thus, the population’s level of prosperity. In order for an observed trend to be included in megatrends, it needs to have an international dimension, sustainable effects, and significant consequences.

The chapter begins with the case of Covid-19, describing the way pandemic can affect global developments (Sect. 6.2) and then is structured as follows. The trends that will shape the future (Sect. 6.3) can be divided into three major categories: social, economic, and political. Those associated with wider social change include (a) high population aggregation trends (Sect. 6.4) refugee and migratory population movements, as well as changes in age structure (aging population), which bring about changes in economic and social behavior (Sect. 6.5); (b) technological changes (4th industrial revolution), which are being correlated with major changes in work skills’ demand (Sect. 6.6); (c) environmental hazards and economies’ adapting to deal with climate change (Sect. 6.7); and d) globalization and global structural changes (Sect. 6.8).
6.2 How the Covid-19 Will Change the World

Covid-19 initially affected entire humanity in terms of health. However, its influence goes beyond an individual and collective level and affects the areas of geostrategy, dynamic growth, sustainable development, sustainable governance, inclusivity, and pro-growth (or antigrowth) behaviors.

The main feature of the crisis was that economic consequences were extremely rapid, particularly serious and, we estimate, of short to medium-term duration. However, crisis effects will spread to the medium-term through various channels (financial, behavioral, change of habits, etc.). History has shown that in general, crises of exogenous origin, natural disasters, pandemics, etc. have high negative effects, but the acute phase of their impact lasts for a few quarters, as opposed to financial crises. However, what we do not know is the extent that an exogenous crisis can turn into an endogenous one and whether pandemic waves can be more than one.

If, as we have already pointed out, the assumption for a short to medium-term duration does not apply, then we have a different example for which we are not prepared. But for now, let’s accept that it does apply.

An important question is whether Covid-19, as an exogenous and not an endogenous disruptor in economic and social systems, will be a game changer or a great accelerator and amplifier. In other words, the question that arises is whether Covid-19 crisis will change the direction of already established key trends or whether existing trends and characteristics of economies will be strengthened in terms of their effectiveness, or whether both effects will coexist, and to what extent.

As for geostrategic changes that may be observed, the question that arises regards the specific weight held by the East in relation to the West. We have known that for the last two decades there has been a clear tendency to broaden the special weight of China, South Korea, and other Asian countries in global economic activity at the cost of United States and other Western economies.

However, crisis intensity in western economies and especially in the large economies of Italy, Spain, France, Great Britain, Germany, and USA, shows that these trends of international substitution may accelerate, leading world to higher tensions (Thucydides Trap) claiming hegemony. At the same time, because of issues related to the effectiveness of the pandemic’s management, broader concerns are being raised about the
real potential of the United States to understand its position and responsibilities in the world. In an article in the Wall Street Journal, Henry Kissinger (2020) noted that United States failure to support a role that would strengthen global community’s resilience to the pandemic, as it did with the Southeast Asian tsunami, the outbreak of Ebola in East Africa and the global financial crisis of 2008, would strengthen global economy in the economic crisis and, thirdly, would preserve the principles of liberal world order, will have serious consequences for the future role of United States in the world.

Moreover, the institutions of many states will be deemed as inadequate, revealing inherent weaknesses and putting at risk state organizations that may need to be classified as failed states. The revival of the “city” with the protective walls at a time when progress depends on world trade and people’s movement will remain an anachronism. Of course, these trends, to the extent defined by rational observations (e.g., the risk of developing poorly controlled offshore activities), have some basis. But the ideologization of new needs into broader social assumptions activates multiple and medium to long-term effects. On the contrary, a failure to respond to new conditions will be a source of potentially destructive forces. In any case, mankind’s history shows that such events lead to greater intensity and not greater cooperation as they are considered to be more episodes of the “Thucydides Trap” for world domination than game changers that will lead to a new cooperation network. So, in the China–US trade war we can see a truce, but it will probably intensify after the crisis, rather fall in intensity, especially in the trade sector. The strengthening of Chinese power and the corresponding weakening of American power contribute toward this direction.

Any momentum in growth received a systemic exogenous shock from Covid-19 that created supply and demand problems, resulting in financial stability issues. At the same time, there were issues of shifts in expectations among individuals and entrepreneurs that were mainly responsible for the very large variation in economic activity.

This start will obviously bring about changes in the production model as several production activities will receive catastrophic blows (insurance systems, transport, tourism, etc.) while others will benefit accelerating their implementation (new remote technologies).

These productive changes will have a negative impact on middle-class, which has already been negatively affected during the Great Recession of 2008 and changes in technology, raising broader issues of
income inequality, both within the economy itself and between various economies. The effects of Covid-19, as well as all pandemics and similar events, have a more negative effect on the younger, the poorer and males working in small and medium-sized enterprises (SMEs) (Bell, Bloom, Blundell, & Pistaferri, 2020) (either within the same economy or between economies). Of course, the richer an economy is, the stronger the recessionary shock it may receive, regardless of whether its recovery is then stronger. On the contrary, a weaker country faces the risk of becoming a failed state.

Covid-19 highlighted the issue of sustainable development in the sense that some key objectives set by the relevant framework such as issues of poverty (1st target), hunger (2nd target), health (3rd target), education (4th target) are being affected during the management of this crisis. This, in turn, has a serious impact on the extent of the economic shock caused by the crisis. Therefore, the extent to which a society has formally or essentially adopted broader growth and development definitions that ensure the maximization of the Human Development Index, rather than just the gross domestic product (GDP) growth rate, is of particular value. If it is later proven that countries with broader targeting performed better in dealing with the epidemiological problem (given, of course, their possible administrative adequacy at the time and subsequent epidemiological policy) then it is clear that the scope of developmental targeting will be of more importance, from here on.

It is clear that in the future, in order to avoid failures in dealing with such problems, three principles must be adopted: knowledge sharing, de-ideologicalization of economic intervention and a resilience agenda keeping. These principles do not refer to a debate on preferences between capitalism and socialism, but directly to the effects of global phenomena such as climate change, pandemics, and the aging of the population, which create new needs. These are the maintenance of international production lines and the development of international research and development capabilities in the fields of medicine and health.

At the beginning of Covid-19 pandemic, the prevailing view was that China’s socio-political system had allowed a more effective policy in dealing with the phenomenon. But it soon became clear that efficiency was largely due to the experience of the Chinese authorities with the SARS ina 2004, while randomness (Chinese New Year) also played a negative triggering role.
Respectively, the same thing happened in Italy. To a large extent, the Italian drama was attributed to the open social system that did not allow for stricter management. However, it was found that coincidence (football matches) played a significant negative role and the administrative inadequacy of its northern provinces played an important role. These observations were also confirmed by the fact that open societies, such as the Greek one, controlled the phenomenon much earlier and much more effectively.

Adversely, “herd immunity” policy choices that significantly influenced epidemiological policies in United Kingdom, and initially in United States, played a key role in negatively managing the crisis.

Behind the choice of the “herd immunity” policy, possibly stands the social and political model that promotes the role of the economy and the normal functioning of society at the expense of victims’ number. However, it is clear that criterion of administrative competence as a criterion for leaders on how to handle the crisis plays a serious role in the quality of leadership in the future.

6.3 Trends Shaping the Future and Capitalism

Future-shaping trends related to wider social change include urbanization, demographic change, and population movements, the introduction of 4th industrial revolution technologies, climate change, and globalization in a multipolar world (as being analyzed in this chapter).

At economic level, we can distinguish six major trends that will characterize economic reality: debt development (public and private), the impact of financial instability on the credit system, productivity developments, global convergence (or divergence) of economies, developing uncertainty, and, finally, of industrial production organization changes and the role of technology.

In the political arena, large-scale developments are already bringing about significant changes and will continue to do so: wealth and income inequality along with limited social mobility, the strengthening of privacy protections and the role of the middle class in the West, as well as throughout the world, and great changes in collective social behaviors.

All of the above changes occur simultaneously at varying degrees of intensity resulting in the creation of nonlinear correlations and an alternative range of alternative future scenarios. At the same time, there are a
number of other changes, of less importance, that make the plotting task extremely difficult.

As the transition from the present to the future is being evolved, some of the forces acting, play a leading role, and then give way to others. Therefore, when looking at specific issues and attempting projections, those forces that have the most serious impact on the development of the individual issues need to be identified in order to pinpoint sources of future developments.

From the basic description of the previous megatrends we find that the arrival of Covid-19 does not overturn the inclusion of any of the above major trends that are valid either way before Covid-19 crisis, nor does it add anything new.

It seems that crisis characterization as exogenous and systematic and as an accelerator and enhancer of existing trends retains its character. Covid-19 shortened the time by affecting the results of megatrends and in some cases, as we will see, strengthened their influence. But only in a few cases does it work as a game changer.

In other words, new attitudes about work life, travel, corporate, and government practices form a new reality, but they do not move the discussion to completely new areas.

Of course, the future, no matter how rationally approached, based on justified assumptions, is inherently uncertain. We can only approach it to the best of our ability, appreciating the alternate routes being appeared. One approach is the State of the Future Index (SOFI), which takes into account a set of critical parameters for the future, covering all human activities. These are divided into two major categories: “where we are winning” and “where we are losing.” from the human perspective (Table 6.1).

Capitalism with its constituents (production, trade, consumption, investment, etc.) shapes and is shaped by future developments. The capitalism’s universal adoption is based on the impressive change it has brought to the level of society’s prosperity, but also rests on the assumption that tomorrow will be different and probably better than today. This belief is characteristic of the young—relative to the construction of the social nature of human beings—economic system as well as a hallmark of its modernity (Reeves, 2019).

The contradictions that distinguish economies are just as important. The dynamics of the system can and do unprecedentedly increase the living standards of individuals. At the same time these dynamics can cause
6 THE MAJOR MACROSOCIAL TRENDS

Table 6.1 State of the Future Index (SOFI)

| Where are we winning                                      | Where are we losing                                         |
|-----------------------------------------------------------|-------------------------------------------------------------|
| GNI per capita                                            | CO₂-equivalent mixing ratio                                 |
| Poverty                                                   | Renewable internal freshwater resources                     |
| Foreign direct investment                                 | Forest area                                                 |
| Freedom                                                   | Biocapacity per capita                                      |
| Women in national parliaments                             | R&D expenditures                                            |
| Share of high-skilled employment                          | Social unrest indicator                                     |
| School enrollment                                          | Unemployment                                                |
| Literacy rate, adult total                                | Income inequality                                           |
| Electricity from renewables                               | Terrorism incidents                                         |
| Energy-efficiency                                         | Number of wars and serious arm conflicts                   |
| Improved water sources                                    | Corruption in the public sector                             |
| Physicians                                                |                                                            |
| Health expenditure                                        |                                                            |
| Prevalence of undernourishment                            |                                                            |
| Mortality rate, infant                                    |                                                            |
| Life expectancy at birth                                  |                                                            |
| Population growth                                         |                                                            |
| Internet users                                            |                                                            |

Note: The State of the Future Index (SOFI) is an outlook for the next decade, based on historical data on selected variables for the past 20 or more years, but also on judgements of the best and worst expected developments for each variable. It is constructed with key variables that are individually forecasted and that can aggregate to indicate the potential future trend. Created by “The Millennium Project” since 2000.

Source: Glenn and Florescu (2017) and author’s own creation

great social inequalities and, in times of disorder, a sharp loss of prosperity leading to poverty in many strata of society. As a result, there are periods of trial and intense uncertainty.

Capitalism is the central issue to the ongoing debate on the markets’ and state’s role in growth, income distribution, the effectiveness of democracy, and its relationship to economic performance. Crony capitalism is defined as a system in which private business people and powerful political actors create close insider relationships to ensure economic benefits for themselves. Because of the permanent state’s role in the economy,
there will always be a potential for favoritism. In general, greater state involvement creates more opportunities for such abuse. But in the end, neither the market system nor the state capitalist system is immune to capitalism. Where regulations, taxes, and subsidies are designed to promote innovation, encourage competition, and ensure the dissemination of knowledge, market capitalism promotes prosperity. But where regulatory policy is excessive and competition is largely financed by strong special interests, market capitalism can also fail. If there is one key difference to bear in mind, it is that democratic processes continue to stand out as the most effective tool to remedy the problem (Dervis, 2019).

In its course, capitalism has been evolved by adapting to the new circumstances of each era. Thus, the mercantilist capitalism of the first industrial revolution was transformed into classic competitive capitalism, which due to the Great Depression of 1929 took a post-war Keynesian form. In the 1970s, due to the fatigue it showed, it is been evolved into what we have known, at least until recently, as globalized financial capitalism.

The question now is whether another major turning point in economic history, meaning the 2008 crisis, will be a factor in transforming the economic system. Signs of transformation are already evident, such as growing protectionism and national economies’ isolationism. It is also important to explore the potentially transformative consequences at the social and political level that will follow the 4th industrial revolution.

The big question is whether capitalism, in the shape it will take in the years to come, will still have the force to increase the prosperity of current and future generations over time. This question is urgent, because in the Western world affected by the 2008 and Covid-19 crises, there is greater skepticism and lower expectations for the future among current generations (millennials) than previous ones, despite the fact that at many levels, such as education, there are much better conditions. It should be noted that, in an international Pew Research survey, 87% of Greeks believe that they will be worse off than 20 years ago. This figure is the highest among the survey countries (Stokes, 2018), followed by Italians (72%) and Spaniards (62%). The important thing is that pessimism about the future is extremely entrenched throughout the developed world, and these negative expectations are in evidence to a great degree even in countries such as France, Germany, United Kingdom, USA, and others.
6.4 Urbanization

One of the most important global macroeconomic trends is that of urbanization, fueled both by the general population growth and the movement of individuals to urban centers. Today (United Nations [UN], 2019a), more than 55% of the world’s population lives in urban areas, with the rate expected to rise to 68% by 2050, while in 1950 the rate was 30%. The largest increases are expected on the Asian and African continents.

In Greece almost 9 out of 10 (87.7%) of residents are expected to live in urban areas by 2050 (UN, 2019a). During the second half of the twentieth century, the country experienced a gradual increase in its urban population, a trend that has continued to this day. A similar trend is observed in all European countries. Post-war urban concentration was accompanied by the contraction of the primary sector, while the secondary and subsequently the tertiary one has been developed, which greatly supported the economic growth. The slowdown observed in recent years and the projected decline in the urban population, in absolute terms, is partly due to the reversal of flows in residents’ movements, with the main reason being the increase in migration due to the 2008 crisis and the overall population decline. The population in Greece is expected to decline significantly in the coming decades, while the rate of urbanization will continue to increase.

As urbanization grows, the demands for sustainable development and successful management of the phenomenon will increase. This is especially true in low and middle-income countries, where urban growth is expected to be higher. Success in management lies in addressing the imminent challenges at the economic, social, and environmental levels, identifying long-term population trends and preventing the adverse effects of over-concentration in urban centers, so that the potential benefits of the phenomenon can be maximized.

The sectors most likely to be affected are the building industry, due to high demand, energy and urban transport systems and technology, infrastructure, and the health system.

At the socioeconomic level, challenges will include increased spending to meet new needs, the employment restructuring due to urbanization, increased cost of living, social inequalities, and levels of absolute poverty and crime, which are expected to increase in inappropriately organized urban centers.
In addition, the increase in pollution from high population density and the higher risk of terrorist attacks and natural disasters are expected to affect the environment and political field, raising issues of prevention, organization, and security.

On the other hand, the benefits that can be gained from urbanization are market efficiency improvement through reduced transaction costs, increased production in the secondary and tertiary sectors with subsequent increased incomes due to increased productivity in the economy (especially in developing countries), improved quality of life, accelerated diffusion of information and knowledge as well as cultural and social upgrading.

6.5 Demographic Changes and Population Movements

For most of human history, people have tended to die young and poor. However, over the last 50 years the world has seen a great improvement in how long people live and how much money they can spend. As people live longer, there are more elderly people than in the past. The classic population pyramid (with many young and few elderly) now belongs to the past (Kharas & Fengler, 2019). The world today is steadily getting older and richer. Most countries are going through this transition with each taking a different path. However, all countries will face a new world in 2030. This predominantly richer and older world will have a population of 8.3 billion, about 700 million more people than today (2019). Going forward, the world will have fewer and fewer poor, about the same number of young and young adults, and many elder and wealthier people. Over the next decade it is projected that the world population above the age of 30 will increase by 800 million, while there will be 100 million fewer people under the age of 30. By 2030 there will be 1.8 billion more people with at least $11 daily purchasing power, while the number of poor and vulnerable with less than $11 a day will shrink by 1.1 billion (Kharas & Fengler, 2019).

The world population continues to grow till today, but the growth rate has been declining since the 1960s. Several factors contribute to this. As prosperity rises, there is a tendency for birth rates to go down. It may be an attempt to improve the prosperity of present generations, while at the same time diminished confidence in the future creates fear of taking
responsibility for many children. The declining birth rate as an inherent process can have serious effects on economies’ growth in the future.

It is well known that older people spend a larger share of their disposable income on services, so the relative size of the service sector increases as the population ages. The increase in the relative size of the service sector in many countries coincided with the increasing age of the population (Cravino, Levchenko, & Rojas, 2019).

These phenomena are expected to increasingly affect developing countries. Urbanization reinforces this effect, as well as restrictive fertility policies of countries such as China (restricting each family to one child until 2012).

The low birth rate of many developed countries, including Greece, means that the population is aging over time. Population aging is a demographic development that affects everyone, as it occurs in all regions and countries of the world, regardless of development levels. Indeed, it is evolving rapidly, especially in advanced countries—including those with large populations of young people (UN, 2020). Worldwide, the number of people over 65 is expected to more than double by 2050, from 703 million in 2020 to more than 1.5 billion, while the global population is expected to grow less than 2 billion in the same period.

According to UN (2020) estimates, in Greece more than one out of three (36.2%) will be over 65 by 2050, when the population is expected to have declined by more than one million. This percentage is well above the projected average of the corresponding age group in Europe (28.1%). Greece is already ranked among the top ten countries in the world with an aging population, with this position expected to worsen by 2050 (Table 6.2).

The aging of the population has an economic impact. The most important problem that arises is that the economy is underfunded by a reduction in the workforce and at the same time faces an increased burden on the state budget, due to greater spending on health care and pensions. It is also obvious that an aging population is more focused on the present and less concerned about future and long-term developments. As a consequence, the aging population is also expected to have a negative impact on entrepreneurship, as the proportion of young people, who tend to innovate and take risks, is being declined. In contrast, older people maintain a more conservative attitude toward risk (Levesque & Minniti, 2006), not having the ability to wait as long to make return on investments.
Table 6.2 The top ten countries or regions with the highest percentage of population over 60 in 1980, 2017, and 2050

| Rank | Country/area          | 1980 % aged 60 years or over | 2017 % aged 60 years or over | 2050 % aged 60 years or over |
|------|-----------------------|------------------------------|------------------------------|------------------------------|
| 1    | Sweden                | 22                           | Japan                        | Japan                        |
| 2    | Norway                | 20.2                         | Italy                        | Spain                        |
| 3    | Channel Island        | 20.1                         | Germany                      | Portugal                      |
| 4    | United Kingdom        | 20                           | Portugal                     | Greece                       |
| 5    | Denmark               | 19.5                         | Finland                      | Republic of Korea            |
| 6    | Germany               | 19.3                         | Bulgaria                     | China, Taiwan Province of China |
| 7    | Austria               | 19                           | Croatia                      | China, Hong Kong SAR         |
| 8    | Belgium               | 18.4                         | Greece                       | Italy                        |
| 9    | Switzerland           | 18.2                         | Slovenia                     | Singapore                     |
| 10   | Luxembourg            | 17.8                         | Latvia                       | Poland                       |

Note: From 201 countries and regions with at least 90 thousand inhabitants
Source: UN (2017) and author’s own creation

Different age groups in a society may react in a different way to a monetary policy shock. These groups economic reaction differs in proportion to their employment and income levels, thus determining the effectiveness of monetary policy. Specifically (Leahy & Thapar, 2019), by broadly distinguishing three age groups (20–40, 40–65 and over 65), monetary policy is less effective the higher the proportion of young people (20–40), more effective the larger the middle-aged population (40–65 years) is, and finally, the population over 65 does not appear to have a significant impact on the monetary policy’s effectiveness.

Today, a significant proportion of the population of the least developed countries is still young (44% under 25), testing these countries as they face the need for education and employment for these people (UN, 2019b). In underdeveloped countries the percentage of young people is even higher (59% under 25) while in most developed countries young people account for less than 1/3 (28%) of the total population.
Another major issue that is having global economic consequences is the movement of populations. The total number of people residing in a country other than their country of birth has increased (International Organization for Migration [ILO], 2019) from 84 million in 1970 to 271 million in 2019, with this population in Greece reaching 1.2 million in 2019.

Greek society has experienced post-war reverse trends in migration flows. In the 1950s and 1960s the net inflow of migrants (outflows minus the inflows of migrants) was negative, while the next three-and-half decades the net inflow was positive, culminating in the 1990s. More recently (since 2005) the picture has changed again, in spite of the refugee crisis and the waves of refugees the country received, due to Greeks seeking jobs abroad (Fig. 6.1).

Overall, global migration, despite its increase, especially in recent years, remains proportional to population growth since 1970—the rate of migration is estimated at 3.5% (2019) of the global population (ILO, 2019).

Economic crises and geopolitical instability are major causes of migration. Other more permanent sources of motivation for people to migrate are the economic development of the country of destination and its

Fig. 6.1 The net number of migrants (thousands) in Greece (Note: The number of immigrants minus the number of emigrants [five-year period average]. Source: UN [2019c] and author’s own creation)
distance from the country of origin, the existing migration networks, and demographic changes. These trends are exacerbated by media and social media that promulgate social standards of developed countries. In particular, declining birth-rates and the aging of the population in many developed countries are fueling demand for labor from abroad to support national economies.

When young people leave their country to seek work abroad, this means that the proportion of older people increases. Although some countries, anticipating remittances, encourage workers to emigrate, there are also concerns about losing human capital, which forms the base of developing society and economy (brain drain). The typical profile of someone who is likely to opt for emigration is that of a young man born, educated, and having social connections abroad.

Population movements are an integral part of human civilization and will continue to concern humanity. While many people express a desire to emigrate, few take steps to do so, and even fewer follow through.

6.6 Disruptive Technologies and the 4th Industrial Revolution

The world we live in is the result of a process of industrialization. The Industrial Revolution evolved in three phases (Petrakis, Valsamis, & Kafka, 2020). These phases were: (a) the steam engine and mechanical production of equipment (1760–1840), (b) the increasing division of labor, arrival of electricity and mass production (1870–1914), and (c) electronics, technology, information, communications, and automated production (1969–today), which have led to a sustainable increase in productivity. But in recent decades, the fact that most economies no longer rely on industry but have become service-based economies has brought about major changes.

In Greece, over the last two decades, the tertiary sector has been taking up an increasing share of total labor in the economy (72.5%, 2018), with the secondary sector declining significantly, especially in the years after 2008 (Hellenic Statistical Authority [ELSTAT], 2019). The primary sector employs a smaller but relatively stable proportion of workers. The share went down in the five years preceding the crisis, and has since remained at about 13% of total employment.

Technology developments, especially over the last century, are capable of changing the consumer model, create new needs, produce new goods
and services, disrupt the status quo, and change the way people live, think, work, etc. This feature of new technologies has led to characterizing them as “disruptive technologies.” The implications of technology development (Phillips, 2020) are:

- reduced demand for unskilled labor,
- lower prices for services,
- higher human capital returns on investment,
- the ability of small businesses to target larger markets,
- provision of digital services,
- improved business decisions, and
- a new global labor division.

To be characterized as “disruptive” a technology must represent a rapid rate of change in capabilities in price/performance ratio terms relative to substitutes and competitive products, or must accelerate the evolution of production or effect discontinuous capability improvements (Manyika et al., 2013). At the same time, however, in order for technology to be considered economically disruptive, it needs to have a significant impact on a significant number of businesses and organizations and to influence a large part of their productive functions, creating a massive economic impact.

Some of the disruptive technologies that have the potential to have significant economic and disruptive effects are mobile internet, automation of knowledge work, advanced robotics, autonomous and near-autonomous vehicles, next-generation genomics, 3D printing, advanced materials, advanced oil and gas exploration, and renewable energy, as well as information and communications technology and Big Data analysis.

At business level, a capable business leader must be able to predict and adapt to the coming changes, seeking the comparative advantage of new technologies. New business opportunities, potential new customers, new products, and investment opportunities are some of the potential benefits of new technologies. At the same time, the development of new technology causes significant changes in the workplace.

The disruption of productive functions is therefore closely linked to innovation. At national level, the Greek economy, in terms of innovation performance, ranks 41st out of 149 countries (Dutta, Lanvin, & Wunsch-Vincent, 2019), behind Bulgaria and followed by Vietnam. Compared
to the countries of its income group, this performance is at the lower end, with the main barriers to innovation being identified in human capital, research, and in the institutional framework. Thus, due to poor performance in innovation, the impact of disruptive technologies on the productive structure of the Greek economy is expected to be relatively weak or delayed. This will lead to an overall lower level of economic competitiveness.

Businesses in information technology (IT) enjoy higher returns when they expand their range to more markets. Their average mark-up is higher, while their overall share of labor is lower. High productivity in products expand with innovation across more product lines, creating a temporary burst of growth. Because their profitability is difficult to match, less profitable businesses find it difficult to enter high-profit markets and therefore innovate less, resulting in declining profits. Mark-ups eventually fall for both high and low-productivity firms, as they are more likely to face high-productivity competitors. Ultimately, due to greater competition, innovation and development are eliminated. Thus, despite increasing returns, business incentives for innovation decline, reducing the long-term growth rate (Aghion, Bergeaud, Boppart, Klenow, & Li, 2019).

Although the growing strength of large firms in market power has so far had a fairly limited negative economic impact, it could have a larger impact on people’s income and on development if not controlled. Policy makers around the world should ensure equal conditions between all businesses, including the new ones. This means reducing domestic barriers to market entry and barriers to trade and foreign direct investment—especially in the services sector. It also means enhancing certain features of the legal system and competition policies, such as the role of market examinations, reforming corporate taxes in order to tax excess market returns and ensuring that intellectual property rights protections encourage innovation.

6.7 Climate Change

Climate change, also, is one of the most important issues that will need to be addressed around the world both in the long and short-term, being one of the most important sources of uncertainty for economies, as it has a significant impact on economic output, while at the same time posing risks to humans and nature (Intergovernmental Panel on Climate Change
When comparing climate change phenomenon with that of Covid-19, we find that both phenomena have an exogenous character in terms of economic system and systematic but also uneven effects on it. However, while Covid-19—in terms of economic impact—has a short-term character, climate change has a medium to long-term character and at a first glance does not cause very deep damage, but at a local level.

That is why climate change is extremely dangerous for human society as its impact is gradual over time, resulting in the danger which it brings with not being perceived.

The main economic consequences of climate change worldwide are summarized in the following three observations: (a) the macroeconomic effects of temperature disturbances are unevenly distributed among countries; (b) high temperatures reduce per capita production in countries with high average temperatures, such as most low-income countries, where economic losses from rising temperatures are likely to be significant by 2100; and (c) countries with a well-developed and structured institutional framework are better able to address the changes brought about by climate change.

Global warming is expected to increase the incidence of natural disasters linked to climate change. This has serious socioeconomic consequences—8000 major climate disasters have been recorded between 1990 and 2014 (IPCC, 2014)—and raises ethical issues of intergenerational justice and solidarity among others.

Clearly, the problem of climate change cannot be geographically limited and indeed is not only a problem for the future, but is already manifesting today because of human activities—the main source of the phenomenon.

In the near future, the earth’s climate is projected to change to a greater extent due to the high concentration of greenhouse gases in the atmosphere. The impacts of climate change are expected to vary by geographic area, but will have a significant impact on the entire planet.

The three major impacts of climate change are estimated to be: (a) geographical and crop yield changes, (b) reduction in water supplies for crops, and (c) land disappearance due to rising sea levels and increased ground salinity (Aydinalp & Cresser, 2008).

An increasing incidence of extreme weather events such as droughts, hurricanes, windstorms, and hailstorms will affect the development process (Alexandrov & Hoogenboom, 2000). At the same time, in many areas ice melting has a significant effect on the quality and quantity of
water resources. Also, many terrestrial and marine species have changed behavior (geographic range, migration patterns, etc.), thus affecting the production chain.

Admittedly, the climate change evolution in the twenty-first century, with the main characteristics of rising temperatures and the retraction of ice from land and sea, will have a major impact on growth in some economies. Indeed, in 2018, William Nordhaus and Paul Romer won the Nobel Prize in Economics for being pioneers in adapting economic theory to integrate climate change and technological progress. Their research answers fundamental questions about how to promote long-term sustainable development and improve prosperity in a wider context that incorporates climate change as an endogenous variable of the economic growth model.

The real problem for human kind posed by climate change is that the expected rise in ecological costs is in line with slower growth rates and the increasing effects of negative economies of scale. The predominant scenario (Bolt, Inklaar, de Jong, and van Zanden [2018]) for the next 40 years is that the world GDP growth rate will decline, while global warming will increase. In other words, it will become increasingly difficult to fund the fight against climate change.

Climate change may also affect the economies’ growth through its impact on labor productivity. The study by Kahn et al. (2019) in a total of 174 countries for the period 1960–2014, showed that temperature deviations from historically adjusted values have a negative, but not significant, effect on the real GDP per capita growth rate. On the other hand, it is estimated that the continued increase in annual temperature without the application of preventive environmental policies, will be 0.04 °C until 2100, which could reduce world real GDP (per capita) by more than 7%. However, if the Paris Agreement on climate change were adopted, the annual temperature rise would slow to 0.01 °C, thereby reducing the loss of GDP to 1%.

In Greece, greenhouse gas (GHG) emission reductions in recent years and hence the country’s relative improvement (Germanwatch, 2020) are due to the decline—caused by the decade-long recession—of national production, while the use of renewable energy remains low. In fact, the improvement in environment quality in Greece, but also in other countries where recessionary lockdowns were imposed was impressive.

Greece is committed to gradually reducing and permanently stopping (by 2030) the use of lignite, while increasing renewable energy sources
and absorbing 3.5–4 billion euros of European funds to finance the transition. The fact, however, is that the country spends 1.3% (2018) of its GDP on environmental protection (in 2013 it was 1.7%), with this rate being the 2nd highest in the European Union (EU), where the average is at 0.8% (Statistical Office of the European Communities, 2019).

In EU, the Green Deal, which will constitute 25% of its 2021–2027 budget funding, using 7.5 billion euros from the Just Transition Fund (Giacomo, 2020), sets the conditions for decoupling the European prototype from the resource use of previous decades.

In conclusion, the serious problems posed by climate change are mainly two: the ever-increasing cost of dealing with its effects and the fact that it is exhausting the resources of future generations.

6.8 Multipolar World and Globalization

Globalization has the potential to determine the evolution and dynamics of the future by affecting multiple levels, such as culture, politics, economy, environment, and society. What concerns us here is the current economic dimension and the globalization’s consequences as well as the consequences a globalized and multipolar world will have for the world economy and especially for business to take long-term decisions.

About two hundred years ago, Northwest Europe and later North America experienced rapid industrialization, turning the rest of the world into raw material suppliers for these new industrial centers. Subsequently, due to technological advances and new transport networks, transport and communication costs began to decrease and areas that were separated by long distances became more closely connected. At the same time, data processing, storage, and information retrieval costs have been reduced, creating the conditions for a new phase of globalization.

As transportation costs were reduced, the world’s largest industrial centers were able to provide higher wages, which mitigated economic inequalities worldwide. At the same time, however, lower transport costs also allowed low-wage countries to compete with high-wage economies, especially those countries with a high population concentration. So, new centers of power began to be formed around the world.

However, trade has slowed down in recent years—even before the outbreak of the 2008 crisis—as the ratio of international trade to world GDP has declined sharply (Fig. 6.2). In fact, international trade took the biggest blow than anything else during Covid-19 crisis.
With regard to Greece, the economic openness of the economy has generally been increasing since the 1960s, especially after its accession to Eurozone. Greece follows the course of European economies (EU average), but the distance has widened. In 2018, trade as a percentage of GDP in EU countries (on average) was 88%, while that of Greece was 72.5%.

The decline in trade contribution to economic growth affects, on the supply side, countries’ productivity and their technological performance, as trade is a channel of technology transfer and confers comparative advantage. At the same time, on the demand side, net exports are a key sector of countries in financial crisis and, thus, if world trade slows down, it is more difficult for these countries to reduce external deficits and debt.

The relationship between technological shifts and commerce development is commonplace. When innovation is not favored and reduced returns prevail, lower tariffs only boost growth temporarily. However, trade liberalization increases productivity levels permanently (Hsieh, Hurst, Jones, & Klenow, 2019).

Under normal circumstances (in the absence of recession, economic crisis, general unrest, etc.), trade’s growth rate is greater than that of
production growth (Irwin, 2015). However, 2015 saw the largest slow-
down in international trade since the onset of the financial crisis, which
may be due both to structural factors and to the downturn in the busi-
ness cycle (Cohen-Setton, 2015), as well as to increased protectionism
and the trade and monetary wars of a global Thucydidean struggle for
world domination.

According to Hoekman (2015), likely causes of the lasting decline in
international trade are being found in that: (a) the production process
is now geared toward products with lower income elasticity; (b) strong
growth in trade was a transitional phenomenon, which ended because of
the integration of countries such as China and the countries of Central
and Eastern Europe into the world economy; (c) businesses have reached
their limits in exploiting the production fragmentation in the global value
chain of trade; and (d) domestic industries have been strengthened by
government support, with the result that demand for product imports
has dropped significantly.

Other factors responsible for the trade slowdown could be the presence
of a high level of uncertainty—which creates difficulties in financing
trade and in trust between trading partners—and the economic crisis.
Furthermore, natural disasters, such as the earthquake in Japan and the
floods in Thailand, which have led many industries to revise their policy
of outsourcing their production to other countries (Crozet, Emlinger, &
Jean, 2015), have the potential to damage world trade. Dadush (2015),
on the other hand, demonstrates that the decline in investment (by
consumers and businesses) can largely explain the slowdown in world
trade.

At the same time, it is understood that events such as automation
and the subsequent replacement of labor by machinery, technological
advances, and a shift to new production methods, or even an increase
in energy prices, could lead to some form of industry resurgence in
developed countries and a corresponding drop in the share of trade.

The crisis of 2020, with the increase in uncertainty and transactions
cost (increase in tariffs) that followed, but also the relative reduction in
the cost of machinery in terms of labor (reduction in interest rates relative
to wages), made the use of global supply chains more expensive, leading
to a form of regeneration in manufacturing among developed economies
(Kilic & Marin, 2020). In contrast to the 1990s and 2000s, a period
of intense globalization during which the development of global value
chains was a growth lever for global trade, many transnational companies are (re)turning their production to developed countries, relying to automation and investment in robots. At the cost of developing countries, this trend had begun in 2010 and is expected to intensify with declining global value chain activity due to Covid-19 crisis.

The competition for world domination, however, which now extends to more protagonists, brings to the fore the implications of a multipolar world, which also leads to an increase in global uncertainty.

The multipolar world unleashes a more serious source of uncertainty, that of geostrategic reordering. These rearrangements are accompanied by social, civil, or international conflicts. In conclusion, the birth and evolution of the multipolar world is accompanied by increased uncertainty in international political and economic relations.

The course of the globalized economy is marked by the end of monopolies and the dominance of a multipolar world, in terms of influence. The multipolar world first emerged with the industrialization of Japan, which was much poorer than Europe at the beginning of the twentieth century. Over the last three decades industrial production has been growing in East and South Asia, most recently in India. It is logical that as transport costs reduced, industrial production increasingly grew in places with high population concentration. And as the population is not concentrated in a single country, economic activity is expanding more widely internationally.

At the same time, in recent years there has been an unprecedented dramatic change in the composition of global GDP, with the result that global power centers are changing. The way in which wealth is created worldwide has changed significantly. Japan lost the ground it had won at the same speed it had gained it in previous decades. At the same time, China increased its share of world GDP, while the contribution of Western countries to world GDP fell sharply, more than the cumulative decline that had occurred over the past four decades (1960–2012) in United States and EU shares.

The change in shaping forces of global GDP has been accompanied by a change in the trends observed in global trade. Most of the change is due largely to the strengthening of the Chinese economy. From 2002 to 2011, China recorded an impressive average annual growth rate of trade, surpassing the UK, Japan, and Germany in terms of share in world trade, while the share of Organisation for Economic Co-operation and Development (OECD) countries as a whole declined.
Changes in the share of world trade held by states cause significant reshuffling in the international arena. In 2012, EU accounted for the largest share of world trade (about 1/3) and China had already surpassed the United States share (O’Neil & Terzi, 2014). In the future, EU is expected to lose its momentum, while China is projected to surpass the US trade share and to reach the total share of EU countries.

One of the possible effects of the formation of a multipolar world will be in the ability of sovereign currencies to act as reserves and as a means of stimulating world trade. It is evident that the world economic system is moving from a situation in which two currencies (dollar and euro) dominate to a situation of three currencies, with the addition of the Chinese renminbi.

In summary, the dollar bloc is expected (Tovar & Nor, 2018) to continue to account for the largest share of world GDP (40%), followed by the renminbi (RMB) bloc (30%) and the euro bloc (20%). The geographical area of the RMB bloc seems to be that of BRICS currencies. The British pound and the Japanese yen bloc have a much smaller share.

The effects of the dollar’s dominance continue, making it easier for United States to finance its debt. How much other economies are willing to buy US debt depends on the stability of the global financial system. The reduction in US debt buying by large economies (China, Japan, and relatively smaller ones such as Russia, Turkey and India, which remains a strong buyer) is slow but steady, as the world shifts to a situation dominated by trade and monetary hostilities.

Greece ranks 24th out of 122 countries (Gygli, Haelg, Potrafke, & Sturm, 2019), related to its economy the globalization degree and has been ranked since 1990s higher than the high-income countries (Fig. 6.3). At the same time, however, the Greek economy appears to be less globalized than most other countries in Eurozone.

But apart from the general process of globalization and the exploration of dividing up projects, there are also specific issues that are distracting in this context. Perhaps the most important of these concern international capital movements.

The phenomenon of sudden stops (Merler & Pisani-Ferry, 2012) in international capital movements may be one of the major causes of global financial crises (Accominotti & Eichengreen, 2013). It is not always easy to interpret, because capital movements are usually treated as a symptom rather than as a cause of a crisis. But the 2008 Great
Recession showed that internationally coordinated actions to tackle recession, notably through international cooperation (G20), yielded some satisfactory results.

The experience of the 2008 crisis played an important role in Covid-19 crisis. So as soon as Covid-19 crisis hit hard, creating serious problems in global economy (at a faster rate than in 2008), supranational organizations (International Monetary Fund [IMF]) and large states (United States, China, etc.) developed large-scale policies aiming to address the problems that arose.

In addition, the future stage of growth will be shaped by the presence of international trade cooperation agreements in a world characterized by conditions of competitive advantage (trade policy) and the use of exchange rate policies. Trade liberalization policies, although strongly disputed in recent years, can create a non-zero-sum game in the growth of the economies of the countries involved. According to Hsieh et al. (2019) who studied the impact of reduced tariffs on growth in a two-country model, United States and the rest of OECD countries, find mutual benefit from the relaxation of tariff policy—with the more pronounced benefit for the OECD countries. Specifically, trade causes the economy to be restructured in the areas of labor, production, and the degree of businesses’ export orientation. This accelerates creative destruction, transferring technology from the most to the least innovative countries, leading to the
growth of economies. However, this process has long-term beneficial effects provided that technology originates from outside the economic system, that is, there is no decline in production of innovative ideas.

Furthermore, international supply chains have changed the structure of global growth, rendering many theoretical conceptions of competitive advantages, economies of scale, etc. unnecessary. Global structural changes are creating social and economic redistributions as they change the relative positions of political and economic power centers.

Consequently, the destruction of existing markets and the creation of new ones alter the relative position of individual economies and groups. This process requires a review of the individual development components. For example, an economy, whose exported products change their position in the international value-added chain and in the demand elasticity curve, will need to rethink its production model. Thus, the concept of future competitiveness comes to the fore.

International trade and globalization are perhaps the most representative examples where Covid-19 acts as an accelerator and enhancer of dominant trends and developments, as described above. So, what is now expected is a reduction in globalization in the decade 2020–2030. But then it will return again, accelerating after 2030 under the influence of rising China and India. Covid-19, after the 2008 crisis, makes the slowdown in trade and globalization in 2020 sharper.

**Note**

1. Paul Romer had shown how economic forces govern the willingness of companies to produce new ideas and innovations, laying the foundations for a new growth model, known as endogenous growth theory. William Nordhaus created a quantitative model that describes the interaction between economy and climate. Their findings significantly expanded economic analysis by building models that explain how the market economy interacts with nature and knowledge.

**References**

Accominotti, O., & Eichengreen, B. (2013). *The Mother of All Sudden Stops: Capital Flows and Reversals in Europe, 1919–32* (National Bureau of Economic Research Working Paper No. 19580).
Aghion, P., Bergeaud, A., Boppart, T., Klenow, P. J., & Li, H. (2019). *A Theory of Falling Growth and Rising Rents* (Federal Reserve Bank of San Francisco Working Paper 2019-11).

Alexandrov, V., & Hoogenboom, G. (2000). Vulnerability and Adaptation Assessments of Agriculturalcrops Under Climate Change in the Southeastern USA. *Theoretical and Applied Climatology, 67*(1–2), 45–63.

Aydinalp, C., & Cresser, M. (2008). The Effects of Global Climate Change on Agriculture. *American-Eurasian Journal of Agricultural and Environmental Sciences, 3*(5), 672–676.

Bell, B., Bloom, N., Blundell, J., & Pistaferri, L. (2020). Prepare for Large Wage Cuts if you are Younger and Work in a Small Firm. *Vox CEPR Policy Portal*. Retrieved from: https://voxeu.org/article/prepare-large-wage-cuts-if-you-are-younger-and-work-small-firm.

Bolt, J., Inklaar, R., de Jong, H., & van Zanden, J. L. (2018). *Maddison Project Database, Version 2018*. Rebasin Maddison: New Income Comparisons and the Shape of Long-Run Economic Development (Maddison Project Working Paper No. 10). Retrieved from: https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2018b.

Cohen-Setton, J. (2015). Why Is Global Trade Slowing Down? *World Economic Forum*. Retrieved from: https://www.weforum.org/agenda/2015/09/why-is-global-trade-slowing-down/.

Cravino, J., Levchenko, A. A., & Rojas, M. (2019). *Population Aging and Structural Transformation* (Research Seminar in International Economics No. 674). Retrieved from: http://fordschool.umich.edu/rsie/workingpapers/wp.html.

Crozet, M. Emlinger, C., & Jean, S. (2015). On the Gravity of World Trade’s Slowdown. In B. Hoekman (Ed.), *The Global Trade Slowdown: A New Normal?* (pp. 179–196). London: Centre for Economic Policy Research (CEPR) (A VoxEU.org eBook).

Dadush, U. (2015). *Should We Worry About the Great Trade Slowdown?* (OCP Policy Center Policy Brief PB-15/20).

Dervis, K. (2019). Cronies Everywhere. *Project Syndicate*. Retrieved from: https://www.project-syndicate.org/onpoint/cronies-everywhere-by-kemal-dervis-2019-12?barrier=accesspaylog.

Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (2019). *The Global Innovation Index 2019: Creating Healthy Lives—The Future of Medical Innovation*. Ithaca, Fontainebleau, and Geneva: Cornell University, INSEAD, and WIPO.

Germanwatch. (2020). *Climate Change Performance Index (CCPI) 2020 Country Scoreboard: Greece*. Retrieved from: https://www.climate-change-performance-index.org/.
Giacomo, P. A. (2020). A Guide to the European Green Deal. *Continuum Economics*. Retrieved from: https://continuumecconomics.com/2020/01/29/eurozone/a-guide-to-the-european-green-deal.

Glenn, J. C., & Florescu, E. (2017). *State of the Future V. 19.0*. Washington: The Millennium Project. Retrieved from: http://www.millennium-project.org/publications-2-3/.

Gygli, S., Haelg, F., Potrafke, N., & Sturm, J. E. (2019). The KOF Globalisation Index—Revisited. *Review of International Organizations, 14*(3), 543–574. https://doi.org/10.1007/s11558-019-09344-2.

Hellenic Statistical Authority. (2019). *Statistics: Population and Social Conditions, Labor Market, Labor Force Survey Yearly Time Series Since 1981/2018*. Retrieved from: https://www.statistics.gr/en/statistics/-/publication/SJO03/.

Hoekman, B. (2015). Trade and Growth—End of an Era? In B. Hoekman (Ed.), *The Global Trade Slowdown: A New Normal?* (pp. 3–20). London: Centre for Economic Policy Research (CEPR) (A VoxEU.org eBook).

Hsieh, C. T., Hurst, E., Jones, C. I., & Klenow, P. J. (2019). The Allocation of Talent and U.S. Economic Growth. *Econometrica, 87*(5), 1439–1474.

Intergovernmental Panel on Climate Change. (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva: IPCC.

International Organization for Migration. (2019). *World Migration Report 2020*. New York: United Nations.

Irwin, D. (2015). *Free Trade Under Fire* (4th ed.). Princeton: Princeton University Press. https://doi.org/10.2307/j.ctt9qh0ch.

Kahn, M. E., Mohaddes, K., Ng, R. N. C., Pesaran, M. H., Raissi, M., & Yang, J. C. (2019). *Long-Term Macroeconomic Effects of Climate Change: A Cross-Country Analysis* (IMF Working Paper No. 19/215).

Kharas, H., & Fengler, F. (2019). Double Tipping Points in 2019: When the World Became Mostly Rich and Largely Old. *Brookings*. Retrieved from: https://www.brookings.edu/blog/future-development/2019/10/09/double-tipping-points-in-2019-when-the-world-became-mostly-rich-and-largely-old/.

Kilic, K. & Marin, D. (2020). How COVID-19 Is Transforming the World Economy. *Vox CEPR Policy Portal*. Retrieved from: https://voxeu.org/article/how-covid-19-transforming-world-economy.

Kissinger, H. A. (2020). The Coronavirus Pandemic Will Forever Alter the World Order. *The Wall Street Journal*. Retrieved from: https://www.wsj.com/articles/the-coronavirus-pandemic-will-forever-alter-the-world-order-11585953005.
Leahy J. V., & Thapar, A. (2019). Demographic Effects on the Impact of Monetary Policy (NBER Working Paper No. 26324).
Levesque, M., & Minniti, M. (2006). The Effect of Aging on Entrepreneurial Behavior. Journal of Business Venturi, 21(2), 177–194.
Manyika, J., Chui, M., Bughin, J., Dobbs, R., Bisson, P., & Marrs, A. (2013). Disruptive Technologies: Advances That Will Transform Life, Business, and the Global Economy. McKinsey Global Institute.
Merler, S., & Pisani-Ferry, J. (2012). Sudden Stops in the Euro Area. Review of Economics and Institutions, 3(3), Article 5. https://doi.org/10.5202/rei.v3i3.97.
O’Neill, J., & Terzi, A. (2014). Changing Trade Patterns, Unchanging European and Global Governance (Bruegel Working Paper No. 817).
Oxford Economics. (2019). Oxford’s Global Macro Model.
Petrakis, P. E., Valsamis, D. G., & Kafka K. I. (2020). Economic Growth and Development Policy. New York: Palgrave Macmillan.
Phillips, T. (2020). A Roadmap for Digital-Led Economic Development. Vox CEPR Policy Portal. Retrieved from: https://voxeu.org/article/roadmap-digital-led-economic-development.
Reeves, R. (2019). Capitalism Used to Promise a Better Future. Can It Still Do That? The Guardian (Broken Capitalism Series). Retrieved from https://www.theguardian.com/commentisfree/2019/may/22/capitalism-broken-better-future-can-it-do-that.
Statistical Office of the European Communities. (2019). Eurostat: General Government Expenditure by Function (COFOG) [gov_10a_exp].
Stokes, B. (2018). A Decade After the Financial Crisis, Economic Confidence Rebounds in Many Countries. Pew Research Center. Retrieved from: https://www.pewresearch.org/global/2018/09/18/a-decade-after-the-financial-crisis-economic-confidence-rebounds-in-many-countries/.
The World Bank. (2019). World Bank Data [NE.TRD.GNFS.ZS].
Tovar, C. E., & Nor, M. T. (2018). Reserve Currency Blocs: A Changing International Monetary System? (IMF Working Paper No. 18/20).
United Nations. (2017). World Population Ageing 2017—Highlights (Department of Economic and Social Affairs-Population Division [ST/ESA/SER.A/397]). New York: UN.
United Nations. (2019a). World Urbanization Prospects: The 2018 Revision (Department of Economic and Social Affairs-Population Division [ST/ESA/SER.A/420]). New York: UN.
United Nations. (2019b). World Population Prospects 2019: Data Booklet (Department of Economic and Social Affairs-Population Division [ST/ESA/SER.A/424]). Retrieved from: https://population.un.org/wpp/Publications/.
United Nations. (2019c). *World Population Prospects 2019: Migration Data* (Department of Economic and Social Affairs-Population Division [Online Edition. Rev. 1]). Retrieved from: https://population.un.org/wpp/Download/Standard/Population/.

United Nations. (2020). *World Population Ageing 2019* (Department of Economic and Social Affairs-Population Division [ST/ESA/SER.A/444]). New York: UN.