



Analysis on Risks and Opportunities of Chinese Small and Micro Enterprises under Supply Chain Crises During COVID-19

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ABSTRACT

The impact of COVID-19 on supply chains across the country is significant, and this has led to the funding, employment issues and shutdown for small and micro-enterprises particularly. However, it also provides opportunities for small and micro enterprises to reorganize their business structures or transformation, as well as receiving supports from the government. Due to the importance of small and micro businesses to the domestic economy, this paper provides an overview of risks and opportunities faced by small and micro enterprises under the COVID-19 supply chain crisis, and gives suggestions for the improvement of the government and enterprises. It can be concluded that, under the COVID-19 supply chain crisis, small and micro enterprises bear the risks on working mode, payment, the break of capital chain, and the inefficient supply chain management. Meanwhile, they also face opportunities including management reorganization, self-reflection, digital transformation, and the government support.

Keywords: COVID-19, Supply chain, Risk management, Small and micro enterprises.

1. INTRODUCTION

Three years have passed since the first confirmed case of COVID-19 was discovered in Wuhan, China in December 2019. COVID-19 has spread worldwide, causing the ongoing pandemic. In February 2020, when the newly increased confirmed cases reached their peak, Chinese government introduced the policy to appeal home quarantine and online work mode. Production on assembly lines was almost paused, and the Manufacturing Purchaser Manager's Index was 35.7%, dropping down by 14.35% from the previous month; The non-manufacturing business activity index was 29.6%, down 24.5 percentage points from the previous month [1]. Meanwhile, the New Export Orders Index and the Raw Materials Inventory Index also showed decreases of varying degree. Domestic enterprises, especially small and micro ones, being one of the major focuses of Chinese government in terms of its contribution in tax revenue, real Gross Domestic Output (GDP), and technological innovations, were facing serious problems due to the decrease in outputs, orders, and inventories during the epidemic.

Therefore, the risks and opportunities for small and micro enterprises under supply chain crises are worthy of

discussion. However, in recent studies, researchers mainly focus on the general analysis rather than reviewing them under a specific global economic or political destructive event background. Thus, there is a need of analyzing the opportunities and risks faced by small and micro enterprises during supply chain crises. The study based on the attributes of small and micro enterprises enriches the research on supply chain crises under a targeted background.

2. THE COMMON NATURES OF SMALL AND MICRO ENTERPRISES

Being one of the supply chain exogenous risks, COVID-19 can be identified as a sudden disaster that is unanticipated, sudden, irresistible, and uncommon. The destruction of economic activity caused by COVID-19 is negatively affecting the stability of the whole supply chain, interrupting a specific point or the whole of the economic activities on the chain. The logistics, capital injection, and information conduction may be ceased to flow, which may make firms and enterprises, regardless of their sizes, almost have a different extent of the loss. The financial goals and business plans are also postponed

or disrupted, making them even more unattainable in the short run [2].

Since small and micro enterprises have different factor endowments compared with middle or large scale enterprises, they are also different in organizational structures and quality and quantity of factors of production. Large enterprises have strong assets, sufficient cash flow as well as sufficient social reputation as a guarantee. They are generally more resilient to risks, especially for large enterprises in China, since they are mainly state-owned enterprises. Those small and micro enterprises are much less resilient to risks when facing a downturn in the economic and social situation. Due to the disparities in traits between the two types of businesses, the former has different merits and demerits when facing a supply chain crisis during the pandemic. Micro enterprises are defined as the number of employees less than 10, and the annual turnover or balance sheet should be below €2 million. For small enterprises, the number of employees is defined as fewer than 50, while annual turnover or balance sheet is below €10 million [3].

Firstly, small and micro enterprises are usually labour-intensive, that has low technology level. More than 800 million working population are employed in small and micro-enterprises. Most of them are concentrated in the industry in the primary sector that extracts resources, secondary sectors that preliminarily processed the raw material, or provision of low-leveled services in tertiary sectors. Technology-based enterprises only account for 4.62% of the aggregate number [4].

Secondly, they do not require high-quality factors of production to achieve value-added. This especially reflects on human capital, which refers to the labour and enterprise. Though there is large employment in domestic micro firms, people recruited are usually with relatively low literacy rate due to the low threshold of obtaining a job, and limited wage and career prospects within the firm. High skilled labour with professional qualifications and experience tends to be employed in large-scale enterprises or state-owned industries. Enterprises also do not require a high level of business knowledge due to the low barrier of entry. Normally it is managed and operated by family members or sometimes friends as a partnership, and that family or friend culture may penetrate the enterprise culture.

Thirdly, it is hard for small and micro enterprises to raise capital. If they need funds borrowed from the bank, they may lack formal financial statements of accounts and the collateral that commercial banks require to

approve a loan. Banks usually have strict risk control conditions, which is hard for those micro-enterprises with unclear accounts and non-standardized operations to pass. Those enterprises may have to choose a private loan shark (commonly 18%-24% annualized interest).

Fourthly, when facing an unanticipated external shock, small and micro enterprises without normal supply chain risk management plans are sensitive, vulnerable, and passive when there are changes in the external economy, political environment, or natural disaster. With low or even no participation and interaction in the ecosystem, the enterprise has few opportunities to cooperate with other companies on the supply chain, for example, upstream raw material suppliers or downstream retailers and wholesalers. The supply chain is relatively vulnerable with a low complementary system. It is estimated that the average survival time of small and micro enterprises is only about 4-5 years.

3.OPPORTUNITY AND RISK ANALYSIS ON SMALL AND MICRO ENTERPRISES UNDER SUPPLY CHAIN CRISES DURING COVID-19

3.1 Risks

3.1.1 Working mode and wage payment

Firstly, according to Figure 1, the top three sectors with the largest proportion of micro and small enterprises are the wholesaling industry (16.78%), the industrial industry (14.16%), and the retailing industry (11.12%) [4]. All of them are labour intensive industries and are hard to switch from the offline production line to an online mode.

In the event of an outbreak in a city, a dynamic zero of the novel coronavirus case is required for 28 days before work and production can fully resume and social normality can return. The long period interrupts or ceases production in the industrial sector, which means there is no output produced by the labours. However, the firm still has to pay wages. According to Chinese "Employment contract law", if an enterprise stops its work and production within one wage payment cycle, which is usually one month, the enterprise shall pay the wages of the employees according to the standard stipulated in the labour contract. If the situation continues for more than one month, the enterprise still needs to pay a living wage to its employees, which shall follow the relevant local regulations.

Percentage of Small and Micro Enterprises in 16 Industries in Enterprises Inspected (total value 76.75%)

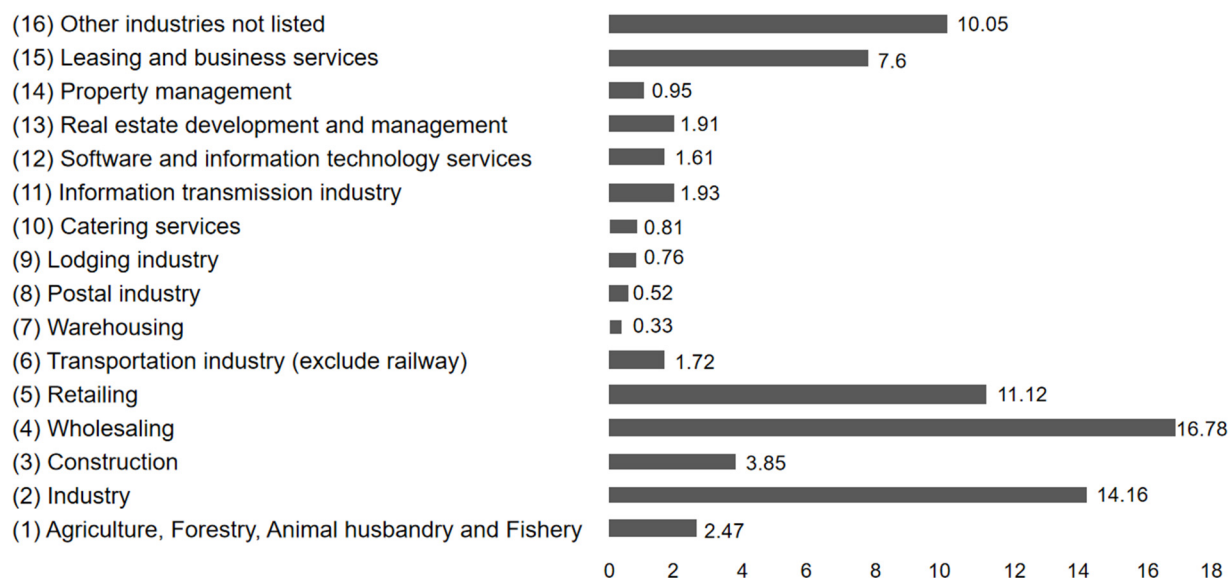


Figure 1 The histogram of small and micro enterprises in 16 sectors as a percentage of actually inspected enterprises.

3.1.2 Break of the capital chain

For the retailing sector, which is the third-largest in terms of the number of micro and small enterprises, the offline consumption has almost come to a halt, the flow of customers to physical retail shops has shrunk significantly, revenues and profits are not satisfactory in the short term, and there is a lack of sale channels for the stored goods; for the wholesaling industry, which accounts for the largest proportion of the number of micro and small enterprises, they are also facing a backlog of stock due to the lockdown or various reasons that interrupt the delivery of goods to customers. However, storage fees and rents still need to be paid. Additionally, small and micro enterprises in the manufacturing industry face cost pressures from the vacant machinery, equipment, and raw materials. The choice of loan financing for normal production and operation leads to an increase in current liabilities, further reducing the working capital of micro and small enterprises. According to a study by Ariadne Consulting, in 2020, the first year of the epidemic, the profits of small businesses in China dropped by 37.4% on a year-on-year basis. Small and micro-enterprises with relatively limited working capital face the risk of a break in their capital chain [5].

3.1.3 Inefficient supply chain management

Furthermore, due to an obsolescent management mindset, or influenced by the partnership or family-style business relationships, most micro and small business owners are not aware of the supply chain management. They are only willing to integrate the purchasing,

processing, and marketing issues within the company instead of considering to set up a cooperative relationship throughout the supply chain as a way to lower the risk when supply chain crises happen. Meanwhile, owing to financial constraints, these enterprises are not willing to set up a specific department for the scientific and efficient supply chain management [6]. The shortcomings of such supply chain systems make these companies less able to recover after the pressure has dissipated and more prone to be shut down under high-pressure situations such as epidemics. Meanwhile, it also makes it difficult for these companies to withstand sudden and abrupt changes in demand.

3.2 Opportunities

3.2.1 Management reorganization and self-reflection

Firstly, the epidemic has given small and micro enterprises time and space to reorganize their internal management and to self-reflect. The difficulty for them is that they can hardly afford surplus costs when the economy is under pressure. Therefore, it is necessary to improve their management efficiency, while further downsizing their staffing structure to reduce supply chain labour costs.

For example, most micro enterprises are family-style managed and tend to rely heavily on social networks for hiring, such as employing relatives or friends directly, which is subjective and informal without any scientific basis or judgement on diploma or working experience.

When these employees recruited through social networks do not meet the requirements of the job, the employers may not be able to make a dismissal decision due to sentiment [7], which wastes the resources and hinders the development of micro and small enterprises. To conclude, during an epidemic, small and micro enterprises can reorganize their internal structure, dismiss redundant staff, and improve supply chain efficiency and productivity.

3.2.2 Digital Transformation

Secondly, small and micro enterprises can enhance the digital level and convert their brick-and-mortar consumers at the end of the supply chain to online consumers. As offline sales have been hampered by the epidemic, e-commerce promotions have become an important channel for many businesses to sell their products. For example, due to the epidemic in Shanghai in early March 2022, many retail or wholesale micro and small enterprises in the agri-trade, processed food, and household necessities sector have switched to online docking with each “group-buying coordinator”, who uses social media platforms such as WeChat to collect hundreds of people's demand orders beforehand. Then these orders will be sent out and allocated to each demand neighbourhood, abiding by the regulations of the epidemic prevention and control.

3.2.3 Support from the government

Thirdly, the government also establishes supporting measures to help these enterprises overcome difficulties in the supply chain finance during the COVID-19 period. Currently widely implemented measures are the rent exemption, Value Added Tax (VAT) relief, and generous loan repayment terms. For instance, during the quarantine and production stoppage of Shanghai, in terms of tax reduction and fee reduction, the government provided a further 50% reduction in corporate income tax for small and micro enterprises whose annual taxable income exceeds 1 million yuan but does not exceed 3 million yuan. The extension of the policy of deferring the payment of some taxes and fees for small and medium enterprises in the manufacturing sector implemented in the fourth quarter of 2021 for another six months, and the continuation of the policy of adding credit to VAT in the service sector. In terms of housing rent reductions, Shanghai micro and small enterprises and individual entrepreneurs who lease state-owned housing to engage in production and business activities will be exempted from rent for three months in 2022, and if they are classified as being in the administrative area of a street or town with a high risk of epidemic or if their business activities are seriously affected by the implementation of epidemic prevention requirements, they will be exempted from rent for another three months, or a total of six months for the whole year. To a certain extent, it eases

the financial pressure on business owners, avoids business closures, and helps in solving the supply chain funding flow problem.

4.SUGGESTIONS

Chinese premier Li Keqiang once said, "small and micro enterprises are not only the 'main force' in attracting employment but also an important 'force' in stimulating innovation, driving investment, and promoting consumption." However, after the epidemic causing a serious shock in the supply chain in 2020, the survival rate of small and micro enterprises mostly remained at around 80%, with the highest not exceeding 90% (at 87.15%). The overall small and micro-enterprise survival rate lowers 11.81% [8]. The survival and healthy development of more micro and small enterprises shall better stimulate market dynamics and social creativity. To promote this, both government and small and micro enterprises need to pay an effort. In addition to the tax and rent support mentioned above, the government should also increase its support for small and micro enterprises in the supply chain finance sector. As small businesses face high costs and difficulty in accessing finance during the epidemic. Increased government assistance will be more effective in channeling funds to small and micro enterprises in the supply chain. At the same time, during the epidemic, the government can collaborate with large enterprises as well as labour-intensive small and micro enterprises. And when these enterprises have no orders and no output to produce, the government can outsource some of the services to them and help solve their plight [9].

For small and micro-enterprises themselves, besides the digital transformation mentioned above, business owners' knowledge at the supply chain management level should also be strengthened by receiving training in relevant courses or, if funding allows, outsourcing the design of the supply chain management to relevant professional experts for customization [10], thereby optimizing the supply chain and improving its resilience to risks. Finally, micro and small enterprises in the supply chain should also be prepared with capital, labour, and raw materials to meet the additional challenge of a recovery and an increase in demand after the end of the epidemic.

5.CONCLUSION

To conclude, for most labour-intensive small and micro enterprises that are less possible to apply an online working mode, entrepreneurs may have to bear risks and pressures from lower revenue due to the necessity of paying wages to employees even if they do not engage in production activities during quarantine, and the fixed cost such as rent. Disruptions in logistics have led to a backlog of stocks that cannot be traded. Lacking of supply chain

management knowledge and experiences, those enterprises have low elasticity to cope with the supply chain crisis and a sudden and significant fluctuation in demand. Nevertheless, the small and micro enterprises can take this opportunity to reorganize the internal business structure, for example, by dismissing less efficient workers, and upgrading and adjusting their sale and distribution method to cope with the crises.

However, more industries could be analysed in this paper rather than focusing on retailing and manufacturing industry. To give a full picture, future research can focus on adding and explaining a more specific example or data about a certain small and micro firm to improve the reliability and comprehensiveness.

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