

Review

Socio-Economic Impacts and Challenges of the Coronavirus Pandemic (COVID-19): An Updated Review

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Abstract: The coronavirus disease 2019 (COVID-19) pandemic has shaken up the socio-economic order on a global scale with interventions designed to curb the spread of the disease bearing multiple and reinforcing impacts on several aspects of economic and social lives. The effects of COVID-19 were diverse and often spilled over different or interdependent industries. Economies were hit top-down and bottom-up while businesses and individuals alike endured significant changes that altered national and international supply and demand trends for products and services. The primary and secondary sectors were especially influenced by supply shortages while services and education were largely demand-driven. Monetary policies were specifically targeted to ease these disruptions while protective measures for employees in many cases constrained business competitiveness. The present study provided a cross-sectoral (primary, secondary, tertiary, and quaternary sectors) outline of the implications and challenges since the start of the crisis, centralising important information and offering a view of the current socio-economic situation.

Keywords: economy; society; coronavirus; COVID-19; SARS-CoV-2; pandemic



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1. Introduction

At the beginning of 2020, the world was shaken as an unprecedented global pandemic swept the planet. Since then, coronavirus disease 2019 (COVID-19) has spread to all continents throughout the world and has costed the lives of millions of people [1–4].

At present and after the successful rollout of vaccination against Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the public discourse remains divided on whether the pandemic is receding [5]. However, the economic implications caused in the last two years are undeniable [6]. Businesses and people across the economy have faced radical changes, as mask mandates and restrictions on travel or mobility were established by authorities across the globe to fight the spread of the virus [7].

A few similar studies have captured the socio-economic impacts of COVID-19 amid the initial stages of the emergency but with a marked scarcity of recent studies addressing these in later notes [6,8,9]. Of those described, most have adopted a narrow scope in terms of the countries, industries, or socio-economic context explored while others fell short of addressing the spillover effects on physical and economic wellbeing, overlooking the feedback loops that economic systems or devised interventions may create [10–15]. Taken together, the long-term interpretation of the implications and challenges of COVID-19 becomes limited under these conditions.

Capturing the impacts of a health emergency across multiple socio-economic facets is necessary to scope potential determinants and contributing factors that may influence

socio-economic change and shape policy decisions as the pandemic unfolds. To this end, the present study attempted to comprehensively outline and expand the body of knowledge regarding the socio-economic implications of the pandemic in a broad range of sectors (primary, secondary, tertiary, and quaternary sectors), specifically tracking its impacts across a large number of industries from the start of the crisis (Figure 1). It scopes to centralise important information with the aim to inform future research and form an honest account of the efforts and challenges faced by billions across the world.



Figure 1. Socio-economic sectors affected by restrictions related to the COVID-19 pandemic.

2. Primary Sectors

2.1. Agriculture

Planting and harvesting activities suffered from limited worker mobility which reduced the availability of seasonal workers [16]. Lockdown measures prevented the sufficient cultivation of staple crops while some farmers were forced to dump crops due to overproduction and strict trade and travel restrictions [17]. Social distancing and labour shortages reduced the capacity of processing plants, especially in countries with less modernised agricultural infrastructure, which exacerbated supply issues [16]. Additionally, significant uncertainties regarding the supply of fertiliser, pesticides, or seeds disrupted food production, while changes in exchange rates for all major currencies affected the competitiveness of tradable food and agricultural products [18].

The agricultural industry in the European Union (EU) faced a decline of only 1.4% during 2020 [19]. By contrast, Asian countries experienced growth in agriculture attributed to the government's response on intensive land use [20]. Although industries were affected differently across regions, market actors and policymakers were able to adjust. In Europe and North America, for example, retailers focused on increasing operating hours in factories and reducing product variety while making use of alternative sources of supply [16]. Additionally, policymakers provided flexibility or exemptions from lockdown restrictions and loosened travel visa restrictions to attract foreign seasonal workers [16,19].

Overall, 2020 saw a moderate increase in most food product imports. Those of high-income elasticity, such as fish and beverages, fell by 10% while dairy products remained stable [18]. Likewise, global production and supply of crops experienced minimal change [21].

2.2. Energy

Europe and the United States (US) experienced a 10% drop in energy demand during 2020, followed by Japan, Korea, other Asian countries, and Africa by 7.8%, 6.8%, 4.1%, and 3%, respectively [22]. This had serious repercussions on oil demand which fell by 16 million barrels per day in the second quarter of 2020, taking over one and a half years to recover [23]. West Texas Intermediate crude oil reached as low as 11.26 US dollar (USD) per barrel in April 2020, closing the year below 50 USD while gaining 55% by the end of 2021 [24]. No impact on the oil demand was seen prior to 2022, which was set to grow after the lifting of major restrictions [25].

Natural gas demand experienced a smaller contraction during the first wave compared to fuels such as coal and oil [26]. International natural gas prices fell below 2 USD/Million British Thermal Units in 2020, while US prices averaged at 21-year lows [27]. In 2021, global gas consumption rebounded to 10-year highs in America and all-time highs in Europe and Asia to 3.9 USD/Mega British Thermal Units (MBtu), 15.8 USD/MBtu, and 18 USD/MBtu, respectively, driven by post-lockdown economic rebound, cold weather, and tight supplies [28].

In general terms, large energy exporters such as Russia, Norway, Kazakhstan, Saudi Arabia, Iran, and North America experienced electricity rates of less than half the ones of big energy importers such as Europe and Japan, during the latter half of 2021 [29,30]. Notable exceptions were India and China that currently have some of the world's lowest electricity tariffs. These trends were largely explained by the share of fossil fuels in electricity production, which is generally higher for energy exporters [31].

2.3. Metals and Mining

While metal prices followed a downward trend in the first quarter of 2020, they rallied during March on the prospect of the closure of the South African mining industry due to COVID-19 and the increased demand for precious metals due to asset allocation [32,33]. The prices bottomed shortly afterwards due to reduced industrial activity. Mineral exploration along with feasibility and development works were disrupted. For example, the European Lithium company reported significant delays for a lithium deposition in Austria while the largest hard coking coal producer in the EU in production, sales, and operational activities [34].

The reduced supplies worldwide created an upward price momentum as soon as restrictions started lifting in the second half of 2020. Chinese demand for iron ore, copper, and other industrial metals combined with European and US recovery measures drove demand [33]. Thereafter, high demand continued for metals as the economy attempted to reach pre-pandemic levels [35].

Overall, the prices of steel and iron ore peaked in 2021 (at 140% and 212%) while copper and lithium peaked in early 2022 (at 150% and 450% of their 5-year average, respectively) [36].

Precious metals such as gold and silver reached 40-year highs in Q3 of 2020 of approximately USD 2200/ounce and USD 31.76/ounce, respectively, while they gradually depreciated since, currently at approximately 10% higher than pre-pandemic levels [37].

3. Secondary Sectors

3.1. Manufacturing

Global manufacturing output dropped by 20% during the first and second quarters of 2020 due to reduced production and uncertainties around employment prospects caused by protective measures [38]. Industrialised economies experienced a smaller contraction, but output growth was limited due to renewed lockdowns in the last quarter of 2020 and early 2021. Concurrently, China, the largest manufacturer globally, recovered by early

2021 with a 38.2% increase in output since 2020; however, Europe's output growth did not surpass 3% [38].

Supply chain disruptions prevented the transport of raw materials with spare parts for other manufacturing sectors being impacted. Some firms saw a substantial increase in demand that was challenged by logistics interruptions, financial or time constraints, and safety and regulatory concerns [39,40]. Although demand for electronics, automotive products, and fast-moving consumer goods decreased substantially, semiconductors and imported daily necessities experienced supply shortages [39]. Firms with higher technological capabilities were more effective in meeting increased needs [40].

At the onset of 2021, computer electronics, electrical equipment, and automobiles experienced growth rates of over 50%, while petroleum products, basic metals, and food products were among the lowest-performing industries with a growth below 20% [38]. In early 2022, manufacturing productivity and output recovered after a temporary drop during the Omicron wave. The global purchasing managers' index was at 51.9, still below pre-pandemic levels while global manufacturing production grew under 2% annually [41]. Growth was led by the United Kingdom (UK) and Europe but limited by record numbers of labour shortages, continuing material shortages, and delivery delays [41].

3.2. Utilities

Electricity demand was curtailed due to reductions in services and industry. Early 2020 lockdowns reduced demand by 11% in China, 25% in India, and over 15% in several European countries, while similar trends were evident during subsequent waves [42]. Renewables temporarily increased their share in electricity generation across all major regions due to lockdown measures, depressing energy demand, and driving electricity generation towards sources with lower operating costs [42]. In 2021, global electricity demand grew by 6% following economic recovery and easing of restrictions [43].

Water experienced substantial changes due to lockdowns. Daily water demand shifted from businesses to residential areas while water consumption reduced in big cities and increased in small towns possibly due to unexpected patterns of emigration [44]. This exacerbated water shortages, conservation efforts, wastewater services, and water quality in some regions. An overall reduction in water demand was observed in several cases following the relocation of public to household use [45].

3.3. Construction

Construction activity was affected during the second quarter of 2020 which put 25% of projects on hold globally [46]. The Middle East and Africa were the most impacted with 40% of activity paused [46]. The UK construction industry shrank by 40% during the first lockdown, affecting over 5000 jobs [47]. In the US, the unemployment rate of construction workers increased to 8.7% in 2020 from 4.5% with construction companies experiencing delays and supply chain issues (Jeon, 2022). The EU experienced a 26% decline in construction activity during the first wave before recovering some of its losses later that year [48].

By the last quarter of 2021, construction activity rebounded with countries such as Saudi Arabia, the Netherlands, New Zealand, and the USA seeing the largest improvements while Malaysia, Qatar, and China still experienced reductions [49]. US construction recovered in 2021 standing 23% higher, but material shortage and increased costs still impacted the industry [27] with construction in Europe experiencing minimal growth [48].

4. Tertiary Sectors

4.1. Retail

Restrictions disrupted the movement of goods along supply chains by disrupting airfreight, container, and truck transport globally. In the second quarter of 2020, Europe and Latin America saw the greatest reductions with 80% declines in air cargo capacity while road transport was 20% lower in North America, and truck trips were on average

24% below normal in European countries [50,51]. Additionally, limited production reduced the prices of consumer goods which saw a 20% drop year-on-year in Europe [51].

Sales of edible groceries grew by over 40% globally since the onset of the pandemic [52]. Purchase and stocking behaviour was affected as seen by a reduction in grocery and pharmacy shop visits, creating significant pressure on retailers [53]. While the initial concern eased, the imposed measures shifted the purchasing behaviour of consumers from eating out of home to household purchasing from food retailers. In the UK, the volume of sales peaked at 43.6% higher than normal when the first lockdown was announced and remained at 11% higher up until the end of it [54].

4.2. Financial Services

Fintech deals saw an increase from the start of the pandemic, spanning a wide range of services from e-commerce to business service management or identity authentication solutions [55]. Specifically, in 2020, the total deal value increased by 9% compared to the year before while venture valuations doubled [56]. Interestingly, deals recorded in Pitchbook for 2021 represented a 156% year-on-year increase in value while venture valuations increased eightfold within a year, primarily driven by capital raising platforms, neobanks, or digital assets [56].

The banking sector faced several challenges since the onset of the pandemic mainly in terms of credit management, profitability, securitisation, commercial models, relationship with customers, resilience, and business continuity as well as stock volatility [57]. Banks' returns around the world underperformed local stock markets and non-financial firms in the second quarter of 2020 [58]. Additionally, many banks were exposed to increased credit risk from corporate and retail clients due to COVID-19 restrictions [57].

Banks with higher liquidity were able to absorb COVID-19 shocks better and lost less stock value during the second quarter of 2020 while many governments intervened to provide liquidity support, relaxation of supervisory and regulatory requirements, and borrower assistance [58]. Historic data and recent evidence from the European banking sector indicate that the fiscal support provided by governments as well as the immediate monetary response by central banks was able to reduce the duration of market stress but may have contributed to the higher levels of inflation observed over the following year [59–61].

4.3. Financial and Stock Markets

The onset of the pandemic influenced several sectors and businesses. Unsurprisingly, this translated into greater financial volatility and jumps in prices as higher-risk perceptions and changing circumstances for consumers and businesses were incorporated into investor valuations and future expectations [62,63].

The stock market saw significant and widespread stock value declines during the first COVID-19 wave; however, by the end of Q3 of 2020, shareholder returns saw gains for sectors such as logistics, chemicals, fashion, consumer durables, or healthcare supplies [63].

While economic recovery expectations grew by Q1 of 2021, shareholder gains increased exponentially led by the highest-performing companies in the semiconductor, electric vehicle, consumer demand, and technology sectors [63]. Market indices such as Standard and Poor's 500, Deutscher Aktien, Cotation Assistée en Continu, and Nihon Keizai Shimbun followed similar growth patterns, while their recoveries were equally twice as fast as the preceding 4-year trends [64].

4.4. Healthcare and Pharmaceutical Industry

Apart from the unprecedented pressures in frontline healthcare, major reductions in the utilisation of healthcare services were reported in the first half of 2020. Visits fell by 42% while admissions, diagnostics, and therapeutics dropped by 28%, 31%, and 30%, respectively, converging to a median reduction of 37% across all healthcare service categories [65]. Several countries reported delays or cancellations of healthcare services due to overburdened health systems during the first wave of the pandemic and postponement

of non-essential care such as vaccinations, laboratory testing, or cancer screening in the first half of 2020 [66].

Disruptions were also evident in general practitioner (GP) referrals. In the UK, referrals of children and young people fell by 85% in April 2020 and gradually increased until the winter of 2021 when routine referrals dropped again as GP appointments were limited due to renewed restrictions [67,68]. Similar trends were recorded across other countries, and it is estimated that over a fifth of EU citizens missed a medical examination or treatment during pandemic restrictions [68]. In France, certain cancer surgeries or ischemic heart disease treatments fell by 6.2% and 7.8%, respectively, in 2020, while in the Netherlands, the health system performed 23% fewer surgeries within one year since the start of the pandemic [68].

In the pharmaceutical sector, demand for medication surged with over-the-counter medicines increasing by 11% in the Middle East and several European countries while those related to COVID-19 in-patient management sevenfold in the US [69]. Pharmaceuticals treating chronic disorders also increased by 8.9%, and many medicines experienced shortages due to restrictions limiting production of key ingredients from suppliers such as China and India [69].

As opposed to other sectors, pharmaceutical companies were positioned ideally to see their profits increase during the pandemic due to the development of COVID-19-related medication and vaccines driven by early COVID-19 research. Overall, sales for the top 10 pharmaceutical companies increased by 20% on average in 2021 compared to the year before [70], which indicates the necessary role of the sector during the evolution of the pandemic.

5. Quaternary Sectors

Education and Research

The education sector was severely hit by the pandemic and the restrictions that were put in place to limit the spread of the virus. COVID-19's impacts on schools and educational institutions were well documented across the world. According to the United Nations Educational, Scientific and Cultural Organization, 185 countries established country-wide school closures affecting over 1.5 billion learners and 89% of all enrolled learners during the first wave in 2020 [71]. By the start of 2021, these figures dropped five times as schools in countries including China, Russia, and France remained open.

These trends caused significant disruption to normal education processes in terms of decreased engagement and class participation as well as limited opportunities for social interaction. This resulted in learning loss, decreased motivation, anxiety, and aggravated mental health challenges with long-term psychosocial, health, or developmental issues. Teachers also experienced increased workload and stress due to the additional hurdles in engaging with colleagues, students, and parents. These challenges primarily affected the most vulnerable students while school dropout rates indicate that two decades of progress in educational access are at risk of being nullified [72].

Higher education institutions were also heavily impacted. During the first wave, most institutions stopped all face-to-face activities and introduced virtual modes of communication [73]. Disruptions in all research were also recorded mainly due to cancellation or postponement of international travel and scientific conferences, while the risk of scientific projects not being completed was significant [73]. International higher education was equally impacted by travel restrictions and uncertainty. Students deferred or cancelled studying overseas in 2021 which affected university budgeting [74]. Many institutions were forced to reconsider their business model, international partnerships, programmes, and reliance on revenues generated by foreign students [74].

6. Discussion

The spread of SARS-CoV-2 led to significant socio-economic implications worldwide. The severity of the effects of COVID-19 in each sector was associated with many different factors including the level of infrastructure modernisation, the urban culture in relation

to the value of human life, the level of digitisation of each state and company, and the effectiveness and structure of healthcare systems (Figures 2 and 3).

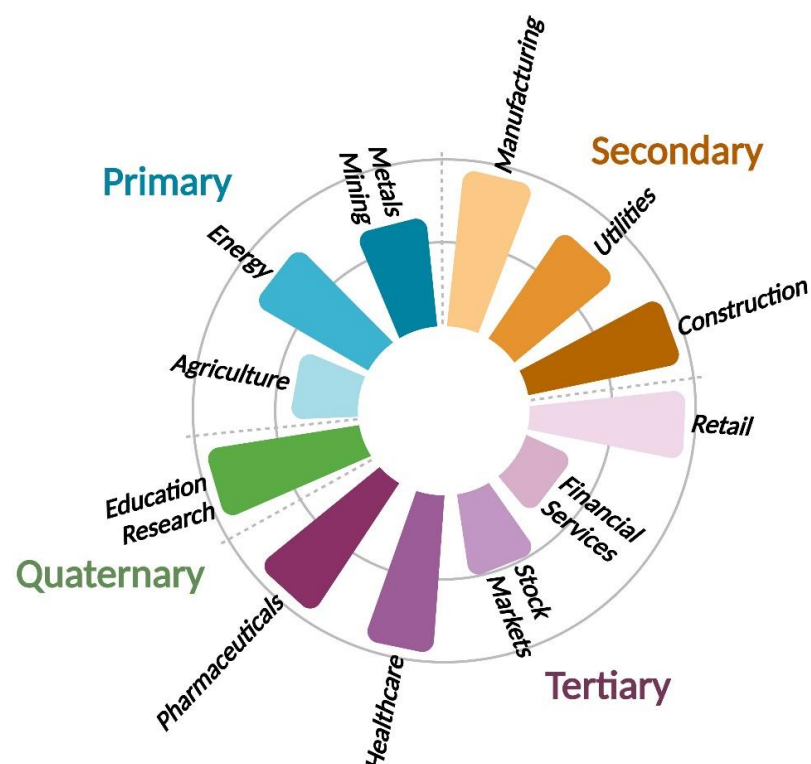


Figure 2. Estimated socio-economic impact of COVID-19 disruptions in absolute terms across sectors. Supply–demand-driven industries such as manufacturing, construction, retail, education, or mining as well as medical fields such as healthcare and pharmaceuticals were severely affected by the pandemic. Other sectors including utilities and energy were highly impacted while financial services, stock markets, and agriculture saw modest and often positive effects.

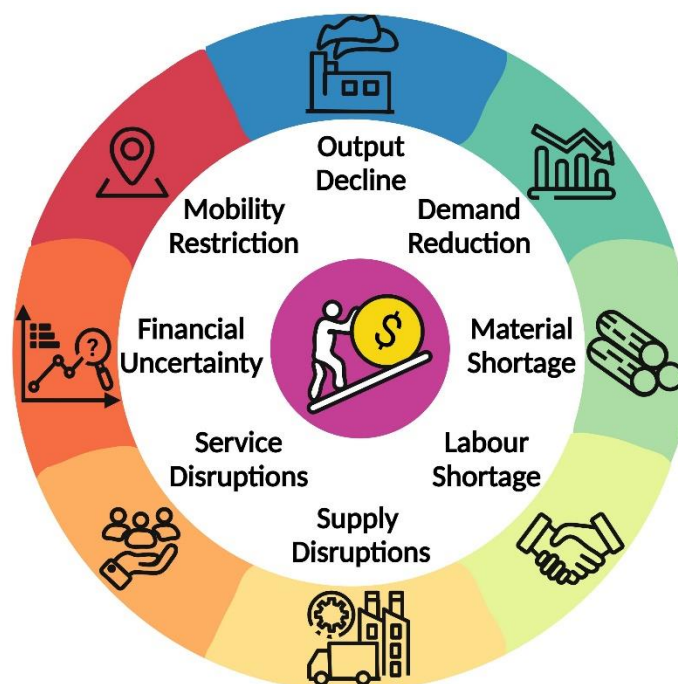


Figure 3. Socio-economic risks of highest prevalence during the COVID-19 pandemic across sectors.

The primary and secondary sectors primarily suffered from reduced productivity and material shortages due to either supply chain bottlenecks or radical shifts in demand. Overall, global food and agricultural imports proved resilient throughout the first year of the pandemic, potentially due to modernisation of agricultural infrastructure which does not require congruence. At the same time, the energy sector was significantly hit in the first stages with an aggressive recovery thereafter. On the other hand, material cost pressures combined with labour shortages imposed a heavy burden on sectors such as construction.

The service and intellectual sectors, being diverse environments, were impacted by supply disruptions; retail, real estate, healthcare, and telecommunications are some examples of sectors that experienced inadequate or costly supply of products or necessary equipment. Changes in demand, as well as the new socio-economic realities of consumers during the pandemic, were much more evident too. Banking, hospitality, and higher education were three areas that saw large decreases in their financial stability as a result of the pandemic—the first in the form of reduced liquidity of customers, the second due to the overwhelming decrease in bookings or visits as well as reduced operations, and the latter as a combination of the above.

While the aforementioned sectors are firmly established and constitute an integral part of most economic ecosystems, disruptions of such magnitude are once-in-a-generation events and are bound to shake up foundations or shift the tectonic plates of socio-economic activity. As anticipated, niche markets sprouted and innovative trends accelerated, finding a “window of opportunity” among the shifting structure of socio-economic trends and interactions, and closely following socio-technical transition theory as described by Geels’ multi-perspective model [75].

Sectors that experienced the most intensive innovative activity were mainly concentrated within the service economy. Retail, financial services, information technology and telecommunications, and education accelerated their digital transitions and quickly adapted to the new reality. Online shopping, novel ways of working, studying, and consuming entertainment, and new modes of payment and financial institutions materialised, reshuffling markets and spurring waves of acquisitions, mergers, or company expansions across the board. New business models and start-up ideas around the emerging trends of digitalisation and automation are poised to attract significant investment in the following years.

6.1. Monetary and Fiscal Policy

Excessive money printing was issued to support the various COVID-19 fiscal measures during the pandemic. Narrow money (M1) which represents the main money supply of a country’s economy, reached record levels. In the Euro area, M1 supply exponentially increased since the start of the pandemic, peaking at an 11% increase year-over-year (y-o-y) in January 2021 (the Global Financial Crisis of 2008 peaked at 6% y-o-y) coinciding with record increases in broad money (M3) which were overwhelmingly driven by rises in government debt [76,77]. Similar trends were evident in numerous countries around the world where money supply and debt exponentially or gradually increased over the course of the past 2 years [78,79]. Perhaps most notably, the US experienced a threefold increase in M1 supply between April and May 2020, which has been rising ever since [78].

The positive effect of increased money supply on asset valuations, especially when interest rates are generally low, has been well documented in the literature [80,81]. In fact, interest rates for many economies were kept at historically low levels during the past 2 years [82,83]. Low interest rates combined with an additional monetary overhang that emerged due to increases in money supply incentivised higher than normal spending and investment and was associated with the exponential rise in the value of stocks and indices after the March 2020 drop [84]. At the same time, strong price rises were observed for gold and silver. These trends are normally associated with hedges against inflation in fiat currencies while also linked to money supply changes [85].

This trend reinforces the argument that excessive money creation can potentially lead to the depreciation of currencies and create consumer price inflation [84]. Indeed, annual consumer price index (CPI) inflation for the Organisation for Economic Co-operation and Development and Euro area countries with similar recorded M3 patterns surpassed 5% for Germany, Belgium, Ireland, Greece, and the Netherlands and was over 6.5% for Norway, the Czech Republic, Poland, Russia, and Spain. For the same year, the US saw a 7% increase in annual CPI inflation, reaching 4.84% in Great Britain [86].

Inflation in energy prices, especially oil and gas, has been an important issue that had strong spillovers to all other sectors and significantly increased headline inflation. Energy price inflation largely was a by-product of oil-specific supply and demand “shocks” that magnified over time; however, Eurozone evidence indicates that oil market shocks have greater inflationary effects in core inflation during periods of overall high inflation. Conversely, changes in global economic activity, such as during the pandemic, are not sufficient to affect overall price levels as any shifts balance out [87]. Given the dire situation that European and other energy markets have been facing during COVID-19 demand recovery, money creation might have indirectly affected oil and gas price inflation.

Bringing this section together, the stimulus packages and debt issued by various governments around the world contributed to the fast recovery and the perhaps unexpected growth trends of asset values and several aspects of the economy. However, there is evidence that the significant increase in money supply and persistent low interest rates depreciated fiat currencies, reshaped exchange rates, and contributed to the widespread price inflation experienced by consumers and other sectors.

6.2. Employment under COVID-19

An important aspect of the pandemic has been the significant changes in employment under the new health protocols and interventions in the daily lives of billions. Vast numbers of workers have been made to work from home which has had significant impacts on the private and professional lives of employees [88]. Additionally, replacing in-person presence for several types of roles has been impossible, and thus health measures such as masking, social distancing, hygiene regulations, and in some cases shift reduction and furloughs were instituted.

Under this situation, many employers have had to reorganise management methods and procedures to deal with the new challenges and find new ways to work with clients and various partners to maintain their competitiveness. For many businesses within severely affected sectors such as hospitality or retail, government interventions placed unviable barriers to normal operations casting them effectively out of business or completely dependent on government checks to survive financially. These considerations generate questions about the right way to deal with business disruptions due to sickness, health measures, and increased expenses whilst adequately protecting employee health and wellbeing.

It is important to recognise that long-term strategies must always take into consideration the necessity of letting businesses and economic sectors maximise their potential and increase the probabilities of technological innovation and productivity growth. It is of immense significance, however, to acknowledge that these goals can never be achieved if individuals are not allowed to flourish in workplaces where they feel safe and valued. At this point, it is worth noting the potential risks for the employees of developed/high-income countries in the post-COVID-19 era. Legislations must take into account the differences in labour force costs and create a framework that serves businesses and at the same time protects their employees. Hence, it is in this light that business competitiveness and the protection of employees meet, and this poses a right step towards answers.

Therefore, there is no shortage of uses for local authorities and other relevant parties. Productive engagement can include administrative bodies acting as enablers and mediators. The first could be achieved through offering guidance, support, and best practice principles via training sessions or focus groups where businesses and individuals engaged with or interested in developing protection measures can meet with public health experts and

consultants. This can act as a further mechanism to maximise the options offered to employees whilst also allowing stakeholders the flexibility to create and maintain an environment that does not conflict with the uniquely specified boundaries set by the needs and responsibilities of the firm.

The role of a mediator would most likely invoke laws that differ across jurisdictions and legal systems but would not necessarily require significant alterations in legislation. Its main use could be in facilitating the resolution of disputes related to COVID-19 considerations between employees and employers. This could ensure that difficult situations are appropriately addressed and could provide the necessary incentives, advice, and time for the two parties to come to an agreement. This has the potential to resolve issues and derive good practices as people gradually adapt to the new post-COVID-19 realities.

Overall, handing decision making to many instead of a few will cultivate a true spirit of acceptance and openness to discussion about the right solutions across the most productive part of the society benefitting everybody in the long term. Acting in accordance with that principle and keeping the interests of the parties involved in mind, governing bodies, especially at the local level, can support action in productive ways.

7. Conclusions

The impacts of COVID-19 on the economy and society have been mixed and changes were often radical. Restrictions in travel and mobility had severe effects on labour markets as well as consumer demand for products and services, while they also affected the transport of materials that aggravated the inadequacy of companies to meet the production requirements which affected all societies and have had rippling effects across the economy. As fears of recession are mounting and the medium and long-term disruptions brought by COVID-19 still permeate our societies and economies, collective efforts should focus on risk mitigation while plans should address future priorities and ensure institutional continuity.

Looking back at the last two years and as the world gradually returns to normal, the pandemic has definitely had detrimental impacts on people and societies and has revealed the extent of economic interconnection at a global level as a result of economic globalisation. While the tragic nature of such events can stain the pages of history, perhaps future historical accounts will recognise the catalytic effects that this public health emergency had on civilisation and progress, as individuals and communities coordinated and overcame immense difficulties to step up to the challenge. Perhaps even, judging from the exquisite accomplishments of businesses and sectors over the past years, “creative destruction”, in the words of the famous economist Joseph Schumpeter, might be the most accurate description of what came to pass. This obstacle and the experience we have gained tackling it should feed our concerns with solutions for an optimal transition to a new era that seems to be arising.

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