Covid-19 Epidemic's Impact on the Financial Health of Wage-Earners and the MSEs in China and Policy Recommendations

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The covid-19 epidemic has entered its second months as of the press time. While tens of thousands of Chinese are suffering physically from virus infection, the epidemic also takes an ever-larger toll on the financial health of the working class and micro and small enterprises (MSEs) in China.

Working class and MSEs are the bedrocks of the national economy and social development and it is the wellbeing of hundreds of millions of households that is at the stake now. From the vantage point of business sector, as data compiled in the Fourth National Economic Census show, by the end of 2018, there are 15.439 million microbusinesses, or 85.3% of all businesses nationwide, while according to data from the Ministry of Industry and Information Technology, there are over 70 million individually-owned businesses/self-employers in China. Chinese Academy of Financial Inclusion at Renmin University of China (hereinafter referred to as "CAFI") finds that household micro economic entities, in the forms of individually-owned businesses/self-employers and family-owned workshops, involve 300 million households, or 63% of the national total. From the vantage point of household sector, data from the National Statistics Bureau show that 400 million out of China's total population are categorized into mid-income group, spanning 140 million households, while calculated on the basis that 30% of the surveyed population have monthly income lower than RMB2000, at least 530 million people in 180 million households in China can be categorized into low-income group. As nationwide and industry-wide business lockdowns caused by the epidemic have lasted for over one month, whether working class and MSEs can regain or maintain their financial health holds the key to the overall recovery of national economy.

Drawing upon existing research works on related topics, in February 2020, CAFI launched research project on the *Diagnosis of the Epidemic's Impact on the Financial Health of the Working Class and the MSEs in*

China and Policy Recommendations, under which a national survey was undertaken targeted at working class and MSEs, among other key segments.

CAFI introduces the concept of *financial health* to diagnose vulnerable groups' state of financial health during the epidemic. Their revenue and expenditure management, debt management, emergency preparedness, risk management, asset management, planning for the future, and confidence are thoroughly scrutinized so that problems can be spotted and tailored solutions prescribed accordingly.

Financial health is a concept closely associated with a household's wellbeing or a business's sustainability. It measures the effects of a household's or business's use of financial services, while taking into consideration how a household or business satisfy its long-term as well as daily needs and how prepared it is to cushion financial shocks. Financial Health Index, designed by CAFI, encompasses both objective indicators and subjective indicators while incorporating relevant financial ratios in it. Internationally, using financial ratios to measure financial health has a long history in both business and household finance. In business finance, various financial ratios have been in use for over a century to guide a firm's financial planning, monitor its solvency, and predict its bankruptcy risk. Similarly, financial ratios have also been intensively used for the evaluation of household level financial health for over three decades. Financial Health Index uses a 10-point numerical scoring scale, with 6 being the passing score and 10 the best one. For example, considering that the epidemic may last for over three months, for indicators "adequacy of emergency saving" and "ability to raise emergency fund" to reach the full score (10), emergency fund needs to be adequate to sustain the same standard of living as before the epidemic for at least three months. Other examples include “current asset turnover” and “asset turnover” among Business Financial Health Indicators. For these two indicators, we denote mean of listed companies in the same industry as 10, whereas for “liability to asset ratio”, red line is defined as the mean of listed companies in the same industry plus one standard deviation.

	Family Financial Health	Business Financial Health
Objective	1. Can you make ends meet 2. Do you have any overdue debt 3. Total debts over total assets ratio 4. Ability to raise emergency funds 5. Adequacy of Emergency Savings 6. Adequacy of Insurance 7. Current assets over monthly expenses ratio	1. Current Asset Turnover 2. Asset Turnover 3. Liability ratio 4. Adequacy of Emergency Funds 5. Ability to raise emergency funds 6. Does the company have any overdue debt
Subjective	1. The feasibility of financial plans 2. Resilience against financial shocks 3. Confidence in future family finances	1. The feasibility of financial plans 2. Resilience against financial shocks 3. Confidence in future corporate finances

Figure 1: Business and Household Financial Health Indicators

I. Wage-Earners’ Financial Health Challenges in the Aftermath of Epidemic

Wage-earners refer to individuals and households who rely on wages or salaries as major income source. In this survey, CAFI categorizes wage-earners into three sub-groups, namely full-timers, offline workers, and online workers.

Analyses on wage-earners’ financial health show that financial scores of 70% surveyed household are below the passing line, whereas only 4%

score 8 or higher. It can be deduced that only through intensified attentions to household financial health could wage-earners be better prepared for emergencies.

1. Budget management is poor and more credible planning is needed.

Wage-earners tend to have poor management of their incomes and expenditures in the aftermath of epidemic. 32% of the wage-earners surveyed predict that they could not make ends meet but according to their self-predicted data of incomes and expenditures, 73% of the surveyed could not manage to scrape by.

Scores measuring budget management provide evidence to this situation. The mean score of the indicator "Can you make ends meet" shows that except full-timers whose mean score is 3, online and offline workers both scored poorly, lower than 3.

Apparently, when confronting with emergencies, wage-earners who are inept in budget management are prone to running behind their expenses or depleting their nest eggs. Wage-earners should not rely on their gut feeling or rough estimation to manage their incomes and expenditures. It is advisable that they adopt more credible accounting journals.

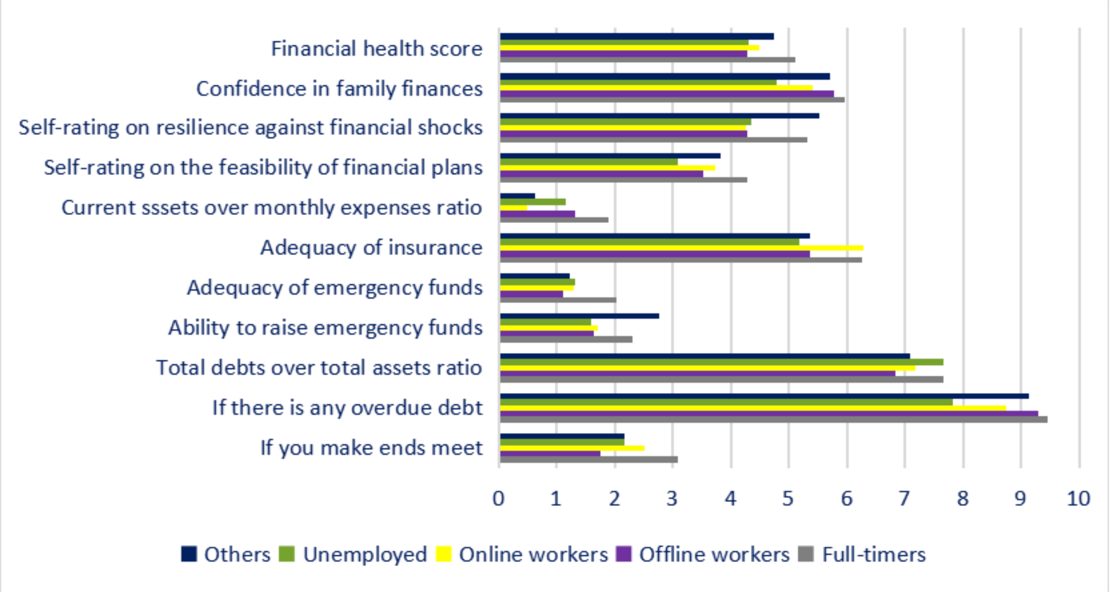


Figure 2: Wage-Earners' Financial Health Scores in the Aftermath of Epidemic

2. Debt burden is relatively manageable and the impact of epidemic is not as severe as expected.

Wage-earners' ability to serve their debts is passable. 92% of the surveyed believe that their family debts will not become delinquent. The majority of the surveyed has relatively low debt ratio, with 77% of the families having debt-to-asset ratio below the 50% redline. For the indicator "Do you have any overdue debt", both full-timers and offline workers score 9 or above on average, while except offline workers who score lower than 7 on average, other subgroups all score higher than 7.

Among those who self-reported no overdue debts, except those without debt at all, 31% can meet their financial obligations with their own fund, 24% need to raise fund for debt service, and 20% have to apply for maturity extension. It is safe to deduce that epidemic's impact of wage-earners' debt management is not as severe as supposed and the majority of the surveyed can find their own coping strategy.

3. Emergency management is poor and daily financial planning is necessary.

Epidemic does cast an impact on wage-earners' expectation on incomes and expenditures. 70% of surveyed wage-earners expect decreased household incomes, while 37% expect increased household spending, and 34% expect household spending to remain the same. Nearly 60% of surveyed wage-earners report that their emergency saving can only sustain 3 months of living equivalent to the standards prior to the epidemic outbreak, and only 20% have enough for longer than 6 months. At the same time, all three subgroups surveyed score below 3 on average on the indicator "Adequacy of emergency saving", and only 17% score 8 or higher in the indicator “Self-rating on resilience against financial shocks”, whereas 78% score 6 or lower.

Compounded by the inadequacy of emergency saving, the majority of the wage-earners encounters difficulties in raising emergency fund. Survey data shows that 47% of the sample sets can borrow money to sustain up to 3 months of living equivalent to the standards of pre-epidemic level, and 25% could sustain 4-6 months through borrowing. Three surveyed subgroups all score below 3 on average in indicator “Ability to raise emergency fund”.

In summary, were the epidemic to linger 3-6 months and wage-earners become redundant or their incomes cut by half, the financial health of their households would suffer negative impacts, reiterating the importance of emergency management. It is advisable that household make allowances for rainy days, even at the expense of part of the income that could have been generated through investing activities, in order to maximize their household wellbeing.

4. Social insurance serves as foundation and commercial insurance as important supplement for risk management.

Thanks to a relatively high penetration rate of social insurance in China, wage-earners perform slightly better in risk management. Survey shows that 23% of the wage-earners are entitled to social insurance, and 50% are also covered by medical insurance, life insurance, accident insurance, and property insurance, in addition to social insurance. The mean scores of the indicator “Adequacy of Insurance” of full-timers and online workers are both 6, whereas offline workers score below 6 on average.

It is safe to claim that in China social insurance is the first line of defense for wage-earners to tackle risks. In addition, considerable demand for commercial insurance also materializes as wage-earners' awareness of risks awakens. It should be a shared responsibility for the state, financial sector and individuals to form solid and rigorous risk guarantee.

5. Asset management is very poor and regular allocation of financial resources is visibly inadequate.

Wage-earners' allocation of current assets is visibly inadequate. Survey shows that 47% of the wage-earners whose current assets are enough for up to 3 months of living equivalent to the standards prior to the epidemic outbreak, while 8% for 4-6 months and 45% for more than 6 months. Mean scores of the indicator "Current assets over monthly expenses ratio" for three subgroups are all lower than 2, giving evidence to the poor performance in emergency management. It is advisable that wage-earners prioritize fixed expenses, debt payment, emergency funds, and basic insurances in their asset management practices.

6. Expectations on achieving certain financial plans are slightly affected.

Epidemic's impacts on the feasibility of future financial plans vary among three subgroups. Comparing wage-earners' self-evaluation on the possibility of achieving their financial plans prior to and after the epidemic breakout, nearly 80% of the surveyed maintain the same or lower their expectations on achieving their financial plans. Among the three subgroups, full-timers have the strongest resilience against risks, the majority of the offline workers tune down their expectations, while most of the online workers raise their expectations. At the same time, for the indicator “Self-evaluation of the feasibility of future finance plans”, 12% of the surveyed score 8 or higher and 63% score 6 or lower.

7. Risk of absolute unemployment is not high and pessimistic outlook is not as severe as expected.

30% of the wage-earners remain optimistic towards their prospects of employment, believing that they can maintain the current standard of living, 30% expect lowered standard of living, whereas only 14% expect a terminal exit out of the labor market once unemployed. 49% among the surveyed score 6 or higher in “Confidence in future family finances”, show that wage-earners are not as pessimistic as expected, a highly positive sign of the pending economic recovery.

8. Internet as the most useful tool for wage-earners to cope with the epidemic.

23% surveyed rank online shopping applications, a subgroup of leisure and entertainment, the most useful, making them the most popular internet tools among wage-earners. Remote office and learning also play significant roles (38%). Artificial Intelligence (AI) only constitutes a small portion among all the internet tools but has great growth potential, particularly smart community, smart transit, and unmanned services, etc.

9. Good financial behaviors are the key to securing financial health

Regression analyses of survey data show that, controlling age, gender, education attainment, type of residential status, size of household, revenue, type of works, region of residence, etc., there is a strong positive correlation between pre-epidemic financial behaviors such as balanced budget, adequate liquid investment, no delinquent debt, having financial plans, etc., and post-outbreak financial health scores. It can be concluded that maintaining adequate liquidity, good credit history, and clear financial plans prior to the epidemic holds the key to the post-outbreak financial health.

On the contrary, there are significant negative correlations between investing for rainy days (i.e., insurance) and scores on adequacy of emergency fund, as well as between growth investment and self-evaluated scores, namely, scores on feasibility of financial plans, resilience to financial shocks, and confidence on family's financial future as well. It is suggested that investing for rainy days has a trade-off impact on the arrangement of emergency fund and that medium- and high-risk investments put more pressure on people, lower their perception of happiness, and cast impacts on their expectations towards the future.

Financial Health Score After the Outbreak Struck

Financial behaviors prior to the epidemic	Make ends meet	No Overdue	Reasonable Fin. Ratios	Emergency Funds Adequacy	Ability of Raising Emergency Funds	Insurance Coverage	Liquidity	Fin. Plans Feasibility	Resilience against Fin. Shocks	Confidence in Family Finances	Total Financial Health Score
Make ends meet	↑										↑
Short-term Investment			↑	↑	↑		↑	↑	↑		↑
Long-term Investment	↑			↓		↑					
Med- & High-risk Investment								↓	↓	↓	
No Overdue		↑	↑		↑				↑	↑	↑
Financial Plans		↑				↑	↑		↑	↑	↑

Figure 3: Correlations between pre-outbreak financial behaviors and post-outbreak financial health scores of wage-earner households

II. Post-Outbreak Financial Health of MSEs

The definition of MSEs used in this report includes the micro enterprises as defined by the National Statistics Bureau, as well as individually-owned businesses (self-employers) that operate online and offline. They are smaller and more fragile than regular micro-enterprises.

Among the MSEs surveyed, 34.3% score 4-6, 40.6% score 6-8, and 10.9% score 8 or higher. MSEs in general perform better than wage-earners. Breakdown analyses on individual indicators show that MSEs perform the worst in "Ability to raise emergency fund" and "Self-rating on feasibility of financial plans", scoring 3.4 and 4.6, respectively; the second worst performance occur in the indicator "Self-rating of resilience to financial shocks" and "Adequacy of emergency fund", scoring 5.2 and 5.6, respectively. Mean scores of other indicators all surpass 6, with the highest of 7.9 at "Current asset turnover".

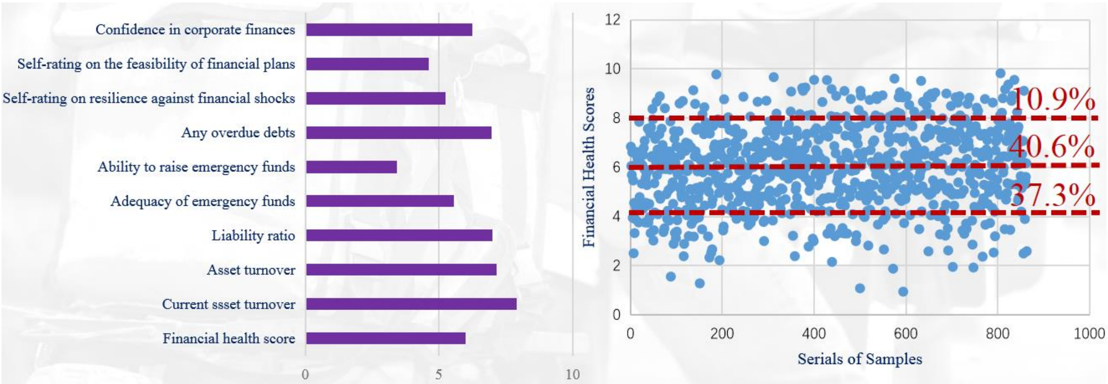


Figure 4: Scatter Graph on Financial Health Scoring

1. Online operation shows its advantage during the epidemic and may play dominant role in the future.

Most of the MSEs suffered from a reduction in net profit due to the epidemic, while pure online businesses took the smallest hit. 71% of the business owners reported a year-on-year decrease in net profit. Among all the pure online businesses, however, 32% report that they were not affected in terms of net profit, while 10% saw increases. Regression analysis shows a positive correlation between online operation and business financial health scores.

The epidemic acted as a stimulant for transition. 11% of the offline businesses surveyed say that they plan to move online in 3 months after the epidemic broke out.

2. Business digitization enables higher accessibility to finance.

Pure online businesses enjoy higher accessibility to business loans, mainly using digital finance platforms for financing. Among all the pure online businesses surveyed, 47% claim that they would choose online lending services offered by digital finance platforms, while the ratio is only about 30% in other business categories. A reason could be that pure online businesses have accumulated rich contextual information online, which allows digital lending platforms to use AI algorithms to assess risk accurately and in real time, achieving speedy credit approval while reducing the incidence of fraud. In a sense, it is safe to speculate that business digitalization improves a firm's accessibility to finance.

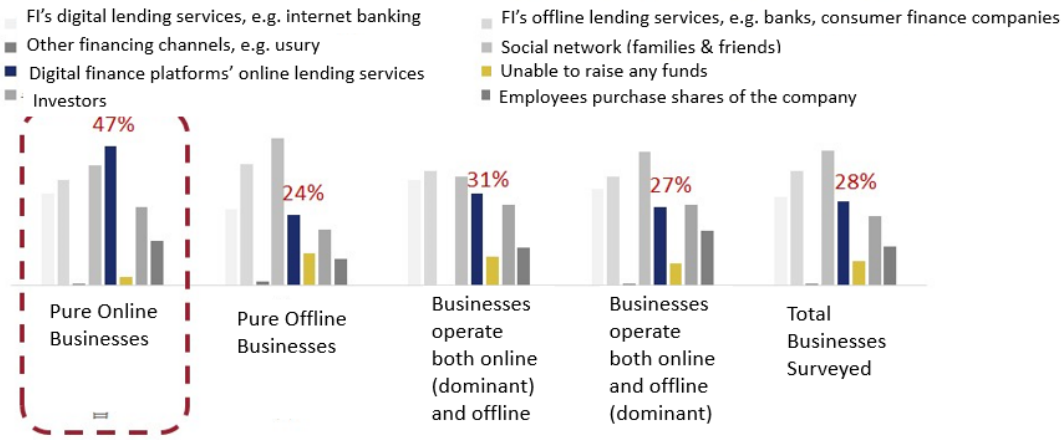


Figure 5: Financing Channels for Different Types of Businesses

3. High risk of business interruption and high demand for stable small-amount loans

The three months immediately after the epidemic breakout are the critical threshold for most firms. 65% of the business owners surveyed say that their nest eggs could only sustain no more than three months of normal operations, while 58% say that all the borrowings they can tap into are only enough for no more than three months of operations. Meanwhile, the mean score of "Adequacy of emergency savings" is lower than 6, evident that small business owners are in general not financially prepared for emergencies.

Funding gaps of MSEs cluster at the level below RMB1 million, and mid- and long-terms loans with tenors above one year are most favored by business owners. 70% of the business owners surveyed say that their businesses have funding gaps after the epidemic breakout and for most MSEs, the funding gaps range between RMB 10,000 and RMB1 million. However, 54% of the business owners surveyed say that they wish to secure term loans with tenors equal to or longer than one year.

At the first glance, this is against the observation that business owners prefer flexible loans but it actually matches business owners' operating strategies. In interviews, many business owners prefer long-tenor loans for short-term funding needs out of fear that revolving credit lines may subject them to risks of loan reduction or rescission, destabilizing their funding. In times of emergency, business owners are more concerned about funding stability than extra costs that borrowing long may incur.

Figure 6: MSEs' financial situation, funding gap, and preference for loan tenor during the epidemic

4. MSEs' solvency is strong and maturity extension policy will be of substantial help.

The MSEs generally have few liabilities and low liability ratios. Among the business owners surveyed, 36% report no liability, 61% report liabilities lower than RMB10,000, while only 5% report outstanding debts higher than RMB10,000. Distribution of the sample set's liability ratios shows that 61% of the business owners have liability rations lower than 0.3. While ensuring MSEs' solvency, low liability ratios also attest to MSEs' difficulty in securing financing.

Most of the MSEs surveyed have never had delinquent debt. Loan maturity extension policy, introduced during the epidemic, offers substantial helps to businesses. Only 13% of the business surveyed report that they have had delinquent debts. After the epidemic outbreak, facing tremendous cash flow pressure, 30% surveyed say that they need debt extension and 9% say that they would not be able to meet their debt obligations and may default. Mean score of “Does the company have any overdue debt” is close to 7, attesting to good creditworthiness of MSE owners and their willingness to meet their debt obligations through various means.

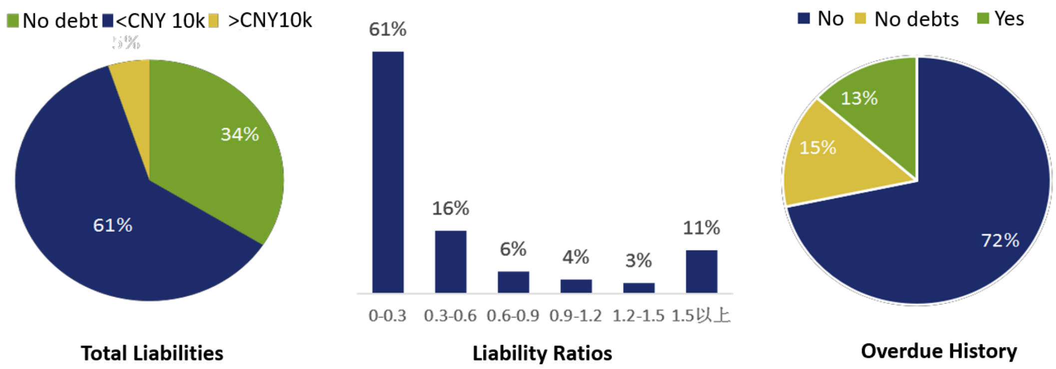


Figure 7: Total liability, liability ratios, and overdue history of MSEs

5. Internet banks and nonbank financial service providers play instrumental roles in channeling funds to MSEs.

MSE owners surveyed prefer to resort to internet banks, internet microlending platforms, and other digital finance platforms for their funding needs, even though borrowing cost from such lenders may be higher. Survey shows that complex lending procedures, lack of collaterals, poor financial standing, and lengthy approval time are the four major hurdles that hinder MSEs from securing bank loans timely. It is safe to speculate that products and services offerings by internet banks and nonbank financial services providers are better poised to satisfy MSEs’ borrowing needs that are characterized by small amount, urgency, high frequency, simplified procedure, and no collateral required amid the epidemic.

6. Lack of awareness on risk response mechanism indicating great market potential for inclusive insurance

46% of the business owners surveyed admit that their liquidity management need to be improved. Cash flow is the most critical determinant of a small business's life span amid an epidemic. Business owners are expected to be more vigilant in their liquidity management in order to mitigate the risk of being caught off guard in future emergencies.

It is noteworthy that only 21% of the business owners surveyed express intentions to enhance their risk resilience through purchasing insurance. During the interviews, majority of the business owners admit their lack of awareness of business insurance and claim that it is not necessary to purchase insurance given their businesses' limited scale and that hoarding cash could be a better approach.

It can be concluded that MSE owners lack awareness of insurance and are in general not willing to purchase insurance for their business operations. In addition, there is a severe shortage of inclusive insurance products off the shelf targeting MSEs. However, as the business owners acquire better awareness of insurance, it is anticipated that inclusive insurance will be a niche market that offers great growth potential.

7. **Fiscal policies are more effective than financial policies amid the epidemic.**

Survey shows that fiscal policies that aim at reducing MSEs' operating costs are more effective. 45% of the business owners surveyed say that tax cuts and fee reductions have direct positive impacts on their operations; 39% have enjoyed rent reduction, and 35% have received subsidies. Meanwhile, regression analysis of the survey data shows that there is a considerable positive correlation between subsidies and distribution of anti-epidemic materials, among other measure, and financial health score of MSEs, attesting to the effect of fiscal policies.

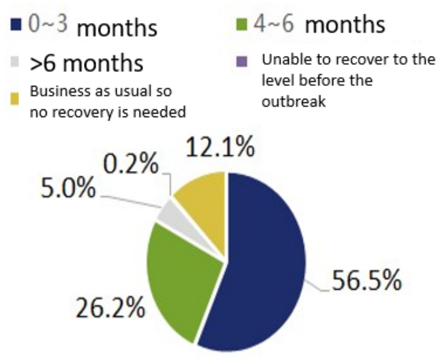
In terms of financial policies, business owners claim that there is an urgent need that banks implement loan maturity extension policies and lessen, to an appropriate extent, lending requirements to MSEs so as to ease the latter's debt repayment pressures and difficulties in borrowing as well. There is a significant positive correlation between financial health scores and loan increase and interest reduction or exemption, proving that such policy measures can help businesses ease the immediate pains. It is noteworthy, however, that there is a significant negative correlation between the need for maturity extension and financial health scores, evident that the worse a business's financial health is, the more urgently it needs maturity extension.

Figure 8: Policies that have positive effects on MSEs during the epidemic

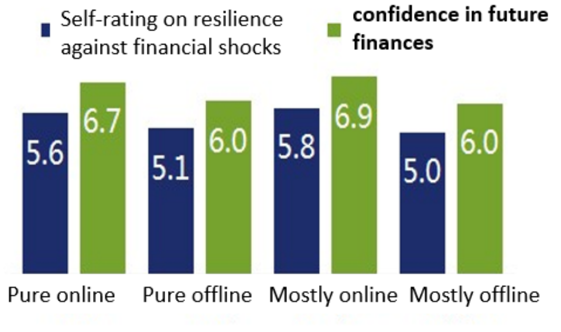
8. Epidemic's impact on MSE owners' confidence not as devasting as expected

Most of the businesses surveyed believe that their operations will be brought back to normal within three months after the epidemic ends and are confident about their financial future. Approximately 56% of the business owners surveyed believe that their production will return to the pre-epidemic level in less than three months once the epidemic ends, and 95% believe that business will back to normal within six months. In addition, although owners of purely offline and dominantly offline businesses lack resilience against financial shocks, business owners across the board all share strong confidence for the future (scoring 5 or higher).

We find that the business owners' confidence is based upon strong customer relationship and network created over the years, decades of dedication to one sector, the new opportunities offered by a variety of digital tools, and the hopes for a beautiful life ahead. It can be deduced that although relatively vulnerable, MSEs have admirable resilience and are capable of innovating quickly.



The time needed for bringing business back on track



Resilience against financial shocks & confidence in future finances

Figure 9: Time needed for bringing production back on track, resilience against financial shocks, and confidence in future finances

9. Good financial behaviors are key to MSEs' financial health.

Regression analyses of survey data show that, controlling age, gender, education attainment, marital status, size of household, duration of business operations, scale of operations, sector, online business model, planning to switch online, etc., there is a strong positive correlation between pre-epidemic financial behaviors such as having no delinquent debt, having financial plans, investing and purchasing insurance, etc., and post-outbreak financial health scores, whereas in contrast, significant negative correlation can be spotted between medium- and high-risk investing and scores on individual financial health indicators as well as overall financial health scores.

It is discovered that good credit history, clear financial planning and adequate insurance coverage prior to the outbreak are the keys to securing the post-outbreak financial health of MSEs. On the other hand, med- and high-risk investments will put pressure on the businesses and harm their financial health.

Financial Health Score After the Outbreak Struck

Financial behaviors prior to the epidemic

	Current Asset Turnover	Asset Turnover	Liability Ratio	Emergency Funds Adequacy	Ability of Raising Emergency Funds	No Overdue	Resilience against Fin. Shocks	Fin. Plans Feasibility	Confidence in Future Corporate Finances	Total Financial Health Score
No overdue			↑	↑	↑	↑	↑	↑		↑
Financial Plans						↑		↑	↑	↑
Market Expansion Plans				↑	↑		↑	↑	↑	↑
Business Expansion Plans										↑
Employee Career Planning	↑									
Emergency Funds					↑					
Med- & High-risk Fin. Invt.			↓			↓	↓	↓	↓	↓
Insurance Investment			↑	↑		↑			↑	↑

Figure 10: Correlations between pre-epidemic financial behaviors and post-epidemic financial

health scores of MSEs

III. Policy Recommendations

We suggest that government, financial institutions, and micro and small economic entities join forces in response to the epidemic's impact on micro and small economic entities as well as in accordance with micro and small economic entities' intrinsic needs. Government should value the effect of fiscal policies, financial institutions should further improve their service capabilities, and micro and small economic entities should build their own capabilities and improve their financial health.

1. Value fiscal policies' short-term effect

It is evident that fiscal policies are the most effective tool to tackle emergencies in short term. As shown in our analyses, nearly half of the MSEs owners surveyed report that fiscal policies aiming at direct operating costs cut, including subsidies and distributing anti-epidemic materials, are the most effective, a claimed proven by empirical testing.

Our first recommendation is that government augments its fiscal policy measures in the duration of and within a period of time after the epidemic. Such measures may include: half-year to full-year tax cut or exemption for micro and small economic entities. A universal half-year to one-year VAT exemption should be introduced to all small-size taxpayers, no matter whether such a taxpayer's monthly revenue surpasses RMB100,000. Another such measure may be to provide laid-off wage-earners who cannot find new jobs with flexible and temporary subsidies and unemployment benefits in order to help them scrape by when lose income.

Our second recommendation is that government introduces appropriate incentive programs and mobilizes the whole society to give life support to micro and small economic entities. A possible measure is to encourage real estate developers, property management companies and individual landlords to reduce or waive rents and management fees to MSEs so as to directly lower the latter's operating costs.

2. Attend to micro and small economic entities' true needs

Regulators and financial institutions should adopt a set of principles to serve micro and small economic entities in times of emergency and adjust financial product and service offerings in response to MSEs' actual challenges.

First off, financial institutions should implement in earnest loan maturity extension policies targeting at MSEs. Not only will such measures determine whether businesses could mitigate risks and survive the epidemic, but also at stake are financial institutions' own credit risks. In its recently issued *Notification on Temporary Debt Repayment Extension for Micro, Small and Medium-Sized Enterprises*, China Banking and Insurance Regulatory Commission (CBIRC) mandates that financial institutions grant enterprises temporary grace period for debt repayment should the enterprises in question apply for it. Our survey finds that wage-earners and MSE owners have strong expectations that financial institutions adhere to such policies. Now it is financial institutions' turn to show how seriously they comply.

Secondly, we propose that regulators further adjust regulations governing credit limits of digital loans allowed to grant to individual accounts. Our analysis shows that it is easier for MSEs to secure loans via internet and therefore, digital loans offered by commercial banks or nonbank financial service providers are of vital importance to MSEs. Also shown in our survey are that 24% of MSEs have funding gaps ranging between RMB110,000 to RMB1 million, and that 7% have funding gaps surpassing RMB1 million, indicating that credit lines for business operations set too low would be inadequate to meet MSEs' funding needs, leading MSEs in the cold in the want of financing.

The last, we suggest that regulators revise the one-year limit on personal digital loan's tenor. According to our analysis, over 50% of MSE owners prefer loans of fixed tenor of 12 months and longer and they are willing to bear the extra financing cost for stable funding. Adjusting loan tenor, for example extending one year to three years, could significantly lessen MSEs' monthly financial obligations and in effect lower financing costs. Should policies fail to address MSEs' difficulties, their effects would be seriously undermined.

3. Include internet banks and nonbank financial institutions into the financial inclusion system

On the condition that financial risks are controlled, digital finance's role in serving micro and small economic entities' financial needs should be recognized and nonbank inclusive financial institutions' healthy, regulated growth should be encouraged.

Firstly, more internet banks and nonbank financial service providers should be included into the financial inclusion system and allowed to enjoy incentives offered by financial inclusion policies, provided that digital lending services offered by legacy banking institutions be protected. According to our analysis, the most frequently used borrowing channel for wage-earners is family and friend, followed by digital lending offered by digital finance platforms, attesting to unique advantages that internet banks and nonbank financial service provider enjoy in satisfying micro and small economic entities' borrowing needs that are characterized by short tenor, small amount, urgency, and high frequency. It is therefore advisable that more internet banks and nonbank financial service providers be allowed to enjoy financial inclusive policies such as *Measures of the People's Bank of China for the Administration of Re-Lending for Supporting Agriculture* and *Measures for the Administration of Earmarked Funds for the Development of Financial Inclusion*. Only by doing so could regulatory authorities guide such institutions to better serve the micro and small economic entities.

Secondly, internet banks should be encouraged to leverage their unique advantages to serve the micro and small economic entities. Given that China's internet banks are generally too small to fully satisfy small businesses' financing needs, we suggest that capital replenishment channels be reasonably broadened and approval process be simplified for internet banks, for example, allowing them to issue Tier 2 instruments, issue ABS in interbank markets, and issue CLOs backed by lending to MSEs and individual business owners. Such measures would allow internet banks rapidly improve their capital adequacy and in effect improve their lending capacity so as to meet the anti-epidemic requirements and serve the long-term financial inclusion mandates targeted at MSEs in the future.

Thirdly, the introduction of *Non-Depository Lenders Regulation* should be accelerated, provided that financial risks are vigilantly controlled, in order to create a space for nonbank financial service providers to grow in a regulated manner. Regulatory authorities have acquired sufficient knowledge on digital financial products' and services' nature, regulatory risk profile, and risk anticipation as well as experiences in regulating digital finance, laying a solid foundation for the introduction of *Non-Depository Lenders Regulation.* A reasonable level of policy accommodation would give an effective boost to nonbank financial service providers to grow their operations in compliance with laws and regulations and encourage them to provide digital financial services to and broaden financing channels for micro and small economic entities.

4. Include financial health indicators into financial inclusion system

Financial health of the micro and small economic entities serves as the very foundation for economic and financial stability. In a world full of uncertainties, it is advisable that regulatory authorities include financial health indicators into financial inclusion system in order to help micro and small economic entities get prepared for rainy days and take preventive actions against hazards.

China's current financial inclusion indicator system is composed of 51 indicators in 21 categories from 3 dimensions (the use, accessibility and quality of the financial products). Financial health indicators, once integrated into the system, are useful in guiding the wage-earners and the MSEs to effectively control their risks while increasing and maintaining their assets' value.

The first tier of financial inclusion's mandate is to provide financial products and services to vulnerable groups so that long-tail and other segments that are traditionally excluded from legacy financial system can be included; the second tier is to improve vulnerable groups' financial knowledge and literacy, enabling them to utilize more adeptly financial products and services on the basis upon primary financial knowledge relevant to their livelihood. The third tier is to improve vulnerable groups' financial capacity and behaviors. And the fourth tier is to maintain vulnerable groups' financial health.

Our analysis shows that two steps need to be taken to improve the financial health of the wage-earners and the MSEs: first, ensure their ends meet and have enough liquidity and good credit history; secondly, provide them with guidance on how to make and balance short- and long-term investment. Vulnerable groups' own efforts are hardly enough to achieve these goals, necessitating guidance and helps from the government and regulators.

5. Create an enabling system for micro and small economic entities

The epidemic accentuates the importance of capacity building for the micro and small economic entities. Government and regulatory authorities should shoulder the responsibilities to create an enabling system for vulnerable groups and improve their capacity building in order to create a supporting system and facilitate inclusive economic growth.

Firstly, promote capacity building. International common practices could serve as a good reference in the provision of trainings in emergency response, disease control, vocational skills, and financial health guidance, etc. to the micro and small economic entities. As shown in our survey, liquidity management, access to social resources, staff training, and industry networking are among the most important training needs of MSE owners, while wage-earners need most trainings in increasing saving, caring for family members' health, increasing household anti-epidemic materials, acquiring disease control knowledge and risk management techniques. It is evident that the micro and small economic entities have realized hazards posed by lack of capability and demonstrated a strong willingness to improve. It is the right timing to improve capability building for the vulnerable groups now.

Second, create a supporting system. Public data resources should be further tapped into, financing platforms for MSEs should be reinforced, and the development of fintech should be encouraged in order that financing costs could be reduced and financing efficiency be improved for the micro and small economic entities. We propose that governments of all levels build upon existing local business financing platforms, consolidate MSEs' financial data, fiscal and tax data, and public data, incentivize innovations and growth of the Big Data, Blockchain, AI, and other fintech, enable legacy financial institutions' digital transformation, and synergize resources from government, businesses, and finance sector to relieve MSEs' borrowing difficulties.

And third, foster inclusive economic growth. Abundant, practical, and user-friendly public digital tools should be introduced to lower the cost of using such tools and allow the micro and small economic entities to jump into the bandwagon on network economics. Our survey shows that wage-earners and MSEs have had access to effective digital services through the epidemic period, thanks to the development of internet infrastructure and internet-enabled services providers. More people, particularly marginalized groups of the society and those living in geographically isolated areas, should be included in the future to benefit and improve their risk resilience.