

# Lessons from Globalization and the COVID-19 Pandemic for Economic, Environmental and Social Policy

Bianca Blum <sup>1,\*</sup> and Bernhard K. J. Neumärker <sup>1,2</sup>

<sup>1</sup> Department of Economic Policy and Constitutional Economic Theory, Albert-Ludwigs-Universität Freiburg, 79098 Freiburg, Germany; bernhard.neumaerker@vwl.uni-freiburg.de

<sup>2</sup> Freiburg Institute for Basic Income Studies (FRIBIS), 79098 Freiburg, Germany

\* Correspondence: bianca.blum@vwl.uni-freiburg.de

**Abstract:** The rapidly spreading COVID-19 pandemic in 2020 not only brought many countries in the world to a state of health crisis, but also increasingly drove economic and social crisis. The roots of these crises, however, run far deeper and can be traced to decades of neoliberal political and economic actions and driving forces of globalization. Increasing globalization and liberalization of markets led to the increasing privatization of many public goods while collectivizing risks such as environmental disasters, pandemics and economic crises. This paper presents the context and emergence of these crisis states and derives public policy implications in the areas of externalities management, digitalization, and basic income based on a broad literature review. These key issues need to be addressed both during and after the crisis in order to address the problems of environmental quality and climate change mitigation, as well as rising inequality and injustice for current and future generations.



**Citation:** Blum, B.; Neumärker, B.K.J. Lessons from Globalization and the COVID-19 Pandemic for Economic, Environmental and Social Policy. *World* **2021**, *2*, 308–333. <https://doi.org/10.3390/world2020020>

Academic Editor: Manfred Max Bergman

Received: 18 May 2021  
Accepted: 4 June 2021  
Published: 11 June 2021

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

**Keywords:** COVID-19; crisis management; basic income; environmental politics; globalization; public policy; inequality; sustainable development

## 1. The COVID-19 Pandemic and Its Effects

Cases of a new and unknown lung disease from the Wuhan City region in the province of Hubei in China were first reported to the World Health Organization at the end of December 2019 [1]. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), otherwise known as COVID-19, is a zoonotic coronavirus which is transmitted from animals to humans, and then between humans. On 11 March 2020, the global disease was classified by the WHO as a pandemic [2]. Coronaviruses can mutate genetically to create new outbreaks, as seen recently [3]. This makes it imperative for us to be prepared for ongoing pandemics and further crises.

The degree to which the various regions have been affected, together with the severity of the course of the disease, can be attributed to a number of parameters. In addition to the measures taken in the respective country, these include infrastructure parameters such as the provision of intensive care beds, individual disease profiles and sociodemographic characteristics, along with age and the environmental conditions in the respective country, such as air pollution, for example. All play a major role [4–9].

Since the outbreak, numerous countries have taken drastic measures to curb the spread of the virus. These range from entry and exit restrictions to border closings. Entire lockdowns have been decided on to minimize social interaction and thus reduce the spread of the disease. International air traffic, tourism, transport, the production of non-systemically important goods and a wide variety of shops have been closed.

Meanwhile, financial markets have tumbled globally in response to the pandemic as more and more economies experience economic distress. Workers have lost their jobs as companies have had to switch to short-time work, or close completely. Many freelancers, particularly artists and cultural workers, but also small businesses, can no longer keep

going. In order to cope, some countries have designed a variety of aid packages. The German government, for example, has come up with a multi-billion-dollar package. In addition to supporting the health sector while fighting the pandemic, payments to cushion the loss of income for families, companies, freelancers and individuals have been promised and large economic structure funds with guarantees and loans have been set up [10]. However, in numerous cases, those affected are not covered by government measures. In the U.S.A., President Biden presented his COVID-19 plan in January 2021, which, in addition to concrete pandemic control, also intends to strengthen the health care system and reduce inequality in the health care system [11]. Scientific evidence is to play a central role in Biden's plan [12]. This also shows that America's neoliberal policies have clearly failed in the pandemic and need to be rethought. In addition to the reactive policy, these efforts are thus also directed at a preventive strategy. However, even Biden's plan does not holistically cover the conclusions that must be drawn from the pandemic.

The COVID-19 pandemic as a global threat means that the world is in a health crisis that is rapidly becoming a financial and economic crisis as well as a social one.

The COVID-19 pandemic and its health, social, and economic consequences are unprecedented in the 21st century to date. Historically, however, there have been far more profound and macroeconomically significant crises, such as World War I and World War II or the Great Depression in the early 1930s, as well as the Spanish flu between 1918 and 1920 [13,14]. What is different about these examples is that the COVID-19 pandemic must be considered in the context of two other decisive challenges of the world: ever-advancing global climate change and rising global inequality [15]. Not only are they the result of already existing global trends but also the force behind further economic, social and ecological crises [16].

By increasing intra- and intergenerational inequality, climate change and its effects will not only decrease the welfare of the current generation but also affect the welfare of future generations. Along with increasing local and global inequality, the outbreak and rapid spread of the COVID-19 has led many scientists to question current policies as they face the need for a sustainable development policy [17–22] to be better prepared for such crises in the future and more able to react to environmental damage, inequality and their effects. While facing up to the current health crisis, society has experienced the limits of globalization. Currently, three globalization crises can be identified [23]. Firstly, there is the neoliberal capitalism crisis, driven by ongoing growth and pushing ahead regardless of rising inequalities and global injustice. Secondly, there is the ecological crisis, which affects the emergence of further pandemics and the way ahead despite environmental damage, global food security and global inequality. Thirdly, there is the COVID-19 pandemic as a health crisis, which is often seen as an expression of the failure of neoliberal policies, and that has burdened both the economic and social structures of society, thus further contributing to inequality and injustice on a local and global level. The implications from all this call for us to redefine the rules of globalization in a bid to fight against the emergence of these crises. Clearly, governmental policy must change from being a reactive to a preventive one. The maxims of public policy must be redirected away from growth and GDP maximization to other values such as resilience and sustainability.

### *1.1. Methodical Approach*

The aim of this paper is to draw conclusions from the COVID-19 pandemic for future economic, environmental and social policy with the help of a critical review of a broad literature base. In particular, suggestions with a focus on the economies of Germany and the European Union (EU) must be conceived in such a way that they can be transferred to other industrial states, at least in part. Publications and preprints under the keyword "COVID-19" or "Corona Pandemic" were selected and critically reflected on for their usefulness. Studies that allowed implications and lessons learned from the pandemic and its consequences for economic, environmental or social policy were used for the further analysis. In addition, based on the resulting implications, appropriate studies were sought

that either addressed the causes and emergence of the identified problems or described and analyzed policy instruments to address these problems. In total, 159 publications were finally selected. Ninety-three of these are from the years 2021 and 2020 and are thus directly related to the pandemic. Another 34 studies are not older than five years. Older publications were selected due to their still current findings or their outstanding quality. In addition, the indexes of measuring globalization [24], inequality [25], and environmental impact [26] were used as the statistical basis for a brief, empirical examination of the central connectivity of these three variables in Section 2.

This paper thereby focuses on the connection between globalization, environmental damage and inequality and links this to the emergence of pandemics; only the combination of economic, environmental and social policy objectives as a strategy following the crisis can contribute to ensuring the sustainable resumption of economic activities and thus contribute to sustainable development. It is therefore imperative to reduce the likelihood of outbreaks of further pandemics by effective environmental policy regulation and to strengthen the economic and social robustness and resilience of the countries affected in the event of future pandemics. This necessarily also means that neoliberal structures of the current economic system must be critically questioned. The authors are aware of the complexity of the topic and would like to point out that a holistic and full discussion is not possible in this short article. The strategies and measures suggested here are intended as pointers in the direction to be followed. They are not regarded as a ready-made solution to all problems. Instead, they are considered by the authors to be feasible, as something that could make a meaningful contribution to a necessary transformation of the basic economic and socio-political orientation of the countries involved.

### *1.2. Paper Structure*

In the second section, the context and origins of the three aforementioned crises are examined in more detail. First, the link between globalization, environmental degradation and inequality is analyzed and subsequently related to neoliberal policies. As a transition into the main body of the thesis, the last section in Section 2 motivates the connection between pandemics and globalization. The third chapter draws implications from the crises of the 21st century and is divided into three major sections. The first section on environmental externalities identifies the action areas of air pollution, agriculture and food, and production and consumption. The second section on digitalization is divided into a section on digital trade and digital corporations and a section on the labor market and education sector. The third section on basic income includes a concrete proposal for a crisis basic income as well as the discussion on basic income approaches and sustainability. The implications drawn are to be understood as an impetus offering concrete measures for a sustainable economic, environmental and social policy in and after the crisis.

## **2. Globalization and the Need for a Sustainable Transformation**

The connection between economic growth and environmental damage is by no means new to the discussion and has been addressed by numerous researchers (see Brock and Taylor [27] for a review). With increasing economic activity, the consumption of finite resources continues to rise despite improvements in efficiency. There is no doubt that the current economic system is unsustainable and that the destruction of our living environment is a major long-term threat [16,28]. As early as 1972 the Club of Rome declared that, in a world with finite resources, infinite economic growth was not possible and appealed for a transition to sustainable development [29]. However, in the last century, especially with the adaptation of a neoliberal economic thinking since the 1970s, a global economic system has been established that equates growth with welfare and social security. In times of crisis, growth is seen as capable of solving economic and social problems. Likewise, the human-made effects of a growing economic system on climate, biodiversity, air quality, and other environmental parameters as well as water and food security, inequality and justice, have recently posed a threat to long-term human health [30–35]. It is therefore

not surprising that more and more researchers see a connection between the COVID-19 pandemic, globalization, growth and its effects [17,28,30,36,37], and ask the question of what form sustainable transformation could take.

### 2.1. Globalization, Environmental Damage and Inequality

The COVID-19 pandemic is taking place in a highly globalized system that is easy to follow in global production chains.

There are a number of approaches to look at the concept and the degree of globalization (for example, the KOF Globalisation Index was originally introduced by Dreher [37] and revised recently by Gygli et al. [24]. A more complex approach to measuring globalization is proposed by Zinkina et al. [38]. In their approach, they compare several methods for measuring globalization and present a systemic approach based on an analysis of networks and trade flows. However, due to the complexity and data requirement of such approaches, indices such as the KOF Index are the most widely used and common in research). To define globalization, we take our cue from Gygli et al. [24] and Dreher [37]:

“Globalization describes the process of creating networks of connections among actors at intra- or multi-continental distances, mediated through a variety of flows including people, information and ideas, capital, and goods. Globalization is a process that erodes national boundaries, integrates national economies, cultures, technologies and governance, and produces complex relations of mutual interdependence” [24] (p. 546).

If we look at the KOF Globalization Index [24] and its development since the 1980s in Figure 1, we can see that the index has increased worldwide from 41.69 in 1980 to 61.82 in 2018. For Germany, for example, the index has risen from 71.22 to 88.83. Compared to China, where the index ranges from 25.66 to 64.28, and for the U.S.A. from 62.81 to 82.28, over a period of just under 40 years (1980 to 2018).

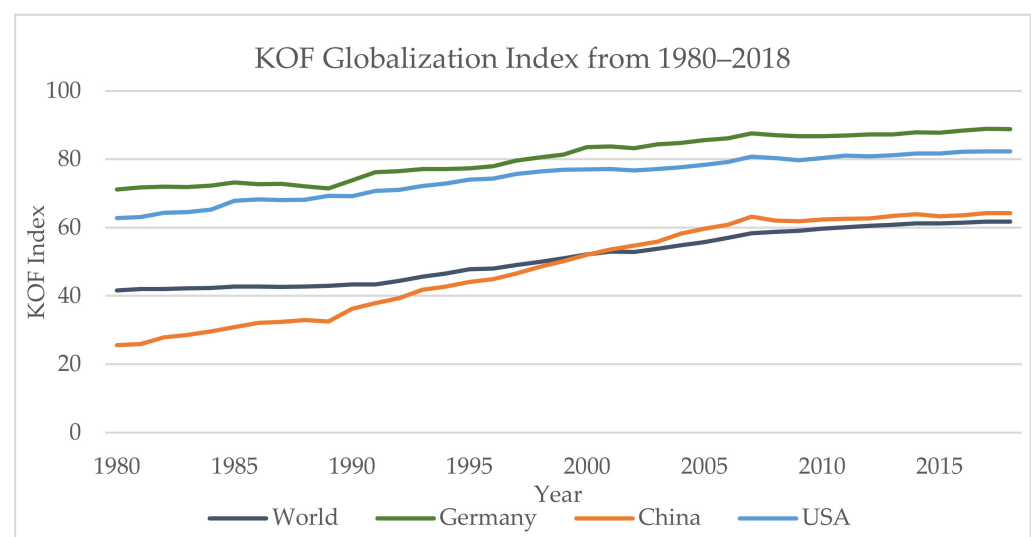


Figure 1. KOF Globalization Index. Own illustration based on [24].

While countries such as Germany and the U.S.A. have had comparatively little growth in globalization since the 1980s, an increase in globalization is clearly seen in former emerging economies such as China. Empirical evidence suggests thereby that globalization is directly correlated with economic growth. Dreher [39] was the first study that showed a strong and positive correlation between overall globalization and economic growth. However, increasingly cheaper products due to rising productivity and production in Third World countries raise global environmental and inequality issues.

Global networking not only favors trade and the mobility of people in private as well as on the job market, but also examines the question of global externality management in

order to counter climate change and environmental damage. The free movement of goods, services, information and people across national borders is accompanied by the movement of emissions and environmental externalities that arise on a national level to become a global, or at least nationwide, problem.

Figure 2 clearly shows that the industrialized and emerging countries, which have grown strongly with globalization in the last decades, also have the largest ecological footprint [26]. Both the ecological deficit (Figure 2a), which measures the difference between the ecological footprint and the biocapacity, and the ecological footprint per person (Figure 2b) are more pronounced in these countries (the ecological footprint is a measure of the productive area of land and water resources that, for example, an individual requires to compensate for its consumption activities. The ecological footprint used here is provided by York University Ecological Footprint Initiative [26] and distributed by the Global Footprint Network. Scientific literature on the ecological footprint include [40–42]).

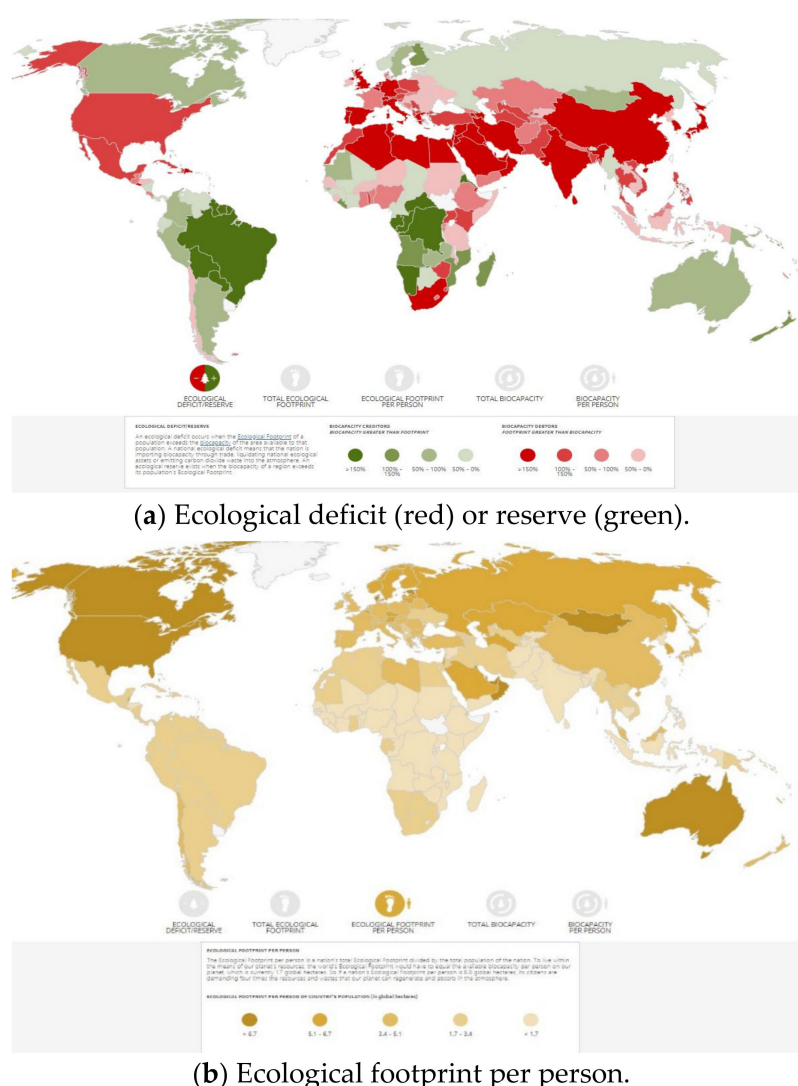


Figure 2. Ecological deficit and ecological footprint by [26].

There are also numerous theoretical and empirical studies examining the relationship between inequality and globalization (among others [43–50]). Even if a positive correlation between globalization and inequality cannot be empirically proven for every country, globalization processes can be shown to have a certain influence on inequality [46,47,51]. The statistically measurable relationships depend, of course, on the used measures of globalization and inequality. Inequality, for example, is often measured by the GINI



coefficient [52], which indicates how equally or unequal income is distributed in a society. To empirically support the argument of our paper—that a link between globalization, environmental degradation and inequality issues exists—let us take a small empirical look at the example of China (the data availability of the three variables globalization, ecological damage and inequality is often incomplete for historical periods. This distorts correlations for industrialized nations such as Germany and the U.S.A. in that they achieved a high degree of globalization early on (1970/1980s) but have invested increasingly stronger efforts in environmental protection since the 1970s. This creates an opposite effect on environmental damage. The ecological degradation, which would therefore have to be correlated with the early globalization phase of some countries, cannot be correlated with advanced measures such as the ecological footprint because of data availability. These measures often do reach far enough into the past. We therefore chose China for this small evidence check, which has made significant progress in globalization since the 1980s with an increase in KOF index value of 25.66 in 1980 to 64.28 in 2018).

Figure 3 shows the three variables of income inequality, the degree of globalization and the Ecological Footprint of Consumption over the period from 1980 to 2018 for China. We have chosen the 10% share in income inequality to measure inequality. This refers to the share of pre-tax income accruing to a given proportion (10%) of the population [25]. The higher this value, the more unequally income is distributed. We measure the degree of globalization with the KOF Globalization Index [24]. The higher this value, the more globalized the country. The Ecological Footprint of Consumption is used to measure environmental externalities and is composed of the Ecological Footprint of Production and the net Ecological Footprint of Trade [26]. All three measures have increased steadily since the 1980s for China.

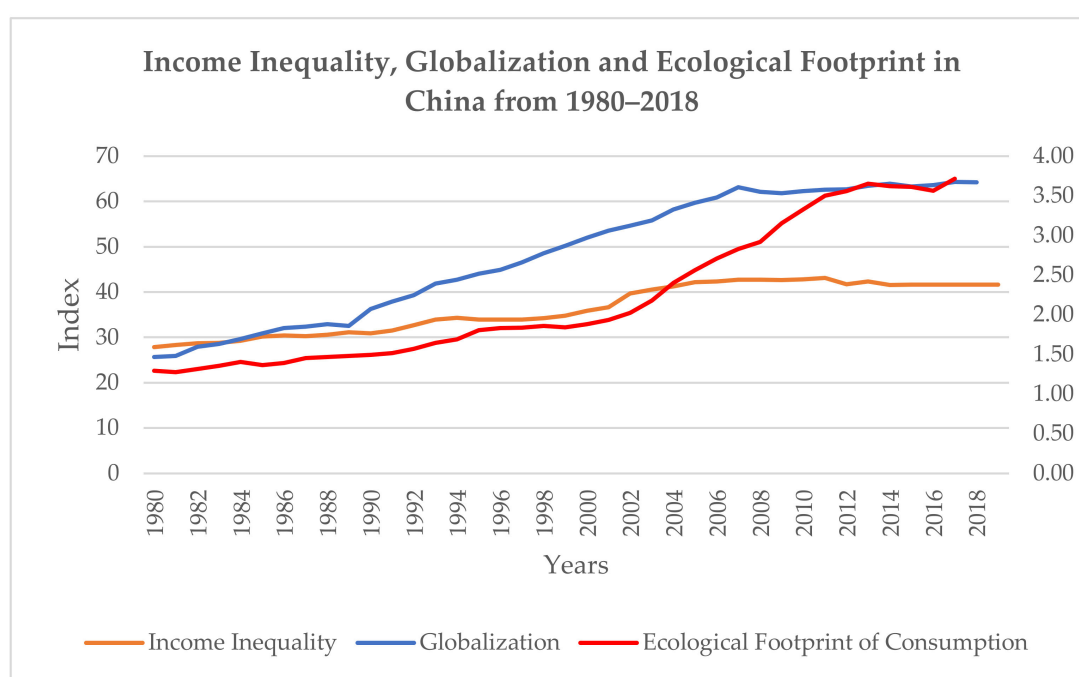


Figure 3. Income inequality, globalization and ecological footprint in China. Own illustration based on [24–26].

Table 1 presents Pearson’s correlation coefficients calculated on the datasets from [24–26] for China in the period of 1980 to 2018. All three measures are statistically significant in bivariate correlations at the 0.01 level. This very simple proof shows that the assumed relationship between inequality, globalization and environmental damage can be demonstrated with the chosen measures.

**Table 1.** Pearson correlation between income inequality, globalization and ecological footprint in China. Own illustration based on [24–26].

	Inequality	Globalization	Ecological Footprint
Inequality	1		
Globalization	0.982 **	1	
Ecological Footprint	0.908 **	0.907 **	1

\*\* Pearson correlation coefficient is significant at the 0.01 level for a two-sided test.

There is no doubt that globalization has also contributed to wealth creation through free markets, vaccination programs, infrastructure development, water provision and the increase in public health systems in many areas of developing countries, including China and India [17]. However, the same process has also led to ecological destruction, not only in terms of climate change, but also in pollution and the destruction of biodiversity and habitat [28], which favors the emergence of pandemics and further ecological crises.

This globalized system, with its tendency to expand the division of labor, thereby increasing social differentiation and inequality while steadily increasing productivity, is also reflected in the consequences and effects of the pandemic [53]. The steady expansion from local to global markets in the course of globalization is overcoming the once natural barriers that prevented the spread of pandemics by keeping them locally contained. In the event of an outbreak, the free movement of goods, services and people ultimately accelerate the rapid spread of the above, as happened with the SARS disease in 2003 [32,54–56] and has now been observed with the COVID-19 disease. Since all this is well-known, it should have led to measures to increase resilience and restrictions after the first SARS crisis. However, the collateral damage to health, the environment and the social system appears to have been gauged as manageable, or too insignificant to warrant being reacted to. One way or another, adequate adaptive economic, social and political learning did not happen. The reasons for this are manifold, but they are based on neoliberal economic policy.

## 2.2. The Problem with Neoliberal Politics

This short section will focus on the problem of a neoliberal political and economic system, which has a major influence on the three crises mentioned above (however, this will only provide a brief overview. Numerous researchers have already addressed the issue of neoliberalism, most recently in light of the COVID-19 pandemic. The analysis of neoliberal politics with regard to the three crises mentioned is very complex and can therefore hardly be completely covered within the framework of a subchapter. We would like to additionally refer at this point to the researchers who have sufficiently and exclusively dealt with these issues (for example [57–61]).

Neoliberalism, as with globalization, is a construct that is difficult to reduce to a common denominator but can be found in many different interpretations and forms [57–59]. Central elements of neoliberalism are “its conservative political agenda; emphasis on “free” markets; and withdrawal of the state from social reproduction” [59] (p. 2). Neoliberalism is more than an economic theory; it is also a political stance that is characterized by the market being elevated to the founding principle of society and the state.

Neoliberalism is seen as a central driver of globalization as well as the central factor of a profound social and political–institutional change. Neoliberalism enabled governments in the late 1970s to move away from state-directed economic policies to a model of competitive markets, which paved the way for capital domination.

Neoliberal thinking has led to the privatization of more and more public goods and services under the maxim of efficiency. While this deregulation has also led to a high degree of global mobility of people and consumer goods, this is accompanied by a low degree of political regulation to protect workers and consumers [60]. For example, the deregulation of capital and labor has eroded the resilience of social security systems in times of crisis. The efficiency optimization of health and educational sectors has thereby led to significant

cost savings, which have been particularly noticeable in the COVID-19 pandemic due to understaffing and under-resourcing in both sectors [60].

The weaknesses of neoliberalism are very clearly demonstrated by the example of the U.S.A. in the COVID-19 pandemic [59]. On the one hand, there are the precarious working conditions of some parts of the population; many employees do not have sufficient social insurance and therefore do not receive a salary in the event of illness. They therefore come to work sick, which meant that many people were infected by the virus in a very short time during the pandemic [60]. The second problem is the lack of access to adequate health care due to the lack of insurance coverage. Since the majority of the health care system has been privatized as a result of neoliberal policies, health care is not fully available to larger parts of the population [59,60]. Warf [59] examines among them other channels through which American neoliberalism has influenced the pandemic outcome in the United States of America.

While neoliberalism prioritizes the market value of goods and services in general, in times of crisis, saving and preserving lives should take priority.

We can certainly argue that the COVID-19 pandemic has highlighted a crisis of capitalism: businesses have to draw on large government subsidies to avoid insolvency. The health care system is overburdened with staff shortages and insufficient material resources. Citizens are experiencing financial distress. The market, which is at the center of economic policy in neoliberalism, has failed at almost all points in the crisis and is dependent on state interventionism.

However, current measures and movements seem to clearly indicate that neoliberalism is to continue to enjoy dominance in the political and economic system and has by no means found its end through the pandemic [55]. We see this clearly, for example, in the opposition to an unconditional basic income or in the numerous, state-funded packages of measures to maintain and stimulate the market and growth in and after the crisis (for example, [10,62,63]). The neoliberal view of individuals as human capital is also evident in the asymmetrical treatment of population groups and their state support. Not all countries and not all social groups are affected by the effects of the COVID-19 pandemic equally; access to health care and food, financial security, and even the possibility of isolation from the virus through home offices and home schooling are not the same for all social groups. While wage continuation payments, home office options or short-time work benefits were implemented for certain workers, some groups, especially artists and cultural workers, nurses and caregivers or simple workers hardly received sufficient state support in their commercial activities during the pandemic.

Neoliberalism is therefore repeatedly criticized, especially against the background of the COVID-19 pandemic [59,60,64,65] but also by the Planetary Health movement [65]. The neoliberal economic system is capable of generating a high productive capital value, but less capable of generating other values that, for example, value life or health above the exchange value on the market. The inadequacy of neoliberal approaches to adequately quantify values away from the exchange paradigm is demonstrated by Miles et al. [66] in their approach. The authors offset potentially saved lives against the costs of the COVID-19 measures and conclude that “the costs of the three-month lockdown in the UK are likely to have been high relative to benefits” [66] (p.75).

However, neoliberal economics has also strongly promoted the ecological crisis. For example, the capitalist-driven, industrial agricultural sector is partly responsible for the emergence and spread of coronaviruses, especially through deforestation of the rainforest [67] (see Section 3.1.2). In addition, the ongoing privatization and unregulated competition is fueling enormous economic growth that is driving the use and overexploitation of natural resources that are not adequately priced into this system. This is especially true in the unregulated area of environmental externalities, which are increasingly becoming a global problem and at the same time are closely linked to increasing inequality and increasing globalization (see Section 2.1).



Capitalist-induced growth is thereby characterized by psychological and structural growth factors [68,69].

Structural growth arises primarily due to the problem of the view of the gross domestic product (GDP) as a welfare indicator [68]; GDP as a measure of economic growth is still widely equated with social welfare, quality of life and progress. Due to the way GDP is calculated, any increase in the consumption of natural resources that is accompanied by CO<sub>2</sub> emissions, waste and environmental damage [28,70] has a positive impact on the GDP. The truth is that while negative externalities should contribute to its shrinkage, they do not if they are not priced. Central to the critique of the GDP as a welfare indicator, therefore, is its calculation in monetary terms as well as its disregard of natural resource consumption and its effect as a negative externality.

The forces behind psychological growth are more complex. Individuals are dependent on money in order to meet their culturally induced demands for material self-fulfillment [69]. Satisfying these consumer needs demands immense economic growth, however. Such growth is only possible through the use, and overuse, of natural resources such as air, water and raw materials and the exploitation of animals in agriculture, and people in developing and emerging countries. This growth drives local and global inequality as well as injustice for humans and their environment [28]. Stengel [71] considers the psychosocial function of consumption, the source of our materialistic lifestyle, as the most powerful force behind the ecological crisis.

### 2.3. Globalization and Pandemics

This globalized system, with its tendency to expand the division of labor, thereby increasing social differentiation and inequality while steadily increasing productivity, is also reflected in the consequences and effects of the pandemic [53]. The steady expansion from local to global markets in the course of globalization is overcoming the once natural barriers that prevented the spread of pandemics by keeping them locally contained. This is evident not least in the evolutionary outbreaks of viruses such as COVID-19. In the event of an outbreak, this free movement of goods, services and people ultimately accelerate the rapid spread of the above, as happened with the SARS disease in 2003 [32,54–56] and has now been observed with the COVID-19 disease. Since all this is well-known, it should have led to measures to increase resilience and restrictions in the free movement of goods after the first SARS crisis. However, the collateral damage to health, the environment and the social system appears to have been gauged as manageable, or too insignificant to warrant being reacted to. One way or another, adequate adaptive economic, social and political learning did not happen.

Decades of increasing globalization and its consequences have contributed to a global ecological crisis and brought about the current pandemic as an expression of years of environmental destruction and human intervention in ecological systems [23]. While public goods and services have been privatized and monetized to increase economic growth, under the paradigm of neoliberal politics, the risks and effects of this growth have been socialized [16]. Globalization has created numerous institutions to ensure the mobility of people, goods and services and consequently promote free trade, but it has failed to create common, collective rules for environmental standards, labor markets and health policy, nor strategies for the emerging redistribution problem through common social policy [16,17,20,30,72]. One element in dealing with the crises of globalization is therefore the provision of (global) public goods [73]. These are necessary to address the global problems of environmental pollution, climate change and global inequality. This reflection on global collectivism [31] is necessary in the current global crisis, not only in relation to the COVID-19 pandemic, but also for sustainable development.

This leads directly to the question of how to shape a corresponding reform and transformation policy or movement based on these normative challenges. To this end, suggestions for measures and strategies will be made in the next section to promote a

socio-ecological transformation in Germany and Europe with the aim of countering the crises of globalization in the long term.

### 3. Implications of Crises

The ecological and social crises are the most serious of the three crises mentioned above and they will not diminish in the medium term, unlike the health crises of the COVID-19 pandemic. Thus, it will continue to be necessary to persist in climate change efforts, further reduce emissions and take measures to rethink our relationship to civil society and politics. However, the social crisis is further exacerbated by the pandemic due to increasing insolvency, debt and poverty, as well as unemployment and inequality. When resuming economic activities and overcoming the health crisis, care must therefore be taken not to act at the expense of the other two crises, but rather to question the causes behind them.

In European politics in particular, it is now important to collectively choose a path that creates a stable community of values, one that is better prepared for crises, one in which we support each other during and after crises. In the long term, both fiscal policy issues such as taking on the financial burden of the COVID-19 pandemic as well as a common environmental and social policy direction must be the goal of EU policy. Europe could play an important pioneering role internationally as a model for common standards in the areas of health, welfare, environmental policy, the self-determination of self-determined citizens and environmental policy [20].

Since the future of Europe and European politics is not the primary objective of the paper, further research must start here and pose the questions to a stable community of values, especially against the background of future developments, such as the rise of right-wing movements within Europe or the turning away of individual states from the European alliance (Brexit).

Figure 4 shows the implications of the three globalization crises derived in this chapter. At the center of the figure are the three correlated crises identified and discussed in Section 2. The implications derived from them are therefore not to be considered separately either. The close links between the three crises are also noticeable in the implications. For example, a specific policy measure may have an impact on more than just one of the crises. The measures presented here should therefore not be assigned exclusively to one impact pathway but should be understood as inseparable implications from all three crises. These are explained in more detail in Sections 3.1–3.3.

#### 3.1. Reduction of Environmental Externalities

A central implication learned from COVID-19 that is arising from the neoliberal crisis of capitalism and its connection to the ecological crisis is the reduction of environmental externalities. As explained in Section 2, the problem, especially in the current economic system, is that these externalities generate welfare for those market actors who use them to maximize profits but generate harm in the form of environmental damage and rising risk for further crises for all other actors. This also increases inequality between the two groups, as the latter is not compensated for the common pool damage with corresponding profits compared to the former.

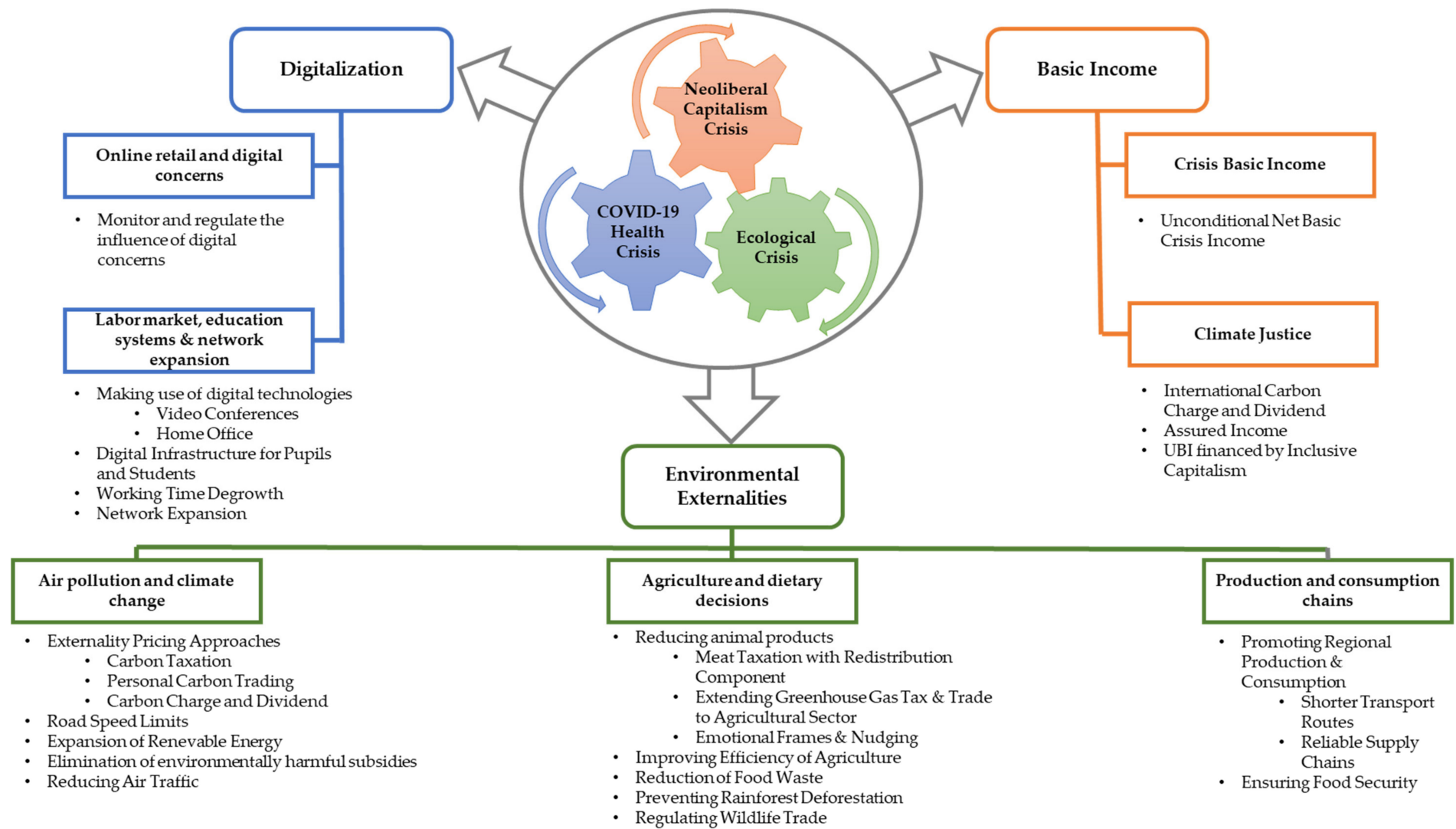


Figure 4. Implications from the three globalization crises. Own illustration.

### 3.1.1. Air Pollution and Climate Change

#### The Problem with Air Pollution and Climate Change

Air pollution is one of the greatest environmental health risks in Europe. In 2018, particulate matter pollution alone caused around 417,000 premature deaths in 41 European countries, followed by 55,000 premature deaths attributed to nitrogen dioxide exposure and 20,600 premature deaths attributed to ozone exposure. Among them, heart disease, strokes, lung disease and lung cancer are the most common causes of death [74].

In addition, both short-term and long-term exposure to polluted air can lead to diseases such as reduced lung function, infections and asthma [74], which are also associated with a severe course of the COVID-19 disease [75]. Disease progression is therefore particularly severe for people living in areas with high levels of air pollution [5,8,9].

Utilitarian researchers are asking whether state-ordered quarantine (especially in China) has saved more lives overall than the COVID-19 disease due to the rapid drop in air pollution [19,76]. This fact is not intended to be a positive assessment of the handling of the COVID-19 pandemic in this case, but it illustrates the advantages health-wise of improving air quality in many countries and thus highlights a trade-off between environmental quality and economic power that is often neglected when it comes to economic, health and social policy. However, the diseases triggered by air pollution are not only a burden on the healthcare system. Economic costs can also arise if air pollution reduces labor productivity and growth [77–79] or agricultural productivity, especially crop yields [80]. These direct and indirect economic costs would therefore also have to be considered when weighing up the trade-off between improving environmental quality, especially air quality, and weaken economic power by regulative politics.

#### Mitigating Air Pollution and Climate Change

There is therefore room for further standards to be specified and tightened up to reduce air pollution sustainably [7,81] and these standards must be accompanied by social policy instruments [15,16,28]. Globally, regulatory instruments, such as bans, maximum limits and minimum standards, which are particularly cheap to implement, are playing a significant role in environmental politics [28]. From an economic perspective, pricing approaches, such as cap-and-trade systems, are a more cost-effective means of achieving environmental goals than regulatory measures. Furthermore, compared to regulatory policies, such pricing approaches allow firms the flexibility to find their own way of reducing emissions. The quantity tax approach to solving externality problems goes back to Pigou (1920) [82]. Here, the optimal amount of tax is based on the marginal cost of the externality to be eliminated. By increasing the market price for every unit of negative externalities, whether emissions or pollution, market actors are incentivized to reduce the production and consumption of environmentally harmful goods and services. Against this background, the carbon tax introduced in many countries in the European Union could be an effective means to combat climate change [83] but must be checked for its effectiveness. Higher prices for carbon emissions would thereby provide signals to both consumers and firms about goods and services, as well as input factors that should be used sparingly, or not consumed at all, and that provide additional markets and incentives for innovations in low-carbon products and services [83]. Appropriate carbon pricing could also be part of a promotion strategy for regional production and consumption (see Section 3.1.3).

When selecting suitable measures, attention must also be paid to the possible trade-off between mitigating climate change and solving the inequality problem [11,21]. This should also occur through other approaches to reduce carbon emissions and mitigate climate change, such as personal carbon trading [49–51] or a carbon charge and dividend [52]. The concept of social justice would then serve as a guiding principle in the selection of appropriate measures and thus also promote political feasibility [53]. Appropriately designed in combination with a socio-political redistribution element, such measures could help to combat the climate change problem without doing so at the expense of low-income earners.

In theory, pricing is a successful and cost-effective means of solving externality problems. In practice, however, successful implementation often faces resistance from different groups, such as producers. However, examples such as Sweden, France and Canada have successfully implemented carbon taxes and therefore provide good examples to overcome implementation hurdles [84]. The gradual introduction and increase of the carbon tax in Sweden, for example, gave companies and households time to adapt and thus ensured a high political acceptance of the tax [84]. Moreover, the lesson to be learned from the introduction of the carbon tax in Sweden is that it has been a component of a broader tax reform and thus has been seen as part of the solution rather than a problem [84]. Tax increases on energy sources were introduced in combination with reductions in other taxes in order to avoid increases in the general tax level as well as undesirable distributional consequences and to promote employment growth [84].

A similar approach can be considered for the implementation of broader externalities taxes. If these are introduced in a comprehensive scheme and other taxes are reduced or eliminated by them, a general increase in the tax level can be avoided. One idea would be to reduce the taxation of wage labor in return for the taxation of externalities. This way, firms and consumers would not be worse off on average due to countervailing effects and would be more likely to accept the reform. Even if the successive increase in the Swedish example is associated with a time lag, such an approach can be effective in the long run to achieve climate protection goals in combination with other climate policy measures [84]. When selecting suitable measures, attention must also be paid to the possible trade-off between mitigating climate change and solving the inequality problem [15,30]. This should also occur through other approaches to reduce carbon emissions and mitigate climate change, such as personal carbon trading [85–87] or a carbon charge and dividend [88]. The concept of social justice would then serve as a guiding principle in the selection of appropriate measures and thus also promote political feasibility [89]. Appropriately designed in combination with a socio-political redistribution element, such measures could help to combat the climate change problem without doing so at the expense of low-income earners. A clear and transparent reinvestment of tax revenues also leads to greater acceptance of tax increases of this kind on the part of the population [84,90].

Further measures, such as the introduction of road speed limits or the expansion of renewable energy sources, can also help to combat climate change [15]. Likewise, environmentally harmful subsidies in Germany and the European Union should be urgently reviewed and abolished. These are numerous in the energy and transport sectors, in housing and construction, as well as in the agricultural sector. In Germany, they include direct and indirect subsidies, amounting to 57 billion euros annually [30,91,92]. Reducing air traffic would also make a significant contribution to reducing climate change.

### 3.1.2. Agriculture and Dietary Decisions

Industrial agriculture poses a particular problem in terms of environmental impacts and the emergence of pandemics. As already briefly mentioned in Section 2, the capitalist-driven destruction of the rainforest is one of the main problems for climate change and equally the point of origin for zoonotic viruses such as the coronavirus. The high consumption of animal products worldwide also leads to high environmental impacts.

#### The Problem with Agriculture and Dietary Decisions

A change in nutritional behavior with a lower proportion of animal products can also significantly reduce emissions as well as other external costs [15,81,93–97].

In terms of environmental impact, livestock is one of the biggest polluters in food production. While the entire food system accounts for 30% of anthropogenic emissions, more than half (16.5%) come from livestock [93]. Not only the emission of greenhouse gases, but also the consumption of fresh water, energy, land area, habitat degradation, loss of biodiversity as well as the generation of waste occur at the expense of the environment [28,93,98,99]. Thus, the external costs of a meat-based diet together with the additional consumption of



dairy products are much higher than those of a purely plant-based diet, or a diet with a reduced share of meat and dairy products [15,96,100–105]. When the hidden costs of food production on the environment and our health are included in the equation, food is twice as expensive on average [28,100,106,107]. An increase in welfare combined with low market prices also contributes significantly to food waste [93,97,108]. It is not surprising that changing eating habits by cutting down on meat consumption has the greatest potential for reducing environmental externalities [95].

In addition to its environmental impact, high consumption of animal products also threatens global food security [53,109]. While approximately 70% of agricultural land is used to produce feed for livestock, a plant-based diet requires only a fraction of this amount [110]. Apart from problematic land-use, the illegal deforestation in the Amazon for cattle farms and soya is a serious problem for climate change [111].

The steady loss of tropical forests and the growing wildlife trade provide an ever-closer link between humans and wildlife. This link increases the likelihood of the global spread of zoonotic diseases, such as COVID-19 [67,112]. Investment in preventing rainforest deforestation and regulating wildlife trade is currently relatively low globally, although prevention of the emergence of zoonotic diseases such as COVID-19 may be more cost-effective than the ultimate economic and social costs incurred in combating pandemics [112]. Thus, there is a need to support projects that counteract rainforest deforestation, as well as increased regulation of the wildlife trade [112]. Dobson et al. [112] estimate the present value of prevention costs for a 10-year period to be only about 2% of the current cost of the COVID-19 pandemic, motivating a global strategy to reduce the risk of pandemics [112].

Factory farming has also been criticized for favoring the emergence of pandemics [15,35,53,67,93,112,113]. Spillover from livestock is not new, as livestock are an important reservoir and link in emerging diseases. For example, both H5N1 influenza (via wild birds and poultry) and H1N1 influenza (via bats and pigs) are linked to livestock production [112]. Emerging infectious diseases, such as COVID-19, are a growing threat to global health as well as to the economy and global food security [113]. Originating from animals, the proliferation of diseases is driven by economic development and land use as well as agricultural practices and intensive farming, which go ahead relentlessly with deforestation, environmental exploitation and degradation [53]. Thus, reducing the amount of meat and dairy products while switching to meat-alternatives, cultured meat and more plant-based agriculture have the potential to reduce the risk of pandemics in the future too [15,35,88,93,113].

In terms of health impacts as a result of introducing a diet with a lower share of animal products, there would be a direct reduction in nutritional risks, such as cardiovascular diseases and obesity [113,114], so that an additional benefit would be taking pressure off the health system [115].

### Mitigating Externalities from Agriculture and Dietary Decisions

This could revive the discussion on the taxation of animal products, for example by extending the carbon and greenhouse gas tax to the agricultural sector [28] or by raising a quantity tax [94] or an animal levy [116,117]. The important point here is that reducing the environmental impact of dietary habits, which goes along with higher prices and lower yields, does not increase social inequality [28] nor lead to food insecurity [93]. Pricing approaches with a complementary redistribution component [94,116,117] could help use fiscal instruments to promote more sustainable eating behavior in a socially acceptable manner. Such policies could, for example, cover subsidies for healthy and sustainable food alternatives [118], social safety nets for vulnerable households [93] and even basic income (Section 3.3.2).

Reducing the consumption of animal products is an important element of an effective climate protection strategy, but meat consumption is highly habitual and therefore difficult to change [119]. Nevertheless, current developments show that a change in awareness is increasingly taking place, e.g., in Germany. Here, the production of vegan and vegetarian

meat substitutes increased by 37% in the first quarter of 2020 compared to 2019 [120]. Likewise, the proportion of vegetarians (from 5 to 10%) and vegans (from 1 to 2%) doubled in Germany in 2021 compared to 2020 [121]. An appropriate pricing policy that supports these existing trends can therefore contribute to a faster change in consumer behavior. In general, emotional frames [122] and suitable nudging strategies [123,124] can help to facilitate the transition to a meat-reduced diet. A suitable communication strategy for raising awareness and creating impulses for action, which is directed at the consumer, would be a possible approach to reducing meat consumption and thus livestock farming [122].

In addition to an absolute reduction in the amount of meat in the diet, the efficiency of animal husbandry, as well as the agricultural sector in general, can also be improved by promoting regional production and consumption [81], shorter transport routes and the reduction of waste [95].

### 3.1.3. Production and Consumption Chains

The promotion of regional production and consumption plays a central role in reducing externalities. This applies not only to the reduction of emissions but also by shortening the delivery routes and reducing the storage and cooling times of goods. The pandemic has taught us that in times of border closings and economic lockdowns, entire supply chains can break down. As a result, essential goods, such as medication and suitable protective clothing for nursing staff in the health crisis, may no longer be available [17,36,37], or basic foodstuffs may be undersupplied [53]. While widespread globalized production is often cheaper and more efficient, it carries the higher risk that essential goods will no longer be available in times of crisis.

COVID-19 is also teaching us how to deal with the problem of global food security during pandemics [113]. Health policies have led to a decline in agricultural and food flow [113], especially in developing countries, resulting in decreasing food supplies, rising unemployment and decreasing household incomes [53]. This affects countries on the African continent as well as developed countries in the European Union [125]. Thus, some east European countries, including Russia, have introduced restrictive export measures for food in order to prevent domestic food shortages [126–128]. Food-importing countries with vulnerable food systems would therefore benefit from the promotion of regional production to secure national demand [53]. A cost-effective assessment of essential goods and services must therefore be made to investigate whether regional provision would be possible and meaningful [37].

## 3.2. Digitalization and Worldwide Networking

### 3.2.1. Online Retail and Digital Concerns

Digital systems have taken on a new significance during the COVID-19 pandemic. They allow information to be generated and disseminated quickly and ensure interpersonal communication in times of social distancing. E-commerce, or online retail, which was already a rapidly growing market segment before COVID-19, has become increasingly important during the pandemic. While real sales of department stores declined by 42.1% in the period from 1999 to 2019, sales in online retail goods grew by 120.3% [129]. Boosted by lockdowns and social distancing rules, it is not surprising that online retailers are seen as the economic winners in the pandemic. In addition to the larger product line at lower prices, the convenience of online purchasing and home delivery, and the associated time saving [130], the possibilities of contactless shopping and independence of location-based opening hours have been significant drivers of the success of online retail during the pandemic. In December 2020, this saw a 31% increase in real sales compared to the same month the year before [131]. It is assumed that online retail will continue to grow in the future and that cannibalization effects between digital and stationary retail will further increase [130]. A special role is played by the online retailer Amazon, which, according to IFH Köln (2019) [132], accounts for 31% of all retail sales in non-food trade in Germany. In contrast to its competitor eBay, which acts purely as a platform provider, Amazon has

taken on a hybrid role and acts both as a provider of the platform and as a retailer on the market [130]. Amazon generated 48% of total online sales in 2019 [133]. The restrictions on the economic power of online corporations, such as Amazon, Facebook and Google, range from control and regulation to the breaking up of monopoly positions [30]. Legally, however, no monopoly position in the current economic business of these corporations could be proven at the EU level [134]. In addition to the economic power that these corporations possess, comes the fact that their social influence is considerable. Their numerous coordinated products and services put them in a position to shape and influence essential social contexts in the network, such as consumer behavior, information and communication, as well as relationships [134]. This influence and its regulation have thus become central factors on the path to sustainable development.

### 3.2.2. Labor Market, Education Systems and Network Expansion

Digital opportunities have proven to be particularly useful in the areas of both the labor market and the education system in times of crises [73,135,136]. Companies have realized that most business trips across the globe can be managed via video conference. The use of video conferences has also proven to be suitable for politicians when holding urgent crisis meetings. Many employees have successfully carried out their work in a home office without detriment to the company from indolent employees who have to be controlled. Additionally, pupils and students can access learning content at any time, from anywhere in the world, through asynchronous learning, digital teaching models and digital classrooms. All this was not made possible by the crisis, but the crisis has shown through the pressure to change that the long-standing skepticism towards adapting the technical possibilities was unfounded. Digital opportunities could therefore be used to promote a future with less mobility, for example, through reduced car or air travel [15].

While many areas of professional life have shown that a larger proportion of home offices and the abandonment of business trips and face-to-face meetings is possible and reasonable [136,137], the hurdles of home schooling, such as the lack of personal contact, have been demonstrated in the educational sector [138,139].

Switching to digital solutions not only facilitates the rapid containment of disease in health policy crises but also has an ecological and socio-political impact. Avoiding air travel and commuting by increasing home office days or reducing office space obviously all have an impact on global emissions and resource consumption and can therefore lead to significant improvements in environmental quality [136]. However, the ability to adopt digitalized alternatives is different across socio-economic and socio-demographic groups. In terms of social effects, the situation in the education sector has also revealed that there are significant grievances when it comes to equipping pupils and students with the necessary technical means or guaranteeing the necessary parental support. Many of the latter are unable to take advantage of learning opportunities, such as digital instruction, at home. Low-income households in particular lack the technical possibilities and know-how to support their children optimally in home schooling [140–142]. Some groups even see home schooling as a threat that entails increasing inequality and injustice in the educational sector. Clearly, large investments in the public education sector are needed to provide school children from poorer households with the technological opportunities that they in particular currently lack. The present crisis demonstrates that sociopolitical transformation is imperative in the face of worsening social inequality and educational injustice.

Increasing digitization also goes hand in hand with productivity gains that can further drive growth and thus produce more goods in less time. It is therefore necessary, in the interests of sustainable development, to think beyond increasing growth to alternative economic policy goals. For example, gains from higher productivity could be transferred into a reduction in working hours so as to increase well-being [30,143]. Such working time degrowth could be an important element in turning away from the growth imperative. The reduction of weekly working time due to productivity gains could thereby decouple income generation from health-related work stress and the compulsion towards consumption [143].

One important element of digitization is network expansion, particularly in Germany, where it is becoming increasingly clear that we have failed to expand digital networks for too long [144,145]. Remote regions still have extremely weak internet connections than can render home office or home schooling tedious or impossible as connections break down regularly due to the high demands of streaming portals and video conferences. Clearly, Germany lags behind internationally by comparison. These improvements include the necessary advancement of network expansion; only this can meet the requirements of digitization in order to realize the ecologically valuable opportunities of video conferences, home offices and decentralized work.

Despite the potential opportunities of digital systems, this process should be critically monitored and constantly reassessed. There will be questions about the psychological impact of digital systems in and after the pandemic, in addition to questions about inequality, which primarily affects poorer countries and households. Children, in particular, have been severely damaged in their welfare due to the restrictions on social contact in the pandemic [146]. The health effects from the abrupt transition into digital learning and the massive restriction from the social environment and familiar routines led in part to anxiety, depression, and decreased quality of life in children and adolescents, as well as an increase in domestic violence [147]. Therefore, when discussing the future implementation and retention of digital solutions, special attention should be paid to the possible psychosocial effects on both children and adults.

### 3.3. (Universal) Basic Income

The extreme social consequences of the economic lockdown in the COVID-19 pandemic have led to a massive increase in social inequality. In Germany, for example, many workers have had to switch to short-time work. While smaller companies in particular are facing bankruptcy, mini-jobbers are losing their livelihood. They fear the marked increase in personal bankruptcies, especially due to rent and loan obligations, where the state has to pay billions in aid packages [10] to step in but still fails to help enough. Even worse is the economic situation for people in countries where there is limited social security. In Italy, groceries have been looted as the population fails to earn enough to get by [148]. Labor market policy, in particular, plays a decisive role in reducing inequality, especially at the national level. However, it is not only during crises that increasing automation and digitalization, combined with rising productivity lead to more precarious working conditions and thus to a growing need for taking steps that would guarantee better distribution of productivity gains and income security for all [30]. Universal basic income could be such an approach.

The discussion around a universal basic income is thus becoming more forceful as it puts forward a possible solution to the inequality problem, especially now, in a time of crisis [17,149–151]. This has been demonstrated, for example, by the introduction, from June 2020, of a variant of basic income for the poorest in Spain in response to the social effects of the COVID-19 pandemic measures [152].

#### 3.3.1. Universal Basic Income as Part of Crises Policy

Let us consider such a universal basic income as “an income paid by a political community to all its members on an individual basis, without a means test or the requirement to work” [153] (p. 8). Moreover, this unconditional income is “paid in cash, rather than in kind” [153] (p. 8) and “paid on a regular basis, rather than as a one-off endowment” [153] (p. 9). The beneficiaries of basic income could be citizens of a particular country or of the European Union (at this point, however, we do not want to deal in detail with the conceptual design of a universal basic income).

Below, we take a closer look at the approach of a net (crisis) basic income as put to the German Bundestag in petition 108191 (2020) [150]. Regardless of whether you are a supporter or opponent of a basic income, you should think through the functionality of

such a construct in a crisis such as the one we are now in and consider its introduction beyond the scope of the crisis as a potential partial replacement for traditional social policy.

The aforementioned net basic crisis income is composed of two elements. The first is the payment of an unconditional basic income during the crisis. The amount of such a crisis basic income would have to be chosen in such a way as to maintain the minimum standard of living of the individual person. Let us start with the supply of food and essential goods. The amount of the monthly payment per person could be determined on the basis of the average consumer spending by private households. A one-person household in Germany spent an average of €1706 per month on private consumption [154]. In order to assess a minimum living standard, all consumption expenditure that is not absolutely necessary in the crisis could be excluded. If the minimum monetary need were limited to food, clothing, housing, health and mobility, the amount would be reduced to €1213 for a single person. The average cost of living and energy would thereby be €662 [154]. These sums would decrease proportionally in multi-person households. In addition to basic monetary needs, payments such as rent, interest on loans and other repayment obligations and liabilities are problematic. When people lose their jobs due to the crisis or have less money available due to short-time work, they will soon run into financial difficulties as ongoing expenses still have to be paid, although earnings have dropped significantly. The same applies to companies and freelancers who have to close down their business as a result of the crisis or who suffer severe losses due to declining consumer activity.

The second element of this approach relates to the temporary suspension of financial obligations such as rent payments, loan servicing and payment of bills, such as wage payments and payment for goods and services from before the crisis began (see, for example, Kaas [155] with a similar proposal). In this case, these obligations will be officially suspended for everyone affected by a cut in income during the crisis period. Unlike wage income, which is significantly reduced, or completely suspended by the lockdown during the crisis, capital income remains largely unaffected. This leads to an asymmetric distribution of crisis-induced risk and thus to an asymmetric distribution of burdens in the crisis between performance-related and non-performance-related income, as is the case with interest, principal, lease and rent payments. All this increases inequality between income earners. By suspending these payments, the asymmetry in the treatment of income in the context of crisis management measures is counteracted, thus creating equality between different types of income earners. Nevertheless, everyone is paid a corresponding net basic income (the gross basic income includes the payment obligations mentioned. The net basic income is the amount upon suspension of interest payments for renting, leasing, lending, etc.) to cover consumer spending on essential needs. By suspending the financial obligations, this amount could be reduced by the average expenditure on rental payments and would therefore still be €551 for a one-person household, with half the amount for children.

Businesses, landlords, credit institutions and all those who have lost out on their income from rent will be compensated for their losses. Ultimately, this means that those whose economic activity is hampered by the crisis and therefore no longer have an income will be compensated. With a basic income approach that is designed appropriately, their standard of living and benefits will not decrease during the crisis. At the same time, government crisis loan assistance to pay current rent and loan obligations would be stopped. Such a net basic income would counter the asymmetric treatment of the standard crisis programs since it considers the need to be able to pay rent and loans. The net basic income has the advantage of making the most of a crisis that confronts us with many uncertainties and constantly emerging social and economic policy challenges (unforeseen and (un)deliberately covered events (e.g., because they are not classified as necessary to save the budget since the group concerned is politically uninteresting) which do not allow target accuracy are adequately covered by the basic net income as an ex post governance rule).

This solution may prove to be more fiscally advantageous than ongoing government aid measures that are designed to maintain regular payment obligations [156]. By means



of a suitable source of finance, for example, through VAT financing in combination with an environmental tax dividend (climate premium) or a wealth tax, such a basic income can emerge as crisis-proof. The suspension of current financial obligations is normatively justified by the maintenance of a basic income. In the long term, the mechanism could be used flexibly as an unbureaucratic instrument in times of crisis that can ensure that citizens are provided with income without delay, and without prior or subsequent needs tests.

After the crisis, the basic income mechanism could be extended in the direction of increasing economic power, for example, as a socially acceptable share of GDP (as a common good) towards a participatory gross basic income and then pared back to net basic income in the subsequent crisis. To a certain extent, this basic income concept would be an automatic crisis and prosperity mechanism, unlike the traditional transfer system, which tends to be overregulated and presumptuous and only seems to be appropriate for individual cases. At the European level, a basic income provided by the European community (a solidarity income) could be a suitable instrument for securing minimum needs across the EU or the euro area in order to help citizens and companies quickly and effectively in times of crisis, securing the EU or the euro area as an advantageous structure for all citizens. In this case, the so-called Euro-Dividend could then be topped up and supplemented by national systems [157,158].

### 3.3.2. Universal Basic Income and Sustainability

Depending on how it is financed, a basic income approach can have significant redistributive effects [15,49], even though it does not differentiate between recipients according to their needs or financial situation. While the problems of inequality, environmental degradation and globalization cannot be considered separately (see Section 2), many researchers in the field of UBI ignore the ecological component. However, a holistic sustainable development could and should be socially and environmentally sustainable. If a UBI were not introduced with ecological effects in mind, this could also exacerbate ecological problems by increasing aggregate demand, having negative, ecological side effects [49]. One possible approach in which environmental components could be considered would be that of inclusive capitalism to providing a UBI [49]. Unlike fundamentally redistributive approaches, inclusive capitalism endows citizens with direct capital ownership and incentivizes investment in sustainable goods and services.

One approach that could also contribute in this direction, even if it finances the UBI through classical redistribution channels, would be the assured income [159]. A broad approach of possible funding sources can have a strong progressive effect. This would mainly concern the taxation of consumption (VAT), taxes on unearned income, as well as an externality tax (carbon tax) [49,159]. A universal basic income, financed on the basis of an extended carbon tax, would thereby also contribute to climate justice by providing equity. Equity is a central concept of climate justice since it assumes that each person across the globe has the same right to the environmental space [89]. If everyone receives the same amount of basic income, regardless of need or other income, each citizen would have the same share of the profits from pollution caused by emissions. At the same time, consumers would be taxed according to the environmental burdens they produce. The revenues from carbon taxation could thus contribute to a redistribution from large emitters to small emitters and, by distributing the basic income equally to everyone, to more equity. One proposal that argues in this direction is the idea of an international carbon charge and dividend [88], though it differs from the simple taxing and redistribution concept. In principle, the revenues from targeted environmental taxation can be used to subsidize rising product costs [20] in the form of an unconditional basic income, thus promoting a socially acceptable ecological change in production and consumption, for example, to promote more regionality in consumption patterns.

#### 4. Conclusions

Capitalist-driven economic growth in the wake of globalization has led to increasing networking among the world's population. This strong connectivity has, however, not only brought advantages but has also led to an increase in inequality and injustice. This downside affects the environmental conditions in which people have to live, their social standards and distribution of opportunities, their wealth and income as well as their working hours and leisure options. The COVID-19 pandemic reminds us that, for years, we have failed to tackle the environmental and social policy crises conceptually and effectively, nor have we managed to combat them with an integrated approach that also addresses the roots of the problem.

This contribution identifies three important areas in the discussion about possible implications for the resumption of economic activity and for sustainable economic development:

1. Environmental Externalities
2. Digitization
3. Basic Income.

Mainly derived from the ecological crisis, the implication is for far-reaching externalities management. To be sure, measures have been taken in this area in the past. However, they are often not far-reaching enough to achieve significant effects that effectively counteract climate change. The central problem here is neoliberal economic policy, which for decades has neglected necessary regulation in the area of the environment. Three major areas need to be addressed. First, an improvement in air quality must be promoted through appropriate measures, such as the adjustment of the carbon tax to an effective level. Second, the area of agriculture needs to be addressed with regard to the massive consumption of animal products and the destruction of the rainforest. Third, the promotion of regional production and consumption to reduce environmental impacts and ensure food security must be included.

Digitalization allows for new possibilities, such as the elimination of business trips, use of home offices and the flexibility of the labor market in terms of working time and degrowth in general. Here, too, there is considerable need for investment in the expansion of networks and the necessary infrastructure. Digital change, especially from a socio-political perspective, should neither help to exclude nor discriminate against other social groups. Instead, investments in education and the flexibility of work models should enable the compatibility of digital opportunities with real work and education structures. Important and central to this is also the need for market regulation, especially since comparatively little regulation has yet taken place in the area of digital platforms.

In times of crisis, and beyond, basic income is a necessary instrument to ensure that crises are dealt with quickly and effectively. In this article, we have outlined the essentials of a universal crisis basic income, the conceptualization of which requires further research.

Above all, this has to focus on the effects of unconditionality compared to the needs test. Furthermore, the imposition of conditions and sanctioning, as well as the traditional policy maxims behind it and their effects on the economy should be investigated. In times of crisis, the proposal made here has a good chance of paying off with or without relatively low tax credit when compared to standard crisis policy measures. However, the implementation of a concept that aims to go beyond the crisis should include compatibility with, or replacement of, other social benefits and discuss a long-term financing concept.

**Author Contributions:** Conceptualization, B.B. and B.K.J.N.; investigation, B.B.; writing—original draft preparation, B.B.; writing—review and editing, B.B., B.K.J.N.; visualization, B.B.; revisions, B.B., B.K.J.N. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Used data sets in Section 2 are available at [24–26]. The KOF Globalization Index is calculated according to Gygli et al. [24] and can be downloaded from <https://kof.ethz.ch/prognosen-indikatoren/indikatoren/kof-globalisierungsindex.html> (accessed on 1 June 2021). The World Inequality Database is available at <https://wid.world/data/> (accessed on 1 June 2021). The Ecological Footprint dataset can be downloaded from [https://data.footprintnetwork.org/?\\_ga=2.92258394.150445507.1622361208-1982150786.1622361208#](https://data.footprintnetwork.org/?_ga=2.92258394.150445507.1622361208-1982150786.1622361208#/) (accessed on 1 June 2021).

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. WHO. Pneumonia of Unknown Cause—China. 5 January 2020. Available online: <https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/> (accessed on 2 April 2020).
2. WHO. WHO Director-General’s Opening Remarks at the Media Briefing on COVID-19. 11 March 2020. Available online: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020> (accessed on 20 April 2020).
3. WHO. SARS-CoV-2 Variants. 31 December 2020. Available online: <https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/> (accessed on 27 April 2020).
4. Anjum, N.A. Good in the Worst: COVID-19 Restrictions and Ease in Global Air Pollution. *Preprints* **2020**, 1–16. [CrossRef]
5. Conticini, E.; Frediani, B.; Caro, D. Can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy? *Environ. Pollut.* **2020**, *261*, 114465. [CrossRef] [PubMed]
6. EPHA. Coronavirus Threat Greater for Polluted Cities. 16 March 2020. Available online: <https://epha.org/coronavirus-threat-greater-for-polluted-cities/> (accessed on 27 April 2020).
7. He, G.; Pan, Y.; Tanaka, T. The short-term impacts of COVID-19 lockdown on urban air pollution in China. *Nat. Sustain.* **2020**, *3*, 1005–1011. [CrossRef]
8. Pansini, R.; Fornacca, D. COVID-19 Higher Mortality in Chinese Regions with Chronic Exposure to Lower Air Quality. *Front. Public Health* **2021**, *8*, 597753. [CrossRef]
9. Wu, X.; Nethery, R.C.; Sabath, M.B.; Braun, D.; Dominici, F. Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. *Sci. Adv.* **2020**, *6*, eabd4049. [CrossRef]
10. BMF. Kampf Gegen Corona: Größtes Hilfspaket in der Geschichte Deutschlands. 23 April 2020. Available online: <https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Corona-Schutzschild/2020-03-13-Milliarden-Schutzschild-fuer-Deutschland.html> (accessed on 27 April 2020).
11. Biden, J.R. *National Strategy for the COVID-19 Response and Pandemic Preparedness*; The White House: Washington, DC, USA, 2021.
12. Maxmen, A.; Subbaraman, N. Biden’s ambitious COVID plan: What scientists think. *Nature* **2021**, *590*, 18–19. [CrossRef]
13. Barro, R.J.; Urúsa, J.F.; Weng, J. *The coronavirus and the Great Influenza Pandemic: Lessons from the “Spanish Flu” for the Coronavirus’s Potential Effects on Mortality and Economic Activity*; Working Paper 26866; National Bureau of Economic Research, Inc.: Cambridge, MA, USA, 2020. [CrossRef]
14. Sharma, A.; Gosh, D.; Divekar, N.; Gore, M.; Gochhait, S.; Shireshi, S.S. Comparing the socio-economic implications of the 1918 Spanish flu and the COVID-19 pandemic in India: A systematic review of literature. *Int. Soc. Sci. J.* **2021**, 1–14. [CrossRef]
15. Moriarty, P.; Honnery, D. New Approaches for Ecological and Social Sustainability in a Post-Pandemic World. *World* **2020**, *1*, 191–204. [CrossRef]
16. Bergman, M.M. The World after COVID. *World* **2020**, *1*, 45–48. [CrossRef]
17. Kish, K.; Zywert, K.; Hensher, M.; Davy, B.J.; Quilley, S. Socioecological System Transformation: Lessons from COVID-19. *World* **2021**, *1*, 15–31. [CrossRef]
18. Corlett, R.T.; Primack, R.B.; Devictor, V.; Maas, B.; Goswami, V.R.; Bates, A.E.; Koh, L.P.; Regan, T.J.; Loyola, R.; Pakeman, R.J.; et al. Impacts of the coronavirus pandemic on biodiversity conservation. *Biol. Conserv.* **2020**, *246*, 108571. [CrossRef]
19. Dutheil, F.; Baker, J.S.; Navel, V. COVID-19 as a factor influencing air pollution? *Environ. Pollut.* **2020**, *263*, 114466. [CrossRef]
20. Lucchese, M.; Pianta, M. The Coming Coronavirus Crisis: What Can We Learn? *Intereconomics* **2020**, *55*, 98–104. [CrossRef]
21. Vaughan, A. Environmental effects. *New Sci.* **2020**, *245*, 10–11. [CrossRef]
22. Wendling, Z.A.; Emerson, J.W.; de Sherbinin, A.; Etsy, D.C. *Environmental Performance Index 2020*; Yale Center for Environmental Law and Policy: New Haven, CT, USA, 2020; pp. 1–220. [CrossRef]
23. Gills, B. Deep Restoration: From the Great Implosion to The Great Awakening. *Globalizations* **2020**, *17*, 577–579. [CrossRef]
24. Gygli, S.; Haelg, F.; Potrafke, N.; Sturm, J.-E. The KOF Globalisation Index—Revisited. *Rev. Int. Organ.* **2019**, *14*, 543–574. [CrossRef]
25. World Inequality Database. The World Inequality Lab. Available online: <https://wid.world/data/> (accessed on 29 May 2021).
26. York University Ecological Footprint Initiative; Global Footprint Network. National Footprint and Biocapacity Accounts. 2021. Available online: [https://data.footprintnetwork.org/?\\_ga=2.92258394.150445507.1622361208-1982150786.1622361208#](https://data.footprintnetwork.org/?_ga=2.92258394.150445507.1622361208-1982150786.1622361208#/) (accessed on 29 May 2021).
27. Brock, W.A.; Taylor, M.S. Economic Growth and the Environment: A Review of Theory and Empirics. *Handb. Econ. Growth* **2005**, *1*, 1749–1821. [CrossRef]
28. Fitzpatrick, J.J. Target Ecological Limits and Not Economic Growth. *World* **2020**, *1*, 135–148. [CrossRef]

29. Meadows, D.H.; Meadows, D.L.; Randers, J.; Behrens, W.W., III. *The Limits to Growth. A Report for the Club of Rome's Project on the Predicament of Mankind*; Universe Books: New York, NY, USA, 1972; ISBN 087-663-165-0.
30. OECD. *Beyond Growth: Towards a New Economic Approach, New Approaches to Economic Challenges*; OECD Publishing: Paris, France, 2020. [\[CrossRef\]](#)
31. Burkle, F.M. Political Intrusions into the International Health Regulations Treaty and Its Impact on Management of Rapidly Emerging Zoonotic Pandemics: What History Tells Us. *PDM* **2020**, *35*, 426–430. [\[CrossRef\]](#) [\[PubMed\]](#)
32. Qiu, J. One world, one health: Combating infectious diseases in the age of globalization. *Natl. Sci. Rev.* **2017**, *4*, 493–499. [\[CrossRef\]](#)
33. McMichael, A.J.; Bolin, B.; Costanza, R.; Daily, G.C.; Folke, C.; Lindahl-Kiessling, K.; Lindgren, E.; Niklasson, B. Globalization and the Sustainability of Human Health: An ecological perspective. *BioScience* **1999**, *49*, 205–210. [\[CrossRef\]](#)
34. Watson, R.T.; McMichael, A.J. Global Climate Change the Latest Assessment: Does Global Warming Warrant a Health Warning? *GCHH* **2001**, *2*, 64–75. [\[CrossRef\]](#)
35. Wiebers, D.O.; Feigin, V.L. What the COVID-19 Crisis Is Telling Humanity. *Neuroepidemiology* **2020**, *54*, 283–286. [\[CrossRef\]](#) [\[PubMed\]](#)
36. Karabag, S.F. An Unprecedented Global Crisis! The Global, Regional, National, Political, Economic and Commercial Impact of the Coronavirus Pandemic. *JAEBR* **2020**, *10*, 1–6.
37. Yacoub, A.R.; El-Zomor, M. Would COVID-19 Be the Turning Point in History for the Globalization Era? The Short-Term and Long-Term Impact of COVID-19 on Globalization. *SSRN* **2020**, 1–14. [\[CrossRef\]](#)
38. Zinkina, J.; Korotayev, A.; Andreev, A.I. Measuring globalization: Existing methods and their implications for teaching Global Studies and forecasting. *CWIS* **2013**, *30*, 321–339. [\[CrossRef\]](#)
39. Dreher, A. Does Globalization Affect Growth? Evidence from a new Index of Globalization. *Appl. Econ.* **2006**, *38*, 1091–1110. [\[CrossRef\]](#)
40. Wackernagel, M.; Lin, D.; Evans, M.; Hanscom, L.; Raven, P. Defying the Footprint Oracle: Implications of Country Resource Trends. *Sustainability* **2019**, *11*, 2164. [\[CrossRef\]](#)
41. Borucke, M.; Moore, D.; Carnston, G.; Garcey, K.; Iha, K.; Larson, J.; Lazarus, E.; Morales, J.C.; Wackernagel, M.; Galli, A. Accounting for demand and supply of the biosphere's regenerative capacity: The National Footprint Accounts' underlying methodology and framework. *Ecol. Indic.* **2013**, *24*, 518–533. [\[CrossRef\]](#)
42. Lin, D.; Hanscom, L.; Murthy, A.; Galli, A.; Evans, M.; Neill, E.; Mancini, M.S.; Medouar, F.-Z.; Huang, S.; Wackernagel, M. Ecological Footprint Accounting for Countries: Updates and Results of the National Footprint Accounts, 2012–2018. *Resources* **2018**, *7*, 58. [\[CrossRef\]](#)
43. Ravallion, M. Inequality and Globalization: A Review Essay. *J. Econ. Lit.* **2018**, *56*, 620–642. [\[CrossRef\]](#)
44. Kanbur, R. Chapter 20—Globalization and Inequality. In *Handbook of Income Distribution*; Atkinson, A.B., Bourguignon, F., Eds.; Elsevier: Amsterdam, The Netherlands, 2015; Volume 2, pp. 1845–1881, ISBN 9780444594303. [\[CrossRef\]](#)
45. Krugman, P.; Venables, A.J. Globalization and the Inequality of Nations. *Q. J. Econ.* **1995**, *110*, 857–888. [\[CrossRef\]](#)
46. Wan, G.; Lu, M.; Chen, Z. Globalization and regional Income Inequality: Empirical Evidence from within China. *Rev. Income Wealth* **2007**, *53*, 35–59. [\[CrossRef\]](#)
47. Dorn, F.; Feust, C.; Potrafke, N. Globalization and Income Inequality Revisited. CESifo Working Paper Series No. 6859. 2018. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3143398](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3143398) (accessed on 1 June 2021).
48. Jaumotte, F.; Lall, S.; Papageorgiou, C. Rising Income Inequality: Technology, or Trade and Financial Globalization? *IMF Econ. Rev.* **2013**, 271–309. [\[CrossRef\]](#)
49. Hall, P.R.; Ashford, R.; Ashford, N.A.; Arango-Quiroga, J. Universal Basic Income and Inclusive Capitalism: Consequences for Sustainability. *Sustainability* **2019**, *11*, 4481. [\[CrossRef\]](#)
50. Gamage, S. Globalization, Neoliberal Reforms and Inequality: A Review of Conceptual Tools, Competing Discourses, Responses, and Alternatives. *J. Dev. Soc.* **2015**, *31*. [\[CrossRef\]](#)
51. Dreher, A.; Gaston, N. Has Globalization Increased Inequality? *Rev. Int. Econ.* **2008**, *16*, 516–536. [\[CrossRef\]](#)
52. Farris, F.A. the Gini Index and Measures of Inequality. *Am. Math. Mon.* **2010**, *117*, 851–864. [\[CrossRef\]](#)
53. Lugo-Morin, D.R. Global Food Security in a Pandemic: The Case of the New Coronavirus (COVID-19). *World* **2020**, *1*, 171–190. [\[CrossRef\]](#)
54. Lee, K. Globalisation: What is it and how does it affect health? *Med. J. Aust.* **2004**, *180*, 156–158. [\[CrossRef\]](#)
55. Chan, E.H.; Brewer, T.F.; Madoff, L.C.; Pollack, M.P.; Sonricker, A.L.; Keller, M.; Freifeld, C.C.; Blench, M.; Mawudeku, A.; Brownstein, J.S. Global capacity for emerging infectious disease detection. *Proc. Natl. Acad. Sci. USA* **2010**, *105*, 21701–21706. [\[CrossRef\]](#) [\[PubMed\]](#)
56. Syed, Q.; Sopwith, W.; Regan, M.; Bellis, M.A. Behind the mask. Journey through an epidemic: Some observations of contrasting public health responses to SARS. *JECH* **2003**, *57*, 855–856. [\[CrossRef\]](#)
57. Fine, B.; Saad-Filho, A. Thirteen Things You Need to Know about Neoliberalism. *Crit. Sociol.* **2017**, *43*, 685–706. [\[CrossRef\]](#)
58. Phelan, S.; Dawes, S. Liberalism and Neoliberalism. *Communication* **2018**. [\[CrossRef\]](#)
59. Warf, B. The Coronavirus Pandemic and American Neoliberalism. *Geogr. Rev.* **2021**, 1–14. [\[CrossRef\]](#)
60. Navarro, V. The Consequences of Neoliberalism in the Current Pandemic. *Int. J. Health Serv.* **2020**, *50*, 271–275. [\[CrossRef\]](#)
61. Šumonja, M. Neoliberalism is not dead—On political implicatios of Covid-19. *Captial Class* **2020**, 1–13. [\[CrossRef\]](#)



62. ECB. ECB Announces €750 Billion Pandemic Emergency Purchase Programme (PEPP). 18 March 2020. Available online: [https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318\\_1~{}3949d6f266.en.html](https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~{}3949d6f266.en.html) (accessed on 20 April 2020).
63. OECD. *OECD Interim Economic Assessment, Coronavirus: The World Economy at Risk*; OECD: Paris, France, 2020.
64. Condon, R. The coronavirus crisis and the legitimization crisis of neoliberalism. *Eur. Soc.* **2021**, *23*, 805–816. [\[CrossRef\]](#)
65. Mair, S. Neoliberal economics, planetary health, and the COVID-19 pandemic: A Marxist ecofeminist analysis. *Lancet Planet. Health* **2020**, *4*, 588–596. [\[CrossRef\]](#)
66. Miles, D.; Stedman, M.; Heald, A. Living with COVID-19: Balancing costs against benefits in the face of the virus. *Nat. Inst. Econ. Rev.* **2020**, *253*, 61–76. [\[CrossRef\]](#)
67. Wallace, R. Climate and Capitalism. 2020. Available online: <https://climateandcapitalism.com/2020/03/11/capitalist-agriculture-and-covid-19-a-deadly-combination/> (accessed on 30 May 2021).
68. Blum, B.; Neumärker, B.K.; Simoneit, A. Why does Promoting Energy Efficiency not Contradict the Paradigm of Sustainability? A Normative Approach Using the Pareto Criterion. In *Sustainability Governance and Hierarchy*, 1st ed.; Hamman, P., Ed.; Routledge: London, UK, 2019; pp. 83–100, ISBN 978-036-718-790-3.
69. Paech, N. *Befreiung vom Überfluss. Auf dem Weg in die Postwachstumsökonomie*, 9th ed.; Oekom Verlag: München, Germany, 2016; ISBN 978-386-581-181-3.
70. Victor, P.A. Ecological economics and economic growth. *Ann. N. Y. Acad. Sci.* **2010**, *1185*, 237–245. [\[CrossRef\]](#) [\[PubMed\]](#)
71. Stengel, O. *Suffizienz—Die Konsumgesellschaft in der Ökologischen Krise*, 1st ed.; Wuppertaler Schriften zur Forschung für eine Nachhaltige Entwicklung: Wuppertal, Germany, 2011; ISBN 978-386-581-280-3.
72. Brzechczyn, K. The Coronavirus in liberal and illiberal democracies and the future of globalized world. *Soc. Regist.* **2020**, *4*, 83–94. [\[CrossRef\]](#)
73. Fiedler, R. From corporationism to cooperationism: Reversed globalization, cooperative politics and expanding online communication in post-pandemic time. *Soc. Regist.* **2020**, *4*, 161–168. [\[CrossRef\]](#)
74. EEA. *Air Quality in Europe—2020 Report*; European Environmental Agency, Publications Office of the European Union: Luxembourg, 2020.
75. RKI. SARS-CoV-2 Steckbrief zur Coronavirus-Krankheit-2019 (COVID-19). 24 April 2020. Available online: [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Steckbrief.html#doc13776792bodyText2](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html#doc13776792bodyText2) (accessed on 27 April 2020).
76. Burke, M. COVID-19 Reduces Economic Activity, Which Reduces Pollution, Which Saves Lives. 8 March 2020. Available online: <http://www.g-feed.com/2020/03/covid-19-reduces-economic-activity.html> (accessed on 27 April 2020).
77. EEA. Cutting Air Pollution in Europe Would Prevent Early Deaths, Improve Productivity and Curb Climate Change. 10 December 2019. Available online: <https://www.eea.europa.eu/highlights/cutting-air-pollution-in-europe> (accessed on 28 April 2020).
78. Dechezleprêtre, A.; Rivers, N.; Stadler, B. The economic cost of air pollution: Evidence from Europe. *ECO WKP* **2019**, *54*, 1584. [\[CrossRef\]](#)
79. Neidell, M. Air pollution and worker productivity. *IZA World Labor* **2017**, *363*. [\[CrossRef\]](#)
80. Chantret, F.; Chateau, J.; Dellink, R.; Durand-Lasserve, O.; Lanzi, E. Can better technologies avoid all air pollution damages. *Clim. Chang.* **2020**, *163*, 1463–1480. [\[CrossRef\]](#)
81. Sofia, D.; Gioiella, F.; Lotrecchiano, N.; Giuliano, A. Mitigation strategies for reducing air pollution. *Environ. Sci. Pollut. Res.* **2020**, *27*, 19226–19235. [\[CrossRef\]](#)
82. Pigou, A.C. *The Economics of Welfare*, Originally published in 1952 by Macmillan and Co., 1920, 1st ed.; Routledge: London, UK, 2017.
83. Nordhaus, W. Climate Change: The Ultimate Challenge for Economics. *Am. Econ. Rev.* **2019**, *109*, 1991–2014. [\[CrossRef\]](#)
84. Criqui, P.; Jaccard, M.; Sterner, T. Carbon Taxation: A Tale of Three Countries. *Sustainability* **2019**, *11*, 6280. [\[CrossRef\]](#)
85. Raux, C.; Croissant, Y.; Pons, D. Would personal carbon trading reduce travel emissions more effectively than a carbon tax? *Transp. Res. Part D Transp. Environ.* **2015**, *35*, 72–83. [\[CrossRef\]](#)
86. Seyfang, G.; Lorenzoni, I.; Mike, N. *Personal Carbon Trading: Notional Concept or Workable Proposition? Exploring Theoretical, Ideological and Practical Underpinnings*; CSERGE Working Paper EDM No. 07-03; EconStor: Hamburg, Germany, 2007; pp. 1–24.
87. Starkey, R. Personal carbon trading: A critical survey Part 2: Efficiency and effectiveness. *Ecol. Econ.* **2012**, *73*, 19–28. [\[CrossRef\]](#)
88. WBI. *International Carbon Charge and Dividend—A Practical Mechanism for Climate Justice*; World Basic Income: Manchester, UK, 2020.
89. Patterson, J.; Thaler, T.; Hoffmann, M.; Hughes, S.; Oels, A.; Chu, E.; Mert, A.; Huitema, D.; Burch, S.; Jordan, A. Political feasibility of 1.5 °C societal transformations: The role of social justice. *Curr. Opin. Environ. Sustain.* **2018**, *31*, 1–9. [\[CrossRef\]](#)
90. Carattini, S.; Carvalho, M.; Frankhauser, S. Overcoming public resistance to carbon taxes. *WIREs Clim. Chang.* **2018**, *9*, e531. [\[CrossRef\]](#)
91. Köder, L.; Burger, A. *Umweltschädliche Subventionen in Deutschland*; Umweltbundesamt (UBA): Dessau-Roßlau, Germany, 2016.
92. UBA. *Umweltschädliche Subventionen*. 25 June 2019. Available online: <https://www.umweltbundesamt.de/themen/wirtschaft-konsum/wirtschaft-umwelt/umweltschaedliche-subventionen#direkte-und-indirekte-subventionen> (accessed on 18 February 2021).
93. Benton, T.; Bieg, C.; Harwatt, H.; Wellesley, L. *Food System Impacts on Biodiversity Loss, Three Levers for Food System Transformation in Support of Nature*; Chatham House, The Royal Institute of International Affairs: London, UK, 2021; ISBN 978-178-413-433-4.



94. Blum, B. Fleischbesteuerung in Deutschland- Mengen- oder Mehrwertsteuer? Diskussion, Politische Implikationen. *Const. Econ. Netw. Ser.* **2020**, *2020*, 1–28.
95. Xue, L.; Prass, N.; Gollnow, S.; Davis, J.; Scherhauser, S.; Östergren, K.; Cheng, S.; Liu, G. Efficiency and Carbon Footprint of the German Meat Supply Chain. *Environ. Sci. Technol.* **2019**, *53*, 5133–5142. [\[CrossRef\]](#)
96. Ranganathan, J.; Vennard, D.; Waite, R.; Searchinger, T.; Dumas, P.; Lipinski, B. Shifting diets: Toward a sustainable food future. In *2016 Global Food Policy Report*; IFPRI: Washington, DC, USA, 2016; pp. 66–79, ISBN 978-089-629-582-7. [\[CrossRef\]](#)
97. BMEL. *Ernährungssicherung und Nachhaltige Produktivitätssteigerung—Stellungnahme des Wissenschaftlichen Beirats für Agrarpolitik*; Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (BMEL): Berlin, Germany, 2012.
98. Clark, M.A.; Springmann, M.; Hill, J.; Tilman, D. Multiple health and environmental impacts of foods. *Proc. Natl. Acad. Sci. USA* **2019**, *116*, 23357–23362. [\[CrossRef\]](#) [\[PubMed\]](#)
99. Djekic, I.; Tomasevic, I. Environmental impacts of the meat chain—Current status and future perspectives. *Trends Food Sci. Technol.* **2016**, *54*, 94–102. [\[CrossRef\]](#)
100. Allen, A.M.; Hof, A.R. Paying the price for the meat we eat. *Environ. Sci. Policy* **2019**, *97*, 90–94. [\[CrossRef\]](#)
101. Springmann, M.; Clark, M.; Mason-D’Coz, D.; Wiebe, K.; Bodirsky, B.L.; Lassaletta, L.; de Vries, W.; Vermeulen, S.J.; Herrero, M.; Carlson, K.M.; et al. Options for keeping the food system within environmental limits. *Nature* **2018**, *562*, 519–525. [\[CrossRef\]](#)
102. Hallström, E.; Carlsson-Kanyama, A.; Börjesson, P. Environmental impact of dietary change: A systematic review. *J. Clean. Prod.* **2015**, *91*, 1–11. [\[CrossRef\]](#)
103. Jungbluth, N.; Eggenberger, S.; Keller, R. *Ökopprofil von Ernährungsstilen—Projektbericht*; ESU-Services Ltd.: Zürich, Switzerland, 2015.
104. Nijdam, D.; Rood, T.; Westhoek, H. The price of protein: Review of land use and carbon footprints from life cycle assessments of animal food products and their substitutes. *Food Policy* **2012**, *37*, 760–770. [\[CrossRef\]](#)
105. Garnett, T. *Cooking up a Storm—Food, Greenhouse Gas Emissions and Our Changing Climate*; Food Climate Research Network: Oxford, UK, 2008.
106. De Bruyn, S.; Warringa, G.; Odegard, I. *The True Price of Meat De Echte Prijs van Vlees*; CE Delft: Delft, The Netherlands, 2018.
107. FAO. *Natural Capital Impacts in Agriculture—Supporting Better Business Decision-Making*; Food and Agriculture Organization of the United States (FAO): Rome, Italy, 2015.
108. Priefer, C.; Jörissen, J.; Bräutigam, K.-R. Food waste prevention in Europe—A cause-driven approach to identify the most relevant leverage points for action. *Resour. Conserv. Recycl.* **2016**, *109*, 155–165. [\[CrossRef\]](#)
109. Mann, S. Could We Stop Killing?—Exploring a Post-Lethal Vegan or Vegetarian Agriculture. *World* **2020**, *1*, 124–134. [\[CrossRef\]](#)
110. Van Zanten, H.H.; Meerburg, B.G.; Bikker, P.; Herrero, M.; de Boer, I.J. Opinion paper: The role of livestock in a sustainable diet: A land-use perspective. *Animal* **2016**, *10*, 547–549. [\[CrossRef\]](#) [\[PubMed\]](#)
111. Schiermeier, Q. Eat less meat: UN climate-change report calls for change to human diet. *Nature* **2019**, *572*, 291–292. [\[CrossRef\]](#) [\[PubMed\]](#)
112. Dobson, A.P.; Pimm, S.L.; Hannah, L.; Kaufmann, L.; Ahumada, J.A.; Ando, A.W.; Bernstein, A.; Busch, J.; Daszak, P.; Engelmann, J.; et al. Ecology and economics for pandemic prevention. *Science* **2020**, *369*, 379–381. [\[CrossRef\]](#)
113. Galanakis, C.M. The Food Systems in the Era of the Coronavirus (COVID-19) Pandemic Crisis. *Foods* **2020**, *9*, 523. [\[CrossRef\]](#)
114. Gold, M. *The Global Benefits of Eating Less Meat*; Compassion in World Farming Trust: Hampshire, UK, 2004.
115. European Commission. *The Use of Differential VAT Rates to Promote Changes in Consumption and Innovation—Final Report*; European Commission: Brussels, Belgium, 2008.
116. FÖS. *Tierwohl Fördern, Klima Schützen—Wie eine Steuer auf Fleisch eine Wende in der Nutztierhaltung Einleiten und Anreize für Umweltschonenderen Konsum Liefern Kann*; Greenpeace e.V.: Hamburg, Germany, 2020.
117. FÖS. *Ökonomische Instrumente für eine Senkung des Fleischkonsums in Deutschland, Beiträge zu einer Klima- und Umweltgerechten Landwirtschaft*; Greenpeace e.V.: Hamburg, Germany, 2013.
118. TAPP Coalition. *Aligning Food Pricing Policies with the European Green Deal—True Pricing of Meat and Dairy in Europe, including CO2 Costs*; True Animal Protein Price Coalition (TAPP Coalition): Driebergen-Rijsenburg, The Netherlands, 2020.
119. Rees, J.H.; Bamberg, S.; Jäger, A.; Victor, L.; Bergmeyer, M.; Friese, M. Breaking the Habit: On the Highly Habitualized Nature of Meat Consumption and Implementation Intentions as One Effective Way of Reducing It. *Basic Appl. Soc. Psychol.* **2018**, *40*, 136–147. [\[CrossRef\]](#)
120. Destatis. Vegetarische und Vegane Lebensmittel: Produktion Steigt im 1. Quartal 2020 um 37%. 21 July 2020. Available online: [https://www.destatis.de/DE/Presse/Pressemitteilungen/Zahl-der-Woche/2020/PD20\\_30\\_p002.html#:~:text=Quartal%202020%20erh%C3%B6hte%20sich%20die,gut%2085%2C1%20Millionen%20Euro](https://www.destatis.de/DE/Presse/Pressemitteilungen/Zahl-der-Woche/2020/PD20_30_p002.html#:~:text=Quartal%202020%20erh%C3%B6hte%20sich%20die,gut%2085%2C1%20Millionen%20Euro) (accessed on 25 May 2021).
121. BMEL. *Deutschland, wie es isst—Der BMEL-Ernährungsreport 2021*; Bundesministerium für Ernährung und Landwirtschaft: Berlin, Germany, 2021.
122. Sanchez-Sabate, R.; Sabaté, J. Consumer Attitudes towards Environmental Concerns of Meat Consumption: A Systematic Review. *Int. J. Environ. Res. Public Health* **2019**, *16*, 1220. [\[CrossRef\]](#) [\[PubMed\]](#)
123. Hartmann, C.; Siegrist, M. Consumer perception and behaviour regarding sustainable protein consumption: A systematic review. *Trends Food Sci. Technol.* **2017**, *61*, 11–25. [\[CrossRef\]](#)

124. Wolff, F.; Bauer, S.; Brohmann, B.; Espinosa, C.; Fischer, C.; Graaf, L.; Griefshammer, R.; Gsell, M.; Heyen, D.A.; Jacob, K.; et al. *Perspektiven für Umweltpolitik: Ansätze zum Umgang mit Neuartigen Herausforderungen—Synthesebericht*; Bundesumweltamt: Dessau-Roßlau, Germany, 2019.
125. Garnett, P.; Doherty, B.; Heron, T. Vulnerability of the United Kingdom's food supply chains exposed by COVID-19. *Nat. Food* **2020**, *1*, 315–318. [CrossRef]
126. Ataguba, J.E. COVID-19 Pandemic, a War to be Won: Understanding its Economic Implications for Africa. *Appl. Health Econ. Health Policy* **2020**, *18*, 325–328. [CrossRef]
127. FAO. *Crop Prospects and Food Situation—Quarterly Global Report, No.1*; Food and Agriculture Organization of the United Nations: Rome, Italy, 2020.
128. Zinke, O. Corona-Panik: Gibt es Eine Globale Nahrungsmittel-Krise? 23 March 2020. Available online: <https://www.agrarheute.com/markt/corona-panik-gibt-globale-nahrungsmittel-krise-566737> (accessed on 1 May 2021).
129. Destatis. Kaufhäuser in der Krise: 2.4% Weniger Umsatz im August 2020 Gegenüber Vorjahr, Pressemitteilung Nr. N063. 5 October 2020. Available online: [https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/10/PD20\\_N063\\_45212.html](https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/10/PD20_N063_45212.html) (accessed on 20 January 2021).
130. Engels, B. *Lage und Trends im Deutschen Onlinehandel*; IW-Report No. 33/2019; Institut der Deutschen Wirtschaft (IW): Köln, Germany, 2019.
131. Statista. Monatliche Umsatzentwicklung im Versand- und Internet-Einzelhandel in Deutschland von Januar 2018 bis Dezember 2020. January 2021. Available online: <https://de.statista.com/statistik/daten/studie/579708/umfrage/monatliche-umsatzentwicklung-im-versand-und-internet-einzelhandel/> (accessed on 15 February 2021).
132. IFH. Amazon Beeinflusst ein Drittel des Gesamten Nonfood-Handels. 2 July 2019. Available online: <https://www.ifhkoeln.de/amazon-beeinflußt-ein-drittel-des-gesamten-nonfood-handels/> (accessed on 30 January 2021).
133. IFH. *Online Monitor*; HDE Handelsverband Deutschland: Berlin, Germany, 2020.
134. Dolata, U. Big Four: Die digitale Allmacht? *Blätter Dtsch. Int. Polit.* **2018**, *5*, 81–86.
135. Sułkowski, Ł. Covid-19 Pandemic; Recession, Virtual Revolution Leading to De-globalization? *JOIM* **2020**, *12*, 1–11. [CrossRef]
136. Büttner, L.; Breitzkreuz, A. *How COVID-19 Working Routines Can Save Emissions in a Post-COVID-19 World*; Greenpeace e.V.: Hamburg, Germany; Berlin, Germany, 2020.
137. Belzunegui-Eraso, A.; Erro-Garcés, A. Teleworking in the Context of the Covid-19 Crisis. *Sustainability* **2020**, *12*, 3662. [CrossRef]
138. Letzel, V.; Pozas, M.; Schneider, C. Energetic students, stressed parents, and nervous teachers: A comprehensive exploration of inclusive homeschooling during the COVID-19 crisis. *Open Educ. Stud.* **2020**, *2*, 159–170. [CrossRef]
139. Pozas, M.; Letzel, V.; Schneider, C. 'Homeschooling in times of corona': Exploring Mexican and German primary school students' and parents' chances and challenges during homeschooling. *Eur. J. Spec. Needs Educ.* **2021**, 1–16. [CrossRef]
140. GEW-BW. Warum Digitaler Unterricht in der Corona-Krise Unfair ist. 27 March 2020. Available online: <https://www.gew-bw.de/aktuelles/detailseite/neuigkeiten/warum-digitaler-unterricht-in-der-corona-krise-unfair-ist/> (accessed on 27 April 2020).
141. Bol, T. Inequality in homeschooling during the Corona crisis in the Netherlands. First results from the LISS Panel. *SocArXiv Pap.* **2020**, 1–20. [CrossRef]
142. Jæger, M.M.; Blaabæk, E.H. Inequality in learning opportunities during Covid-19: Evidence from library. *Res. Soc. Stratif. Mobil* **2020**, *68*, 100524. [CrossRef]
143. Van den Bergh, J.C.J.M. Environment versus growth—A criticism of “degrowth” and a plea for “a-growth”. *Ecol. Econ.* **2011**, *70*, 881–890. [CrossRef]
144. Dalg, P. In der Coronakrise Rächt sich der Lahmende Netzausbau. 23 March 2020. Available online: <https://www.tagesspiegel.de/wirtschaft/zu-schlechtes-internet-fuer-homeoffice-in-der-coronakrise-raecht-sich-der-lahmende-netzausbau/25676508.html> (accessed on 28 April 2020).
145. Gerginov, D. Was der Staat versäumt hat: 3 Lehren aus der Corona-Krise. 28 April 2020. Available online: <https://www.gevestor.de/details/was-der-staat-versaeumt-hat-3-lehren-aus-der-corona-krise-886436.html> (accessed on 28 April 2020).
146. Jentsch, B.; Schnock, B. Child welfare in the midst of the coronavirus pandemic—Emerging evidence from Germany. *Child Abuse Negl.* **2020**, *110*, 104716. [CrossRef] [PubMed]
147. Schlack, R.; Neuperdt, L.; Hölling, H.; De Bock, F.; Ravens-Sieberer, U.; Mauz, E.; Wachtler, B.; Beyer, A.K. Impact of the COVID-19 pandemic and the related containment measures on the mental health of children and adolescents. *JoHM* **2020**, *5*, 21–31. [CrossRef]
148. Euractiv. 'We Have to Eat': Sicily Police Crack down on Looting. 30 March 2020. Available online: <https://www.euractiv.com/section/justice-home-affairs/news/we-have-to-eat-sicily-police-crack-down-on-looting/> (accessed on 28 April 2020).
149. Neumärker, B.; Schmidt, E.; Blum, B. Das Netto-Grundeinkommen. November 2020. Available online: <https://www.fribis.uni-freiburg.de/wp-content/uploads/2020/10/Der-Vorschlag-eines-Netto-Grundeinkommens.pdf> (accessed on 15 November 2020).
150. Petition 108191. Einführung eines Bedingungslosen Grundeinkommens vom 14 March 2020. Available online: [https://petitionen.bundestag.de/petitionen/\\_2020/\\_03/\\_14/Petition\\_108191.nc.html](https://petitionen.bundestag.de/petitionen/_2020/_03/_14/Petition_108191.nc.html) (accessed on 28 April 2020).
151. TeaBup. Team Bundestagspetition Nr. 108191 Krisen-Grundeinkommen: Das Netto-Grundeinkommen—Eine Sofort-Maßnahme zur Sicherung der Bevölkerung in Krisenzeiten. November 2020. Available online: [https://www.fribis.uni-freiburg.de/wp-content/uploads/2020/11/OnePage-NGH\\_de\\_aa.pdf](https://www.fribis.uni-freiburg.de/wp-content/uploads/2020/11/OnePage-NGH_de_aa.pdf) (accessed on 15 November 2020).

- 
152. Arnold, C. Pandemic speeds largest test yet of universal basic income. *Nature* **2020**, *583*, 502–503. [[CrossRef](#)] [[PubMed](#)]
  153. Van Parijs, P. Basic Income: A Simple and Powerful Idea for the Twenty-First Century. *Polit. Soc.* **2004**, *32*, 7–39. [[CrossRef](#)]
  154. Destatis. Private Konsumausgaben (Lebenshaltungskosten) Nach der Haushaltgröße—Laufende Wirtschaftsrechnungen. 29 April 2020. Available online: <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Einkommen-Konsum-Lebensbedingungen/Konsumausgaben-Lebenshaltungskosten/Tabellen/liste-haushaltsgroesse.html> (accessed on 29 April 2020).
  155. Kass, L. Das Kapital in der Corona-Krise. 23 March 2020. Available online: <https://makronom.de/das-kapital-in-der-corona-krise-35374> (accessed on 28 April 2020).
  156. Yalcin, B.; Blum, B.; Neumärker, B. Gegenrechnung eines Netto-Grundeinkommens (NGE) mit den Aktuellen Corona-Hilfsmaßnahmen und Posten aus dem Sozialbudget. November 2020. Available online: <https://www.fribis.uni-freiburg.de/wp-content/uploads/2020/10/Gegenrechnung-eines-NettoGrundeinkommens-NGE.pdf> (accessed on 15 November 2020).
  157. Van Parijs, P. Bottom-up Social Europe. From Subsidiarity to Euro-Dividend. 9–10 November 2006. Available online: [https://euroincome.eu/ubi/wp-content/uploads/2013/07/euro-dividend-DOCH\\_165\\_\\_PVP\\_.pdf](https://euroincome.eu/ubi/wp-content/uploads/2013/07/euro-dividend-DOCH_165__PVP_.pdf) (accessed on 11 March 2021).
  158. Van Parijs, P. The Euro Dividend. In Roadmap to a Social Europe. 3 July 2013. Available online: <https://www.socialeurope.eu/2013/07/the-euro-dividend/> (accessed on 11 March 2021).
  159. Arnone, W.J.; Barnes, P.; Landers, R.M. *Assured Income*; National Academy of Social Insurance: Washington, DC, USA, 2019.