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The Economic Impact of COVID-19 on the Chinese Economy

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Overview

The COVID-19 pandemic has now spread across the globe, causing significant economic disruption all over the world. China was the first and one of the hardest-hit countries in this global fight. The city of Wuhan, the first epicenter of this pandemic, with a population of 11 million, was completely shut down on Jan. 23, 2020, which WHO called “unprecedented in public health history”. Soon after that, cities in Hubei, of which Wuhan is the capital city, together with the rest of China, imposed similar lockdown restrictions, albeit less restrictive. Due to these quarantine regulations, by late February officially reported new cases of coronavirus had turned zero outside Hubei; in mid-March, total officially reported new domestic cases in mainland China turned to zero.

This fight, however, comes with substantial economic costs: businesses had to shut down, transportation scaled down, workers and consumers stuck at home and so on. With the spread of coronavirus under control, restrictions on businesses were gradually lifted throughout March.

In this report, I use the newly available data to investigate how the COVID-19 outbreak and the associated quarantine policies have affected the Chinese economy from various perspectives. Specifically, I look at the 8 groups of economic indicators covering production, investment, consumption/sales and imports and exports. Almost all of them indicate a plummet in economic activity where the year-over-year growth rate dropped

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Figure 1: Growth rate of industrial value added in China, Jan. 2000- Feb. 2020.

from about 10% before the pandemic to -20% or lower in February 2020. Fortunately, the limited amount of data available for March indicates a rebound in economic activity, which suggests that the negative impact may be short-lived.

Hopefully, this analysis lends insight to the economic aftermath of this pandemic across the world, given that many countries are taking similar “social distancing” and “lockdown” measures to varying degrees.

Data and Analysis

As Figure 1 shows, industrial value added for enterprises above a designated size, referring to all industrial enterprises with revenue from principal business over 20 million, had been steadily growing at an annualized rate of 6-7% in the months leading to this crisis. In Feb. 2020, the year-over-year growth rate plunged to -25.9%, which was a historic low. This is so even after accounting for the Chinese New Year effects in January and February. Even during the Great Recession period, the lowest growth rate was -3% in Jan. 2009. Therefore, the impact of COVID-19 on industrial growth was unprecedented in terms of magnitude.

Figure 2 plots the total and private fixed asset investment year-over-year cumulative growth rates from 2017M3 to 2020M2. Due to the Chinese New Year, no data is released for 2020M1, and the number for 2020M2 measures the year-over-year growth rates of combined January and February data. In the months leading to this crisis, both total and private fixed investment grew steadily between 4 to 7 percent; while during this crisis, they plummeted by -24.5% and -26.4% respectively, indicating significant disruptions of this outbreak to the business sector.

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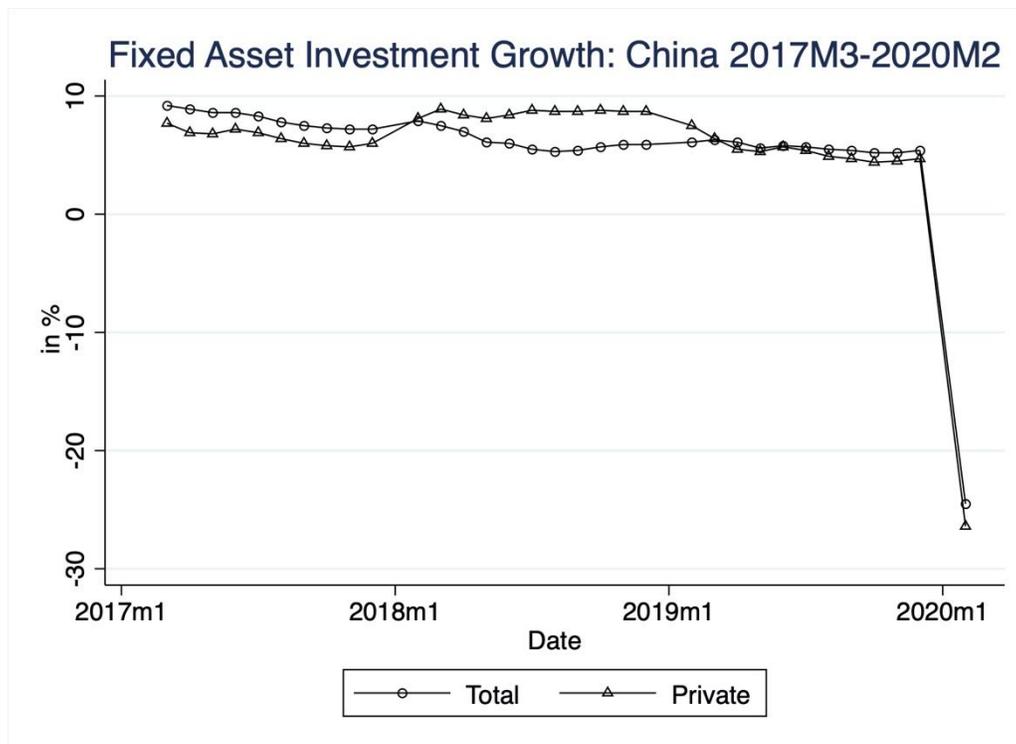


Figure 2: Fixed asset investment growth rate, total and private, in China, Mar. 2017- Feb. 2020.

As shown in Table 1 below, in Hubei Province, the epicenter of the outbreak in China, where the lockdown policies were also the most stringent, the economic impact was even more pronounced. February fixed asset investment growth was -77.4% in this province, compared with the nationwide -24.5%; industrial value added growth was -46.2%, compared with the nationwide -13.5%.

	Fixed Asset Investment Cumulative Growth in Feb. 2020	Industrial Value Added Cumulative Growth in Feb. 2020
Hubei	-77.4%	-46.2%
Entire Nation	-24.5%	-13.5%

Table 1: Cumulative growth in fixed asset investment and industrial value added in Hubei Province vs. nationwide in February 2020.

The economic disruption is also reflected in the retail sector. Figure 3 shows the cumulative growth rates of total retail sales, together with those coming from “meals” — a typical service sector—and those coming from “retail trade,” which mainly covers goods trade. As with the trend in industrial value added and fixed asset investment, retail sales plunged from nearly growing nearly 10% before 2020 to declining by 20% during the pandemic. The adverse impact was even more massive in the service sector, which saw a decrease in sales of 43%. Retail trade sales also slowed down, but not as much as in the service sector.

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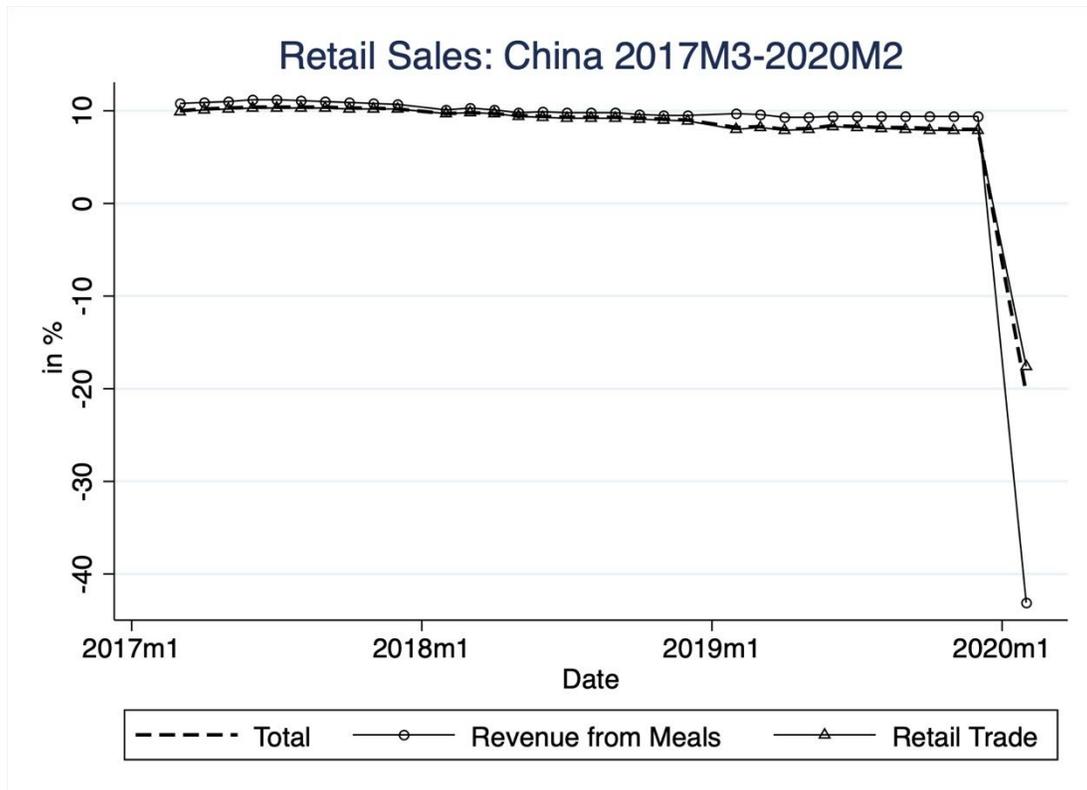


Figure 3: Growth rate of retail sales, total and selected categories, in China, Mar. 2017- Feb. 2020.

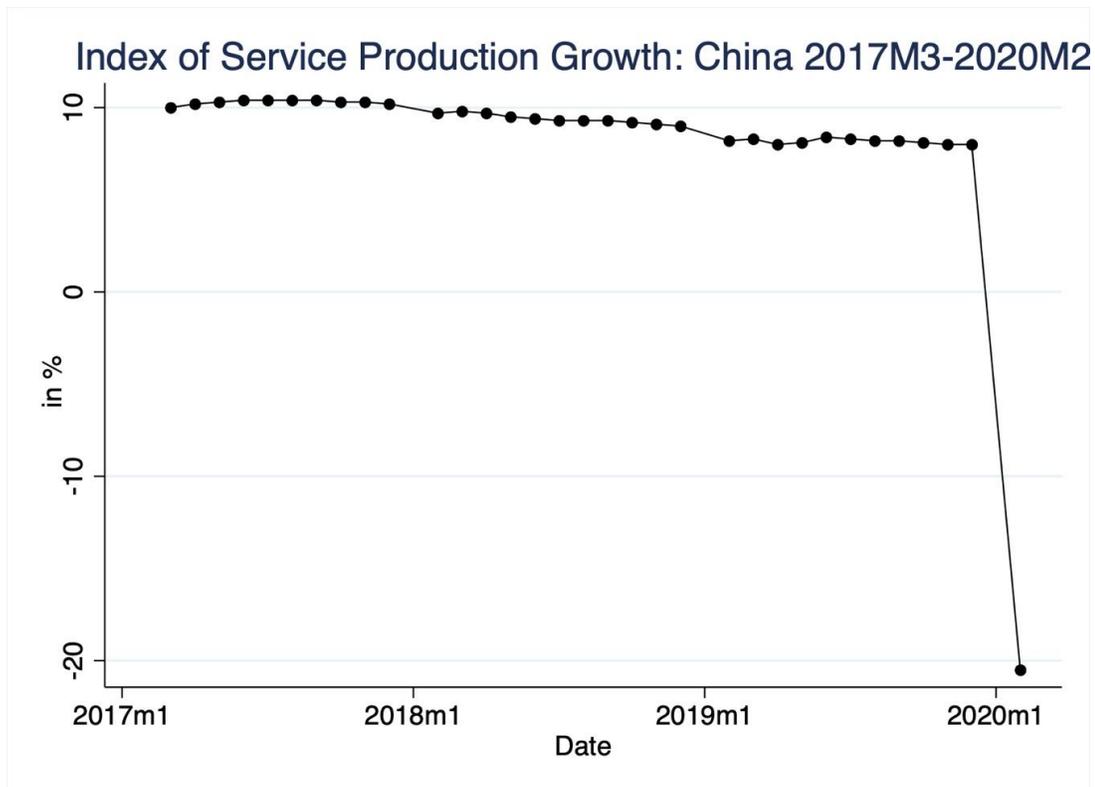


Figure 4: Growth rate of the index of service production in China, Mar. 2017- Feb. 2020.

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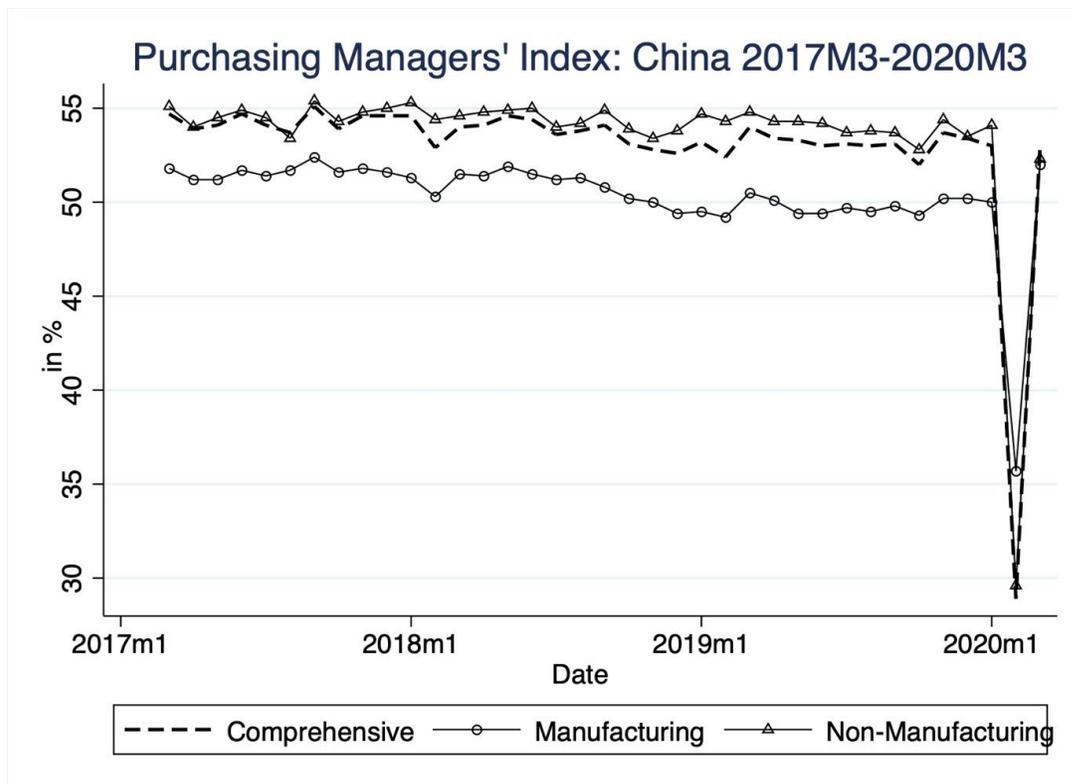


Figure 5: Purchasing Managers' Index, comprehensive and select categories, China, Mar. 2017- Feb. 2020.

The enormous slowdown in the service sector is also reflected on Index of Service Production (ISP) shown in Figure 4. The ISP is a business indicator which measures the price adjusted output of the service industries. There was a clear downfall of ISP growth from above 8% to below -20% in Feb. 2020.

The alarming slowdown in the economy, fortunately, seems to be transitory. I plot in Figure 5 the Purchasing Managers' Index (PMI) that includes the most recent data point for March. An index greater than 50 is regarded as an indication for an expanding economy, and vice versa. In Feb. 2020, all three indices fell below 50, with the non-manufacturing PMI falling even more than the manufacturing PMI. However, with more factories reopening and workers returning to work in March, the official PMI data returned to above 50 quickly. This is an indication that the economic impacts of COVID-19 are likely to be short-lived: once the outbreak is under control and restrictive measures are lifted, the economy seems poised to recover rapidly.

With "stay-at-home" orders in place, more consumer sales shifted online. As Figure 6 shows, online sales have been expanding rapidly in recent years: total online sales grew by about 30% in 2018 and roughly 20% in 2019. In Feb. 2020, this number fell to -3%, reflecting a drop in aggregate consumer demand. But the drop in online sales was much smaller than the 20% decline in total retail sales, reflecting a shift of consumption from offline to online.

Figure 6 also shows the three available components of online sales: food, clothing and necessities. Online sales growth for food was largely unaffected by this crisis; growth in necessities, like domestic appliances, saw a slight drop to 7.5%; while growth in sales in

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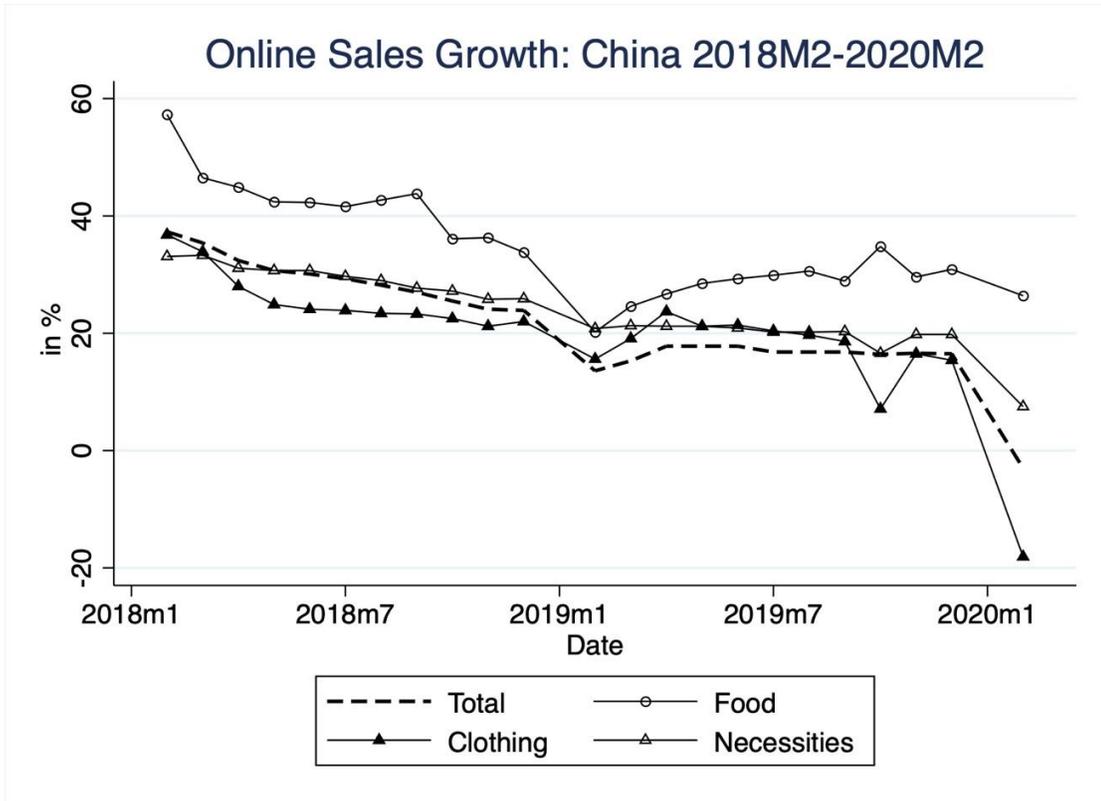


Figure 6: Online sales growth, total and select categories, in China, Feb. 2018-Feb. 2020.

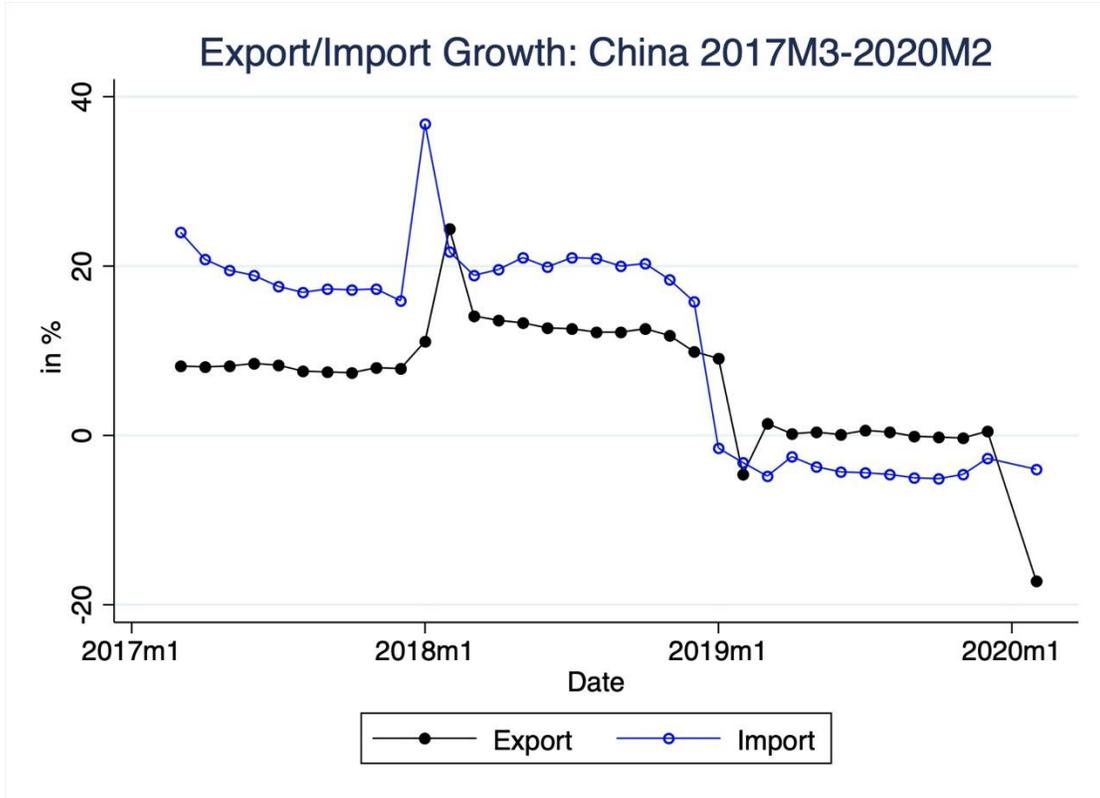


Figure 7: Growth in exports and imports for China, Feb. 2017-Feb. 2020.

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clothing turned sharply negative to -18% in Feb. 2020 from 15% in Dec. 2019. This indicates a recession-like shift in consumption behavior: a drop in total consumption and a shift away from durable goods.

Finally, Figure 7 shows the dynamics of export and import growth. While import growth was largely unaffected, total export growth dropped to -17% from consistently around 0 in pre-crisis periods. This has to do with the decrease in world demand due to this global fight against the pandemic.

Summary

Taken together, the economic impact of COVID-19 on the Chinese economy is huge, but likely transitory. Overall, many different indicators showed declines of 20% or more during the peak crisis month of February 2020, and 30% or more relative to their pre-crisis trends, with substantial variation across regions and industries. These negative impacts were widespread, from business investment to retail sales. The service sector was especially hit hard, while online sales merely experienced a mild impact. The sharp rebound in purchasing activity for March 2020 suggests that a rapid economic rebound is underway.