Overview of the impact of the new crown pneumonia epidemic on the global economy

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Abstract. Under the influence of the new crown epidemic, the world economy has been severely hit, and the fragility of the global industrial chain and supply chain has become prominent. In this paper, we analyzed the impact of the new crown pneumonia on the real estate, medical, and education industries. It can be seen from the data in the research report that the new crown pneumonia has caused a very serious impact on these industries, leading to changes in the industrial structure and changes in the global economic structure.

Keywords: New crown pneumonia epidemic, Global economy.

1. Introduction

The WORLD Economic Outlook 2020 released by the IMF predicts that the global economy will shrink by 3% in 2020, the largest contraction since the Great Depression in 1930. In comparison, the global economy shrank by 0.7% in 2009 due to the financial crisis China's gross domestic product (GDP) fell 6.8 percent year-on-year to 20.65 trillion yuan in the first quarter of 2020, marking the first contraction since China began publishing quarterly GDP data in 1992, according to preliminary calculations released by the National Bureau of Statistics on April 17.

At present, the impact of COVID-19 on the economy is mainly caused by three factors :1) People are objectively unable to engage in economic activities due to COVID-19; (2) Reluctance to consume or return to work because of fears of novel coronavirus infection; 3) The government has taken measures to restrict economic activities and people's movement in order to prevent the spread of the epidemic. Considering the small number of confirmed cases in China, the latter two should be the main cause. The second reason is shorter than the third one.

According to the macroeconomic data of the first quarter of 2020 released by the National Bureau of Statistics, the preliminary calculation of GDP was 2,0650.4 trillion yuan, down 6.8% year-on-year. From the perspective of production, the added value of primary, secondary and tertiary industries decreased by 3.2% 9.6% and 5.2% respectively In terms of expenditure, the total investment in fixed assets (excluding rural households) was 8,414.5 billion yuan, down 16.1% year on year. Per capita consumer expenditure was rmb5,082, down 8.2% in nominal terms and 12.5% in real terms after deducting inflation factors. The trade surplus totaled 98.3 billion yuan, down about 81 percent year on year. The total retail sales of consumer goods in China was 7,858 billion yuan, down 19.0% in

nominal terms year-on-year. Among them, the income of catering was 602.6 billion yuan, down 44.3% year on year. The consumer price index rose 4.9% from a year earlier, with the year-on-year increase easing to 4.3% in March. In February and March 2020, the surveyed urban unemployment rate was 6.2% and 5.9%, respectively, up 0.9% and 0.7% from the same period last year. As can be seen from here, the epidemic has had a certain impact on the macro economy. China's economy shrank for the first time in recent decades, and all major macroeconomic indicators have been affected What I want to stress here is that despite the impact of the epidemic on the Chinese economy, we are still optimistic about the Chinese economy in the medium and long term.

Analysis of the national economy industry classification of 40 industry categories, found in February 1, 2020 - its revenue and profit year-on-year growth of only tobacco products are oil and gas industry, the two industries in other industries almost completely annihilated tobacco products is relatively small, may be associated with a large number of hoarding consumption before the Spring Festival If industrial inputs are divided into labor intensive capital intensive technology intensive resource intensive, we can see things like mining, electricity and heat Gas and water production and supply industries, metal smelting and other industries are relatively less affected. Most of these industries are capital-intensive or resource-intensive with less human participation, which may be one of the reasons why they are relatively less affected.

In the first quarter of 2020, China's general public budget revenue was 4,598.4 trillion yuan, down 14.3% year on year, with a significant decline. Among major tax categories, only the stamp tax of individual income tax increased, while other tax revenues all fell by more than 10% In the first quarter of 2020, expenditures in the general public budget reached 5.528.4 billion yuan, down 5.7% year on year. The Standing Committee of the Political Bureau of China held in mid-April also proposed a more proactive fiscal policy to increase the deficit-to-GDP ratio Increasing the intensity of spending

2. The impact of the epidemic on the global economy

Since the WHO’s Country office in China was notified by Wuhan Municipal Health Commission regarding a possible viral pneumonia situation (WHO, 2020), Covid-19 has spread across all six populated continents, including 221 countries and regions (Johns Hopkins, 2020). Globally, as of 24 September 2021, there has been a total number of 230,418,451infected cases and 724,876 deaths confirmed (Johns Hopkins, 2020). This peculiar pandemic substantially impacted the world’s economy last year. Despite all the efforts to dampen the pandemic’s effect, the global real GDP growth was still -3.5 percent in 2020, in contrast with an increase of 2.2 percent back in 2019 (BEA, 2021). Moreover, for the first time in the past decade, the unemployment rate has increased to 6.47 percent rather than decreased (Statista, 2021). The rationales behind such development could be explained from multiple sectors, such as real estate, tourism, health, and education.

2.1. Impact on the Real Estate Sector

Far more significant than gold, stocks, and savings, real estate is often viewed as the best long-term investment (Norman, 2021). Before the pandemic, the real-estate market had experienced continuous growth in its volume for more than a decade. In 2019, professionally managed real estate increased to $9.6trn, representing a 7.8 percent growth from 2018(MSIC, 2019) [See Figure 1]. Nevertheless, as the Covid-19 becomes a pandemic for almost all countries globally, the real estate market greatly suffered from lockdowns and travel restrictions, which were the main causes for declines in such an immobilized market. For commercial real estate investment alone, reports showed a 29 percent fell globally to $321 billion in the first half-year compared to earlier (JLL, 2019), and investment volumes decreased by 37 percent in the US real estate market. Consequentially, the recession in real estate markets facilitated a considerable portion of negative GDP growth.

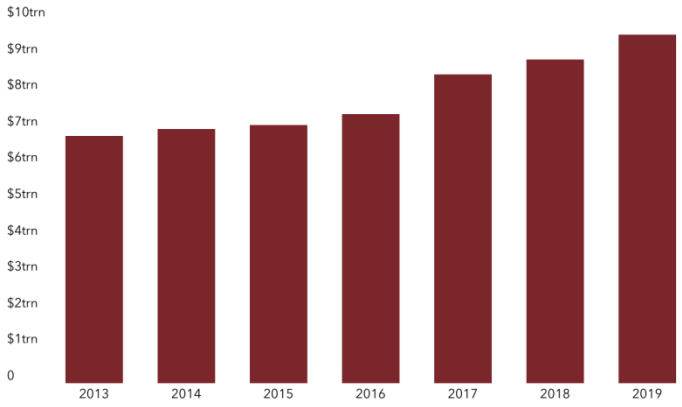


Figure 1. Worldwide professionally managed real estate market from 2013 to 2019

Commercial real estate was hit directly by Covid and related policies, such as hotel and retail properties. Van Dijk et al. (2022) measured the liquidity in the commercial real estate asset market for eight major cities in the USA during the pandemic. Their data shows notable drops in liquidity: negative 14 percent in apartment, negative 14 percent in industrial, negative 18 percent in office, negative 20 percent and retail markets.A study done by Xie and Milcheva (2020) tried to identify the relation between COVID-19 cases and daily returns of real estate firms in Hong Kong. Their finding shows a negative correlation. Specifically, real estate property within two miles from a Covid identified case result in a 0.02 percent lower return the day after the case was identified. Moreover, this situation is more significant for buildings that are closer together.

Overall, the real estate market had experienced tumultuous ups and downs when the Covid-19 pandemic struck, with statistics revealed the negative impacts at the global level. Nevertheless, some specific branches of real estates, such as the US housing market, have rallied themselves with substantial growths in late 2020. Therefore, the future of real estate markets is still undetermined due to numerous factors that promote and inhibit the recovery simultaneously (D'Lima et al., 2020).

2.2. Impact on The Tourism Industry sector

Tourism is indisputably one of the most critical influencers of the global economy. Before the spread of Covid-19, tourism and its related businesses accounted for 25 percent of newly created jobs in the entire world and 10.4 percent of global GDP (WTTC, 2020). In 2019 along, international travelers spent a total of 1.7 trillion dollars, equivalent to 27.4 percent of total global service export (WTTC, 2020).

With restrictions policies on traveling being applied in major countries, the tour and travel industry has also been severely impacted. In the United States for example, since the beginning of March and through the end of 2020, the pandemic has resulted in $492 billion in cumulative losses for the US travel economy (COVID-19 Travel Industry Research, 2021). That is equivalent to a daily loss of approximately $1.6 billion for the past 10 months. In the end, the US Total Travel spending for 2020 was $679 billion, which is a dramatic 42 percent annual decline compared to 2019.Tourism-related businesses had also been compromised. This includes retail companies, local merchants, hospitals, and etc. Such an adverse chain reaction resulted in severe employment loss in the travel and tourism industry. Approximately 100.8 million job losses have occurred (WTTC, 2020), with the Asia Pacific region being the most damaged (63.4 million), followed by Europe (13 million) and North America (8.2 million) [See Figure 3].

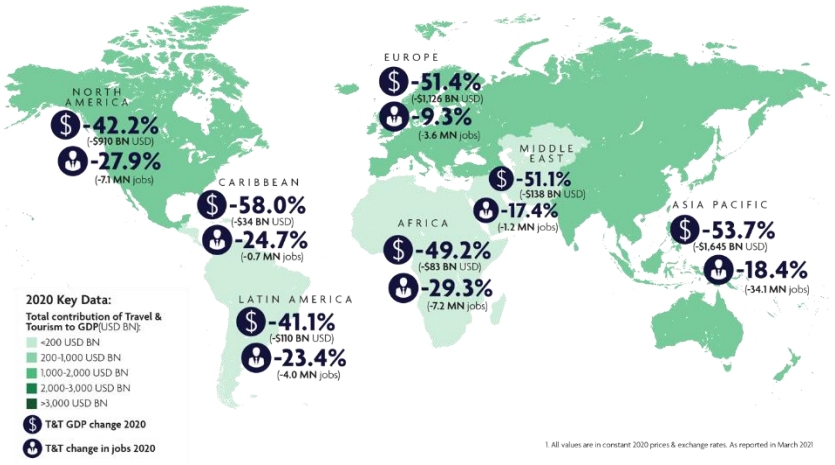


Figure 2. Regional overview of financial losses and job losses in 2020 compare to 2019

Unsurprisingly, the aviation industry was also not immune to the impact of Covid. According to the estimation of the International Air Transport Association (IATA, 2020), in 2020, airlines were expected to lose $84.3 billion for a net profit margin of negative 20.1 percent, as the demand shirked approximately 66.3 percent comparing to the previous year. Revenues was projected to experience a 50 percent fall from $838 billion in 2019 to $419 billion in 2020. Although the situation might rehabilitate a little, losses are still expected to continue through 2021.

In a sentence, the pandemic has nearly brought the global tourism industry to a halt, resulted in countless social and economic damages on many tourism stakeholders. As for now, thanks to the effectiveness of Covid vaccines, more countries are opening their borders with restrictions (KAYAK, 2021). However, whether the tourism industry could fully bounce back in recent years is still questionable, given that unpredicted circumstances, such as new Covid variants like Delta, are emerging.

2.3. Impact on The Medication Sector

Economically speaking, the medication industry is one of the few areas that wasn't affected by the ongoing pandemic. The global pharmaceutical market has continued its significant growth in revenue in the last 20 years and reached 1,265.2 billion us dollars in 2020. (Statista, 2021) [See figure 5]. However, this does not imply that the manufacturing process of medications is also calm and tranquil as usual. As this next section will discuss, demands for medical materials, drugs, and vaccines are all facing unequaled challenges in contrast to the pre-Covid era.

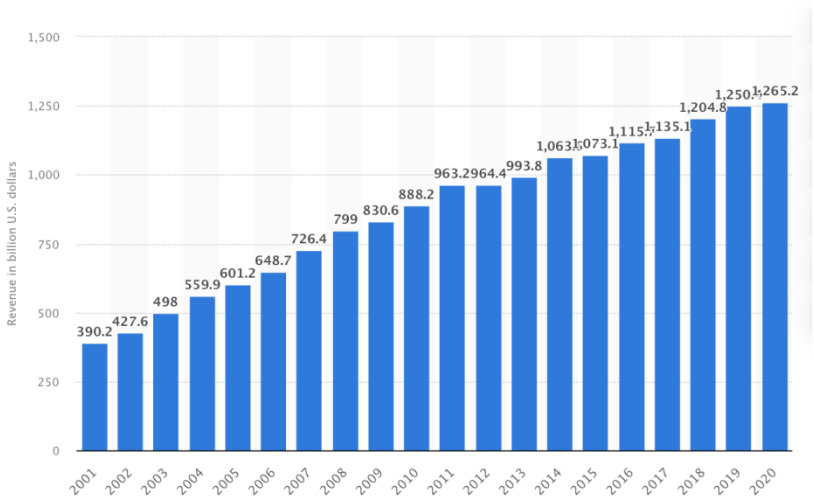


Figure 3. Revenue of the worldwide pharmaceutical market from 2001 to 2020

The outbreak of coronavirus has dramatically affected the pharmaceutical supply chain. China used to be the major supplier of Active Pharmaceutical Ingredients (API), with around 40 percent of API were manufactured in China before the existence of coronavirus (MHRA, 2017). As the Covid-19 spread across China, the government stopped the operation of a considerable number of drug-making factories. Most pharmaceutical companies did not have adequate time to sufficient stock amounts of APIs, which resulted in short supply of some essential drugs. Those medical companies with a full stock of APIs were nevertheless in fear of running out of stock, and some of them were selling at a very high price (Sato et al., 2020).

More pharmacy stores are opening to online orders to practice social distancing, and the traditional drugs distribution process is now mainly shifted to home delivery (Gillbraith, 2020). In Germany, for example, in March 2020, online sales of medications grew significantly, with an increase of 88 percent (Tagesschau, 2020).

Meanwhile, as Covid-19 vaccines are being developed, ensuring vaccines could be accessed equally and globally becomes a new challenge. According to Wouters et al. (2021), the first primary concern regarding Covid vaccine distribution is accessibility for all global citizens, followed by affordability. Up until today, more than 5.81 billion doses have been administered in the entire world (Bloomberg, 2021). Well-resourced countries such as the UK, Canada, and China all have vaccine-coverage rates above 70 percent, whereas countries like Chad, South Sudan, and DR Congo only have vaccine-coverage rates even less than 0.5 percent. As a matter of fact, the least wealthy 52 places have more than 20.5 percent of the entire population yet received less than 3.5 percent of all covid-19 vaccines doses distributed.

To sum up, the Covid-19 pandemic has impacted the global medication system across different dimensions, from the production of essential ingredients to the distribution of medications. Concurrently, as the Covid vaccines are being massively manufactured right now, the problem of making vaccines inexpensive and accessible to all global citizens becomes one major issue for all authorities.

2.4. Impact on the Education Sector

Effective education is a learning experience. Education brings about an inherent and permanent change in a person's thinking and capacity to do things. Nowadays, education happens at home, but most of it is received in government run or private institutions, at a school or university. However, the education sector might probably be the the largest affected sector due to the Covid-19 pandemic, as approximately 1.5 billion students, teachers, and scholars were affected in more than 200 countries. According to a study conducted by Robin Donnelly, Harry A. Patrinos, James Gresham on The Impact of COVID-19 on Education, at the peak of the pandemic, 45 countries in the Europe and Central Asia region closed their schools, affecting 185 million students. Furthermore, according to a UNESCO study, over 100 million additional children fell below the minimum proficiency level in reading as a result of the COVID-19 crisis. (UNESCO)

Due to the pandemic, teachers and administrations were unprepared for this sudden transition and were forced to build emergency remote learning systems almost immediately. What can be noted is that the pandemic had a much more severe impact on high education as universities all around the world had to close their campuses. Although these institutions adapted quickly through remote learning, the lockdown measures affected deeply the learning and examinations, as well as the safety and legal status of international students in their host country. (Schleicher 2020).

On the bright side, research suggests that online learning has been shown to increase retention of information, and take less time, meaning the changes coronavirus have caused might be here to stay. (Li and Lalani, 2020) According to the WeForum study, in response to significant demand, many online learning platforms are offering free access to their services. Tencent classroom, has been used extensively since mid-February after the Chinese government instructed a quarter of a billion full-time students to resume their studies through online platforms. This resulted in the largest “online

movement" in the history of education with approximately 730,000, or 81% of K-12 students, attending classes via the Tencent K-12 Online School in Wuhan.

Online learning has also proven its benefits. Dr Amjad, a Professor at The University of Jordan who has been using Lark to teach his students says, "It has changed the way of teaching. It enables me to reach out to my students more efficiently and effectively through chat groups, video meetings, voting and also document sharing, especially during this pandemic."

Even before COVID-19, there was already high growth and adoption in education technology, with global EdTech investments reaching US$18.66 billion in 2019 and the overall market for online education projected to reach $350 Billion by 2025. Whether it is language apps, virtual tutoring, video conferencing tools, or online learning software, there has been a significant surge in usage since COVID-19. (Li and Lalani, 2020)

As we now enter the COVID-19 recovery phase, it will be critical to reflect on the role of educational systems – how should students continue to learn. Will the online system be preserved or will all students be back to in-person learning? Real change often takes place in deep crises, and this moment holds the possibility that we won't return to the status quo when things return to "normal".

3. Conclusion

In conclusion, the sudden outbreak of the epidemic has led to the recession of many industries around the world, the decline of GDP in various countries and the loss of a large number of people. Although the blockade is now over in most countries, the economy is picking up and more and more cases are being cured.

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