

A Perspective Study on the Challenges Faced by the Small-Scale Industries during COVID-19

Hai-ja Kim¹, So-Jeong Shin²

¹Ph. D Student, Department of Naturopathy Rehabilitation welfare, Dongbang Culture University, Seongbuk-ro 28 road 60, Seongbuk-gu, Seoul 02838 Korea

²Professor, Department of Naturopathy Rehabilitation welfare, Dongbang Culture University, Seongbuk-ro 28 road 60, Seongbuk-gu, Seoul 02838 Korea

Corresponding Author: So-Jeong Shin

ARTICLE INFO

ABSTRACT

Received: 02 Oct 2024

Revised: 02 Dec 2024

Accepted: 18 Dec 2024

Small and Medium Enterprises with various ventures, such as equipment and machinery manufacturing, metal and electrical products, cement, food and drinks, construction and construction supplies, rubber and plastic goods, and automation technologies, are seeing considerable expansion in the Indian market. The Covid-19 pandemic has impacted all economic sectors, but SMEs in India have been particularly hard hit. The current effect of coronavirus on SME's in India is investigated in this study. So that after smoke clears, SME's discover that they must grow and change over time to stay profitable. Safeguard processes, hygiene and disinfection techniques, a revised procurement strategy, the integration of affiliate marketers, standardising their product range, a much more receptive assessment of supply chain management, and an assessment of catastrophe or disaster response plans are some of the answers to this problem. This study author is trying to analyse the challenges faced by small scale industries during lockdown period and the government initiatives in this regard.

Keywords: Small scale industry, SME's, Micro, small, and medium-sized business, COVID-19, Pandemic, Lockdown

INTRODUCTION

The COVID-19 outbreak is still being distorted in India. The very first occurrence of COVID-19 in India was recorded on January 30, 2020, and as of September 21, 2020, the total number of instances announced has surpassed five million. However, with populaces of 18 and 20 million people, Delhi and Mumbai have recorded around 184,000 and 246,000 instances. The epidemic has had a far-reaching economic influence, although the magnitude of those impacts is unknown. Small-scale businesses, which are critical to India's industrial and service industries, have been hit the worst (La et al., 2019). The effect of COVID-19 on micro, small, and medium enterprises in these two main areas of the Indian economy is examined in this study. The Indian government implemented lockdown actions to the COVID-19 pandemic, which included the closure of academic institutions, business facilities, and hospitality, as well as the prohibition of domestic road, rail system, and airline travel slew of other initiatives. During the lockdown period, the declared initiatives standardisation a set of forbidden non-essential business activities (example, all promotional, personal institutions such as production, restaurants, hotels, couriers, and so on) as well as a set of authorised vital business activities (e.g., hospital care, electric and water, ATM banking). " The government of India announced national closures for three weeks from March 25th to April 14th, 2020 (Lockdown 1.0); 19 days from April 15th to May 3rd, 2020 (Lockdown 2.0); 14 days from May 4th to May 17th, 2020 (Lockdown 3.0); and 14 additional days from May 18th to May 31st, 2020 (Lockdown 4.0)". The severity of the procedures was determined by the cities' risk profile based on the number of recorded total current patients, the verified incidence doubling rate, and district input. Red zones (hotspots), Orange zones, and Green zones were the three classifications used. At the start of Lockdown 2.0, the Union Health

Ministry classified 130 towns as red, 284 as orange, and 319 as green. Districts classified as Red zones were subjected to a tight closure, whereas cities categorized as Orange and Green zones were granted considerable leeway (Goldfarb & Xiao, 2011). The government of India then began a gradual restoration of the market on May 30, 2020, with certain limitations and stringent social distancing rules in place. ¹ In a nutshell, India has been under lockdown for longer than the rest of the globe. This has had a significant impact on domestic business growth, slowing GDP expansion much more than was expected at the start of the epidemic.

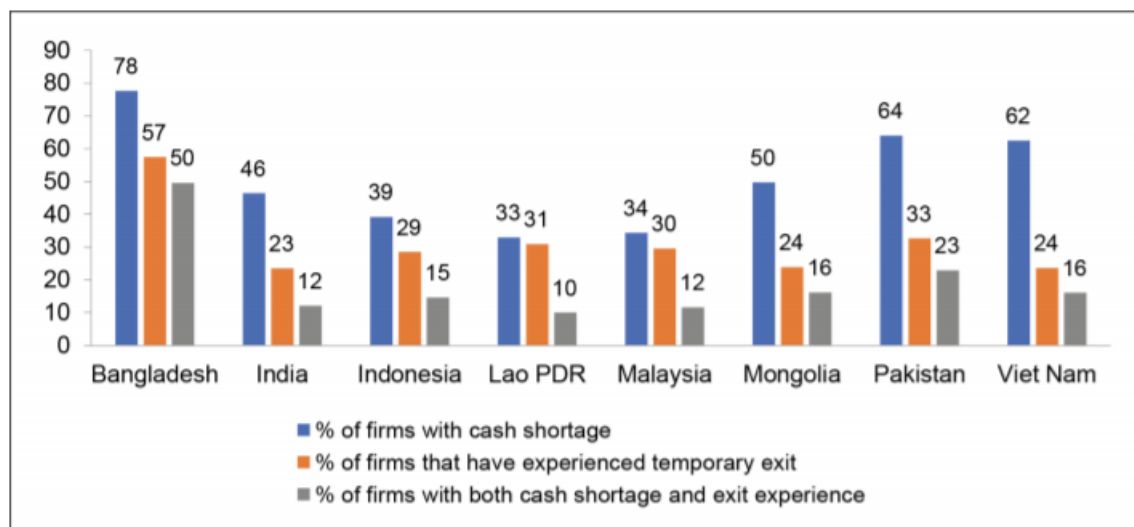


Figure 1: Percentage of Firms that Experienced a Cash Shortage and Temporary Exit in Asia

Micro, small, and medium-sized business (MSME) sectors have emerged as an important part of the Indian economy, contributing significantly to production, innovation, export, and inclusive economic growth. Our country's socioeconomic development is centred on micro, small, and medium-sized businesses (MSME). It also contributes significantly to GDP, accounting for 45 percent of total industrial production and 40 percent of total exports. 7.09 percent of GDP is generated in the MSME development market. MSMEs, on the other hand, contribute 30.5 percent to facilities. The MSMED Act of 2006, which allowed for the development and expansion of the business sector in a framework for MSME, formed a Method for Small and medium enterprises to develop and increase their ability to compete, offered for credit supply to the industry and opened the path for special privileges of MSE services and products in government contracting, and addressed the issue of de lending to the industry, addressed the issue of de lending to the industry (DellaVigna & Gentzkow, 2019). ^[3] The proposed legislation is intended to address the major problems of basic infrastructure constraints, lack of formalisation, process improvements, energy building, backward and forward connections; lack of liquidity, risk-capital, the recurring problem of late payments, etc. These issues obstruct the development of a business environment conducive to the sector's expansion. The MSME Ministry has said that a thriving market eco-system is a policy need to realise the sector's potential and ensure long-term growth. Micro-enterprises are classified differently in different jurisdictions across the world, according to global trends. Nevertheless, although most employees in other nations use a vector to define micro-enterprises, the notion of micro-enterprise in India is presently centred on the spending on equipment and machinery. To promote market liberalisation, the administration has established new criteria for classifying micro, small, and medium-sized companies' profitability and market, favouring microenterprises.

After farming, the Small and medium enterprise industry in India is the second biggest employer. It serves as a fertile environment for innovators and inventors, with significant assistance in developing the business environment. There are approximately 63 million micro, small, and medium-sized businesses that engage 110 million people in India. And over 6,000 items are produced by Indian MSMEs for domestic and international use (Strulov-Shlain, 2018; Said et al., 2023). As per the DGCIS, the price of MSME-related goods in India was \$147,400 million in 2017-18, accounting for 48.56 percent of total export. Small and medium enterprises that are more integrated into unique systems and distribution networks play an important part in international trade networks. According to data from 2019, the sector generated 29 percent of the total Gross domestic product.

Multiple reports, studies, and polls have repeatedly shown that this industry serves as a stimulant for the nation's socioeconomic growth. With the state's current goal of creating a \$5 trillion economy by 2025, all of this becomes much more essential. The MSME sector will play a significant role in achieving this goal, with an estimated contribution to GDP of more than 50%. The Indian MSME industry's ability remains unfulfilled, which is one of the causes why government actions are now more cohesive in their efforts to create a sustainable ecosystem with more depth and breadth.

The news of a nationwide closure drew small and medium enterprise entrepreneurs, employees, and external parties into an unanticipated scenario in which no one had prior experience dealing with such a crisis (Barro et al., 2020). The prolonged lockdown had a detrimental effect on completed products supply, raw material acquisition, and personnel accessibility to operate in production and distribution operations. Debt obligations, wages/salaries, regulatory payments, and other issues plagued the industry from April to June 2020.

According to survey estimates, the Covid-19 epidemic disrupted Small and medium-sized profits by 20 to 50 percent, with micro and small businesses bearing the brunt of the effect, owing to a cash crisis. In terms of intermittent but predictable cash flows, businesses in the vital commodities sector fared better. Some businesses have adapted by changing their emphasis from non-essential goods to vital goods, such as sanitiser and hygiene, Protection kits, washable masks, and so forth, and have been able to weather the storm. Small and medium enterprises in distant regions experienced many challenges as a result of disrupted supply chain networks and intrastate lockdown restrictions.

Not only has the experienced business difficulties, but customers also have less discretionary money as well. Numerous businesses lay off employees owing to a lack of funds, abandoned premises to avoid paying costs and ceased manufacturing due to a lack of consumption. Financial firms are hesitant to provide new financial loans or cover possible risks because of uncertainty in potential deals and the return of the new reality (Garrett, 2020; Anand & Sharma, 2023). This general sense of insecurity necessitated a push from the government to restore market confidence and predictable working capital in the economy.

The economic downturn, combined with border concerns, had driven us back to self-sustaining ideals, the Swadeshi dream. The Atmanirbhar Bharat Mission was established to address two pressing problems at the same time: boosting Small and medium enterprises and reducing reliance on other countries.

IMPACT OF COVID – 19 ON SMALL SCALE INDUSTRIES

As per a study by Dun & Bradstreet, and over 82 % of more than 250 small companies in India indicated they had such an adverse Covid effect, with 70percent believing it would take almost a year to go back to pre-Covid levels. In the study of Impact of COVID-19 on SMSEs and the Way Ahead, approximately 60percent of survey participants anticipated further metrics and government support, despite the fact that lack of consumer availability (42%), total operational efficiency (37%), and availability to even more financial services (37%), have been the top 3 difficulties mentioned by Small and medium enterprises. The companies questioned in 7 big towns were in the industrial and service sectors, having yearly revenue ranging from Rs 100 crore - Rs 300 crore.

Furthermore, almost 95% of responders claimed they were affected when the nationwide closure was enforced in April 2020. Even with gradual unlocking, 70percent of companies were affected until August 2020, and 40percent until the end of February 2021. The outbreak has accelerated the speed of digitalization across industries, resulting in cost savings and improved efficiency for companies. Because of the Covid-19 issue, global digital usage was increased by 7 years. According to our study, 82 percent of small businesses have digitised their everyday operations during the epidemic, which has enabled them save money (54 percent) and improve their competition (51 percent),” said Avinash Gupta, Managing Director, Dun & Bradstreet India.

External Funding has been Stopped:

Even if the bank payments have been accepted, Small and medium enterprises will be put to the test to meet their legal duties, pay their employees, and press loan managers. Lockdowns, disruptions in the flexible supply chain, and the impact of massive business advancements would all increase the likelihood of misdeeds in this segment.

Financial Crisis in a massive amount:

They will face a severe cash constraint as a result of a significant drop in sales and operating problems with little or no labour in the coming weeks when employees from other places who have migrated return home.

Away from the Government Protectionist Initiatives:

Pursuing a protective approach in the business unit before local support has recovered would indicate a higher risk of the industry being stuck in a low-interest loop. In addition, the continued exemption of labour rules jeopardises the revenue of workers, slowing the recovery of buyer demands (Garrett, 2008). According to a recent examination of the shopper demand risk map, laidback employees in rural and urban areas are at the greatest risk of saving probable consumption.

Creditworthiness and Rating Decline:

MSME financing obtained from NBFCs may result in a significant increase in default rates. According to the CIBIL as well as CARE Assessments, the future does not seem to be promising. Non-payment of loans is a danger for lenders that provide instability loans to Small and medium enterprises, which often depend on increased revenues as a result of strong returns and rapid company turnover. Owing to the COVID issue, this is a very unlikely scenario.

Restructuring Subdue:

Recapitalizing money based on the authority's performance would be required to encourage small and medium size organisations to operate during weaker interests. A required transformation of the company division will need more than just financial arrangements (Bettinger et al., 2012). While present financial improvements aim to safeguard the business sector, given the chaotic structure, obtaining a medium-term plan remains a problem.

Fear of Being Turned Off:

If the COVID-19-induced shutdown lasts longer than the effective time, a staggering 43percent of businesses will close. Small and medium enterprises are the bedrock of the country's economic growth, and it is one of the key components that allow the economy to grow by leaps and bounds. The sector that employs more than 114 million people and accounts for more than 30percent of the country's GDP is at one of its acute phases, which means that immediate actions are needed.

Further Lockdown Postpone and Pushback:

While a protracted shutdown may limit demand for their products, the disruption in the supply chain may drive up the cost of basic materials, which may harm Small and medium enterprises' profits. As a result, a prolonged closure will significantly impact the items/services provided by small businesses.

Getting a Hard Start on the Digital and Online Contest:

Private enterprises turning digital is perhaps the most important trend to emerge during the COVID-19 epidemic. Without question, the internet has proven to be a lifeline for several private businesses, allowing them to keep operating throughout the epidemic. While sophisticated technologies may be very beneficial, they are not a panacea (Finkelstein & Notowidigdo, 2019). Once again, these new outlets will not make up for all of the lost revenue, and they can only assist in very limited ways.

Conflict of Work-Life Balance:

The most difficult challenge for businesses has been balancing work and family life. The following are some of the most significant challenges faced by Small and medium enterprises:

- Obtaining funding,
- Keeping your head above water in work,
- Maintaining their channels of communication open,
- Guaranteeing that their reps can work from abroad, and
- Adapting to the responsibilities of a larger family.

Serious Mental Medical Problems:

Coping with household members is a top priority for a number of Small and medium enterprise managers and executives. The majority of these businesspeople are burned out as a result of juggling family and work obligations. They are also very concerned about returning home with the COVID-19 illness.

GOVERNMENT INITIATIVES TO RELIEF SMALL SCALE INDUSTRIES

Finance and Credit for MSMEs:

6 of the Fifteen assistance initiatives unveiled by Finance Minister Nirmal Sitharaman as part of the massive Rs Twenty lakh crore boost plan for the Covid-battered industry are targeted at reviving India's enormous Small and medium enterprise sector, which has been locked down. Because the closure went into effect on March 25, MSMEs from all industries and sectors have been clamouring for cash assistance from the government (Collins et al., 2020). Sitharaman outlined steps to increase cash in Small and medium enterprises, assist them in taking advantage of government programmes, engage with international businesses, and expand their network as part of the massive Covid-19 funding settlement, which accounts for approximately 10percent of India's Gross domestic product.

Collateral-free loans of Rs 3 lakh crore:

As of February 29, 2020, banks and NBFCs will provide MSMEs up to 20% of total outstanding loans. Entities with earned income of up to Rs 25 crore and a revenue of up to Rs 100 crore are qualified to apply for these loans, which will have a 4 year tenure and a 12-month principal repayment moratorium. The programme is available until October 31, 2020. The administration will fully protect lenders on both principal and interest payments.

Subsidiary loan of Rs 20,000 crore

Small and medium enterprises that have been deemed non-performing assets or are in financial distress would be entitled to stock assistance, even as the administration will enable the issuance of Rs 20,000 crore in subordinate loans (Bloom et al., 2013). The administration would also contribute Rs 4,000 crore to the CGTMSE, which will give banks partial credit guarantee assistance for lending to Small and medium enterprises.

Infusion of Rs 50,000 crore in equity

The government would invest Rs 50,000 in Small and medium enterprises via a Fund of Funds, which will be run by a Mother fund and a few daughter funds. With a capital of Rs 10,000 crore, the Fund of Funds would provide equity-based financing to MSMEs with development potential and sustainability. Small and medium enterprises would be encouraged to list on financial markets as well.

According to Arun Singh, Chief Economist at Dun and Bradstreet India that the amount allotted for collateral-free automated debts, subordinate debt for Small and medium enterprises, and equity infusion via Small and medium enterprise Fund of Funds amounts to 76 percent of the credit given to Small and medium enterprises during FY20. Small and medium enterprises received Rs 450 billion in collateral-free loans in FY20, and units expected to experience greater risk aversion would gain significantly from the Rs 200 billion subordinate debts planned for them.

MSME definition has been updated

Nirmala Sitharaman amended the MSME definition on Wednesday to address MSMEs' fears of outgrowing their ability to obtain government incentives for companies classified under the existing MSME definition (Bazerman & Moore, 1994). Industrial and service MSMEs will be characterised by a single measure, which will be a combination of expenditure in plants and equipment or technology and output under the current concept.

Table 1.
Revised Criteria for Micro, Small and Medium-Sized Enterprises

Enterprise Type	Existing Definition		Revised Definition: Manufacturing and Services
	Investment in Plant & Machinery (Manufacturing)	Investment in Equipment (Service)	Annual Sales Turnover
Medium	≤\$1.3 Million	≤ \$680,000	Investment ≤\$6.8 Million and turnover ≤\$34 Million
Small	≤\$680,000	≤\$272,000	Investment ≤\$1.36 million and turnover ≤\$6.8 Million
Micro	≤\$34,000	≤\$13,600	Investment up to \$136,000 and turnover ≤\$680,000

Figure2: New Definition of MSMEs

MSME units account for almost half of all Export markets. Small and medium - sized enterprises numbers are rising, which would boost their participation in the export basket of India. "Pushkar Mukewar, Co-CEO of Drip Capital, told Financial Express Online", It will make export-oriented financial and regulatory solutions that much more essential in the foreseeable.

Micro, small, and medium businesses were formerly classified as manufacturing firms spending "less than Rs 25 lakh, less than Rs 5 crore, and less than Rs 10 crore in plant and machinery or equipment, respectively". As micro, small, and medium companies, the expenditure requirement limitations for services companies were "less than Rs 10 lakh, less than Rs 2 crore, and less than Rs 5 crore, respectively".

Micro-units with just an expenditure of less than Rs 1 crore as well as a revenue of less than Rs 5 crore will now be classified as micro-units, while small companies with an investment of less than Rs 10 crore and a turnover of less than Rs 50 crore would be classified as small enterprises (Altig et al., 2020). Medium-sized businesses would be classified as those with a capital investment of less than Rs 20 crore and a revenue of less than Rs 100 crore.

The suggested turnover-based definitional modification for the MSME sector is innovative and fully aligned with the GSTN structure. In a speech, Rajnish Kumar, Chairman of the SBI, stated that It is past time for us to put this law into effect.

Global bids are not permitted

In response to MSMEs' concerns about unequal competition from rival businesses in government contracting contracts owing to differences in size and strength, the government announced that worldwide bids in such programmes worth up to Rs 200 crore would be prohibited. As per the administration paper outlining the 15 relief programmes, necessary changes of General Financial Rules would be effected (Cajner et al., 2020). The administration has placed a lot of confidence in India's foundation - the MSME ecology – via the newly updated policies. Collateral-free loans, as well as the drive toward government acquisition tenders, would enable companies like ours to develop and meet our nation's future needs, said Gautam Chopra, CEO of BeatO.

Clearing MSME Dues

The government and central public sector companies, according to Nirmala Sitharaman, would issue all outstanding MSME earnings in 45 days. Fintech companies would be utilised to increase transaction-based financing using data from the e-marketplace, according to the ministry. This e-market will be pushed as a replacement for trade shows and exhibits to develop MSMEs' connections.

ANALYSIS AND IMPLICATIONS

The administration's reaction to the COVID-19 epidemic and the planned steps to help Small and medium enterprises fell short of predictions. One of the main drawbacks of the proposed package is that all of them are only important in the medium to long term. They do not tackle the urgent capacity of Small and medium enterprises to

survive in the face of a sharp drop in earnings but significant payment commitments in terms of loan payback and employee salary bills. It's also worth noting the next two important points.

The no-collateral loan to Small and medium enterprises is a wise decision. There are, nevertheless, two major issues. Banks may be hesitant to lend since they already deal with a high percentage of Small and medium enterprises in their NPA portfolio. The loan guarantees plan may not be helpful since any commercial bank or NBFC would be prepared to lend under it because the government can only refund an assurance after 18 months. No financial institution would be prepared to absorb such financial damage (Hamilton, 2000). The current 18-month waiting time needs to be lowered to 6 months. In summary, financial firms' risk tolerance is already strong, which may limit lending to Small and medium enterprises. According to statistics from the Finance Ministry, banks have approved 37 % of the projected INR 3 trillion under the Emergency Credit Line Guarantee Scheme for stressed Porwal et al., 2024; Na & Na, 2024; Min et al., 2024; Chaturvedi et al., 2021).

Payment delays are a significant issue for all Micro and Small Businesses. According to a new RBI panel, all small and medium enterprises should submit their bills to a Data Facility. To handle the large number of postponed payments instances, regions will need more than one MSE Assistance Committee. In 2014, the RBI established the "Trade Receivables Discounting System" to solve this problem. TReDS is an electronic marketplace where MSMEs' collections towards purchasers are funded at competitive prices by various lenders. This is accomplished via an auction-based system. In 2016, banks' exposure via TReDS was placed under prioritized industry financing to broaden the system's reach and encourage additional participants to participate. However, this service has not caught off in a significant manner, putting a burden on MSMEs' operating cash.

Above all, small and medium enterprises in the COVID-19 scenario have a basic problem: how to pay wages and compensation to their employees when income and expenses are close to nil. Given financial firms' risk aversion, the MSME sector expected the government to provide considerably more fiscal assistance (Dillon & Stanton, 2017; Anand & Sharma, 2023). The proposed collateral-free lending programme is expected to benefit just a tiny portion of the MSMEs population. As previously stated, it will only assist certified small and medium enterprises. The central administration's financial limitations, along with the high amount of nonperforming assets at banking institutions, may have prevented much further fiscal assistance. The legislative program is generally seen as failing to put in place a support structure for Small and medium enterprises that would have allowed them to pay salaries, survive the epidemic, and indirectly reduce the impacts of a demand shock.

CONCLUSION

As a result of the previous study, assistance programs will only assist a tiny proportion of India's MSME units. Since the amount of damage imposed on Small and medium enterprises due to production and consumption disruptions has proven out to be much more than expected, and it is still developing, the financial and economic crisis of Small and medium enterprises in India is unique challenges their very survival. Documentation on the effects of Small and medium enterprises on the Indian economy is progressively becoming available. The effect of the shift in MSMEs' definition on their economic growth has yet to be studied, and it is a topic for future study. Another major question is whether small and medium enterprises would have less access to bank financing than larger businesses. Some believe that since small businesses have greater transaction costs (Faulkender, 2002), commercial banks will be prejudiced against them. This argument cannot be evaluated since there is no data available. Due to the pandemic scenario, policymakers are severely hampered by the delayed information submissions by a wide range of economic organisations, including businesses, corporations, commercial banks, "nonbanking financial institutions", and statistics agencies. Demand shocks resulting from the pandemic's second-order impacts may potentially cause further harm to the economy in particular and Small and medium enterprises in particular. After such a few more months, the true cost to Small and medium enterprises and the overall economy will be revealed.

Acknowledgement

Funding Details

This research received no external funding.

Authors' contributions

All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

Declaration of Conflicts of Interests

Authors declare that they have no conflict of interest.

Availability of data and materials

Not Applicable

Use of Artificial Intelligence

Not applicable

Declarations

Authors declare that all works are original and this manuscript has not been published in any other journal

REFERENCE

- [1] Altig, D. E., Barrero, J. M., Bloom, N., Davis, S. J., Meyer, B. H., & Mihaylov, E. (2020). COVID-19 caused 3 new hires for every 10 layoffs. *Macroblog*. <https://www.frbatlanta.org/blogs/macroblog/2020/05/01/covid-19-caused-3-new-hires-for-every-10-layoffs>. Accessed 1 July 2020.
- [2] Anand, A., & Sharma, M. (2023). Unveiling the impact of environmental factors on consumer purchase intention for sustainable products. *International Journal of Environmental Sciences*, 9(2), 88–101. <https://www.theaspd.com/resources/6.%20Aastha%20Anand.pdf>
- [3] Barro, R. J., Ursúa, J. F., & Weng, J. (2020). The coronavirus and the great influenza pandemic: Lessons from the “Spanish flu” for the coronavirus’s potential effects on mortality and economic activity. <https://doi.org/10.3386/w26866>
- [4] Bazerman, M. H., & Moore, D. A. (1994). *Judgment in managerial decision making* (4th ed.). Wiley.
- [5] Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *Quarterly Journal of Economics*, 127, 1205–1242.
- [6] Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., & Roberts, J. (2013). Does management matter? Evidence from India. *Quarterly Journal of Economics*, 128, 1–51.
- [7] Cajner, T., Crane, L. D., Decker, R. A., Grigsby, J., Hamins-Puertolas, A., Hurst, E., Kurz, C., & Yildirmaz, A. (2020). The US labor market during the beginning of the pandemic recession. <https://doi.org/10.3386/w27159>
- [8] Chaturvedi, C., Pandey, H., Chaturvedi, S., Pachori, V., & Arya, A. (2021). Need of training among educators to roll back during COVID-19: A descriptive survey. *Bio-Science Research Bulletin*, 37(2), 61–68.
- [9] Collins, B., Garin, A., Jackson, E., Koustas, D., & Payne, M. (2020). Has the gig economy replaced traditional jobs over the last two decades? Evidence from tax returns. <https://www.irs.gov/pub/irs-soi/19rpgigworkreplacingtraditionalemployment.pdf>. Accessed 1 July 2020.
- [10] DellaVigna, S., & Gentzkow, M. (2019). Uniform pricing in US retail chains. *Quarterly Journal of Economics*, 134, 2011–2084.
- [11] Dillon, E. W., & Stanton, C. T. (2017). Self-employment dynamics and the returns to entrepreneurship. <https://doi.org/10.3386/w23168>
- [12] Faulkender, M. W. (2002). Cash holdings among small businesses. <https://doi.org/10.2139/ssrn.305179>
- [13] Finkelstein, A., & Notowidigdo, M. J. (2019). Take-up and targeting: Experimental evidence from SNAP. *Quarterly Journal of Economics*, 134, 1505–1556.
- [14] Garrett, T. A. (2008). Pandemic economics: The 1918 influenza and its modern-day implications. *Review*, 90, Federal Reserve Bank of St. Louis.
- [15] Garrett, T. A. (2020). Economic effects of the 1918 influenza pandemic: Implications for a modern-day pandemic. https://www.stlouisfed.org/~media/files/pdfs/community-development/research-reports/pandemic_flu_report.pdf. Accessed 1 July 2020.

-
- [16] Goldfarb, A., & Xiao, M. (2011). Who thinks about the competition? Managerial ability and strategic entry in US local telephone markets. *American Economic Review*, 101, 3130–3161.
 - [17] Hamilton, B. H. (2000). Does entrepreneurship pay? An empirical analysis of the returns to self-employment. *Journal of Political Economy*, 108, 604–631.
 - [18] La Rocca, M., Staglianò, R., La Rocca, T., Cariola, A., & Skatova, E. (2019). Cash holdings and SME performance in Europe: The role of firm-specific and macroeconomic moderators. *Small Business Economics*, 53, 1051–1078.
 - [19] Min, P. K., Mito, K., & Kim, T. H. (2024). The evolving landscape of artificial intelligence applications in animal health. *Indian Journal of Animal Research*. <https://doi.org/10.18805/IJAR.BF-1742>
 - [20] Na, M. H., & Na, I. S. (2024). AI-powered predictive modelling of legume crop yields in a changing climate. *Legume Research*. <https://doi.org/10.18805/LRF-790>
 - [21] Porwal, S., Majid, M., Desai, S. C., Vaishnav, J., & Alam, S. (2024). Recent advances, challenges in applying artificial intelligence and deep learning in the manufacturing industry. *Pacific Business Review (International)*, 16(7), 143–152.
 - [22] Said, D., Youssef, D., El-Bayaa, N., Alzoubi, Y. I., & Zaim, H. (2023). The impact of diversity on job performance: Evidence from private universities in Egypt. *Acta Innovations*, 49, 17–30. <https://doi.org/10.32933/ActaInnovations.49.2>
 - [23] Strulov-Shlain, A. S. (2018). More than a penny's worth: Left-digit bias and firm pricing. University of California, Berkeley.