




“Financial stress, financial literacy, and financial insecurity in India’s informal sector during COVID-19”

AUTHORS	Thangaraj Ravikumar 
	Mali Sriram 
	S Girish
	R Anuradha
	M Gnanendra
ARTICLE INFO	Thangaraj Ravikumar, Mali Sriram, S Girish, R Anuradha and M Gnanendra (2022). Financial stress, financial literacy, and financial insecurity in India’s informal sector during COVID-19. <i>Investment Management and Financial Innovations</i> , 19(2), 285-294. doi: 10.21511/imfi.19(2).2022.25
DOI	http://dx.doi.org/10.21511/imfi.19(2).2022.25
RELEASED ON	Monday, 27 June 2022
RECEIVED ON	Tuesday, 19 April 2022
ACCEPTED ON	Friday, 24 June 2022
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Investment Management and Financial Innovations"
ISSN PRINT	1810-4967
ISSN ONLINE	1812-9358
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

46



NUMBER OF FIGURES

0



NUMBER OF TABLES

10

© The author(s) 2022. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 19th of April, 2022

Accepted on: 24th of June, 2022

Published on: 27th of June, 2022

© Thangaraj Ravikumar, Mali Sriram,
S Girish, R Anuradha, M Gnanendra,
2022

Thangaraj Ravikumar, Ph.D., Associate
Professor, School of Business and
Management, Christ University, India.
(Corresponding author)

Mali Sriram, Ph.D., Associate Professor,
School of Business and Management,
Christ University, India.

S Girish, Ph.D., Assistant Professor,
School of Commerce, Finance and
Accountancy, Christ University, India.

R Anuradha, Ph.D., Assistant Professor,
School of Business and Management,
Christ University, India.

M Gnanendra, Assistant Professor,
School of Business and Management,
Christ University, India.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution 4.0
International license](https://creativecommons.org/licenses/by/4.0/), which permits
unrestricted re-use, distribution, and
reproduction in any medium, provided
the original work is properly cited.

Conflict of interest statement:

Author(s) reported no conflict of interest

Thangaraj Ravikumar (India), Mali Sriram (India), S Girish (India), R Anuradha (India),
M Gnanendra (India)

FINANCIAL STRESS, FINANCIAL LITERACY, AND FINANCIAL INSECURITY IN INDIA'S INFORMAL SECTOR DURING COVID-19

Abstract

The lockdowns and restrictions imposed to control COVID-19 have made life miserable for people, especially those involved in informal economic activities. The pandemic induced financial hardships, caused financial anxiety and financial stress among informal sector participants. This study aimed to measure and analyze the financial stress and financial insecurity of one of the important informal sector elements (street vendors) in India. Street vendors in Bangalore were interviewed in this descriptive research through personal interaction and telephonic interviews. The collected primary data were processed using SPSS statistical package. The results have indicated that the pandemic inflicted financial stress on street vendors irrespective of their gender, marital status, age, education, monthly income, and type of product dealt. Financial stress levels varied depending on the number of dependents of street vendors and their business nature. Financial literacy differed according to street vendors' marital status. A person becomes extremely sensitive and cautious in personal finance matters on getting married. Financial stress and financial literacy correlated negatively. 89.5% of street vendors perceived that they had financial insecurity in the future due to this pandemic. The results indicated that financial stress and financial literacy did not affect financial insecurity perceptions of street vendors. The predictors of financial insecurity have been marital status and the number of dependents of the street vendors (r^2 : 16.6%). However, marital status alone impacted the 6% variance in financial insecurity. This study concluded that the pandemic caused financial stress and financial insecurity among street vendors, but not financial stress and financial literacy.

Keywords

behavioral finance, street vendors, financial hardships,
pandemic, personal financial management

JEL Classification

G41, G53, G59

INTRODUCTION

The COVID-19 outbreak brought an unexpected and dreadful impact on the health and wealth of human beings across the world. India has been one of the most affected countries due to the COVID-19 pandemic. The pandemic has severely affected India during the second wave. In total, India accounted for 30.2 million COVID cases, of which 29.6 million people recovered and 0.396 million people died (MoHFW, 2021). The second wave of the pandemic hit India in the first week of February 2021. The second wave infected 19.8 million people in a short period and claimed the death of 0.246 million people (Statista, 2021). The pandemic inflicted a huge loss to the Indian economy. Real Gross Domestic Product contracted by 8.5% in 2020–2021 (Reserve Bank of India, 2020). However, it was predicted that the Indian economy would perform well in 2021–2022. Reserve Bank of India (RBI) estimated 10.5% economic growth in 2021–2022 (Business Standard, 2021b), and International Monetary Fund forecasted 12.5% economic

growth in 2021–2022 (Economic Times, 2021). But the acute outbreak of COVID-19 second wave in India put these growth estimates in peril (Economic Times, 2021). The RBI lowered its economic growth forecast to 9.5% for 2021–2022 from the earlier forecast of 10.5% due to the second wave of the pandemic (Money Control, 2021). The World Bank also cut down India's GDP prediction to 8.3% and mentioned that an enormous second wave hampers the economic rebound in India more than the expectation (Business Standard, 2021a). Thus, the pandemic continues to jiggle the Indian economy. The pandemic does not only affect at the macro level, but also affects at the individual level due to lockdowns, social distancing, healthcare expenditures, raising prices, and uncertain future. The second wave reached rural areas and undermined the rural economy. Most of the people in rural areas were struggling to come out adverse effects of the pandemic's first wave and the onset of the second wave ruined their livelihood. It is not only the case of rural India, but urban areas also face the same destiny. Poor people, daily wage workers, contract workers, and street vendors in urban areas got a hit due to the second wave of the pandemic. These people do not have income, and so, no savings. Thus, the people in both rural and urban areas are struggling for their livelihood during the pandemic, despite a lot of recovery efforts and aid provided by the government. It is estimated that there are 5 million to 6 million street vendors in India and most of the street vendors are in metro and state capital cities (The Indian Express, 2020). Any vendor who does not have a permanent shop for the business is known as a street vendor.

Street vendors are a part of the informal economy, and they are migrant workers from nearby rural areas (Kambara & Mutharayappa, 2018). Street vendors face issues from police and local administration as they occupy the public place (Kambara & Mutharayappa, 2018). Street vendors play a vital role in providing goods and services at a reasonable price to the urban people in their vicinity (Udayam Mitra, 2020). The second wave of the pandemic has a multidimensional impact on the street vendors. Street vendors have lost their livelihood and businesses during the lockdown. They become unemployed and lost their revenue. During the first wave of COVID-19, 97% of women street vendors lost their livelihood (Banerjee, 2020). The condition of street vendors has deteriorated more during the second wave. Street vendors could not get alternative jobs, could not afford to engage their children in school activities, and could not afford the necessities of life. They face a lot of financial hardships and have an uncertain financial future. Financial hardships and uncertainty have accounted for the psychological, financial, and health ailments among the street vendors.

1. LITERATURE REVIEW AND HYPOTHESES

COVID-19 affected the economic and routine life of families, and the way of life has been changed (Carroll et al., 2020). The pandemic highlighted financial struggles of the individuals and households (Hasler et al., 2021). The pandemic has been an exceptional event for all the countries and efforts undertaken to contain this pandemic resulted in stress (Rodriguez et al., 2021). Lockdowns, reduction in consumption, and unemployment caused by COVID-19, since March 2020 have generated financial stress among the people (Rodriguez et al., 2021). The stresses that require an examination in the pandemic context are psychological stress and financial stress (Rodriguez et al., 2021). Pandemics harm economic activities (Brodeur et al., 2020). The economic slump caused by the COVID-19 pandemic is

the worst one, and the long-term repercussions of this pandemic cannot be predicted (Barrafrem et al., 2020). "The COVID-19 outbreak has brought both a supply and a demand upset, and full magnitude, duration and financial, fiscal, and social implications of the pandemic are still not clear" (World Bank Group, 2020). The nature and consequences of the COVID-19 pandemic differ from individual to individual and they are impacted by many demographic, psychological, and occupational factors (Robillard et al., 2020). Individuals have fear and anxiety about COVID-19 and the economic effects of lockdowns (Sampson et al., 2021). Low and Moderate-income people are always confronted with financial stress and financial anxiety (Roll et al., 2016). Financial hardship refers to the inability to meet the needs of individuals or families such as food, clothing, education, housing, and health care (Friedline et al., 2021). Financial anxiety leads to financial stress and

financial stress affects the quality of life and general life satisfaction of individuals (Heo et al., 2020). Financial stress arises when an individual is not able to meet the basic needs and current obligations (Friedline et al., 2021). Thus, financial stress is the inability of an individual to pay his financial responsibilities. Financial stress affects financial health and financial wellbeing is an ultimate measure of financial health. Financial wellbeing is the perception of an individual towards his financial situation. Financial stress leads to higher absenteeism (Chartered Institute of Personnel and Development, 2021). Financially depressed people have negative mindset about their future (Davis & Mantler, 2004). Financial stress impacts self-efficacy of individuals (Heckman et al., 2014) and financial stress has mental health costs (Tran et al., 2018). Self-efficacy mitigates financial stress (Lim et al., 2014). Financial difficulties affect the mental health (McCloud & Bann, 2019). Social support may moderate the financial stress (Steen & MacKenzie, 2013). Economy plays vital role in financial stress (Friedline et al., 2021). Further, financial wellbeing is measured by two constructs, namely financial anxiety and financial security (Barrafrem et al., 2020). An individual having enormous financial stress has less confidence in his future at a large and he always thinks that he does not have a financially secured future. Financial wellbeing explains financial distress of individuals (Bowman et al., 2017). Financial stress leads to less productivity in the workplace (Idris et al., 2013). Financial stress is coped up by practicing spirituality by youth adults (Tefaw & Yitayih, 2018). Financial stress varies based on personal characteristics of individuals (Tran et al., 2018). Effective personal financial management ensures an individual's success in life. Financial competence is an essential requirement in the current financial climate (Shapiro & Burchell, 2012). Financial stress-free life is achieved, to a certain extent, by financial education (Karakara et al., 2022). Financial literacy is "a combination of awareness, knowledge, skill, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (Organisation for Economic Cooperation and Development (OECD), 2011). Lack of financial literacy has cost implications (Millimet et al., 2021). Financial literacy and wellbeing are related directly (Rahman et al., 2021). Financial education and financial counselling are tools of regulating financial behavior (Britt et al.,

2015). Financially literate people can manage the financial stress effectively (Heckman et al., 2014). In India, adults lack financial knowledge and the right financial decision-making skill even though they are educated. In India, only 24% of the adults are financially literate and the literacy rate is 74.04%. Further, 25% of the adults are financially literate in Karnataka where Bangalore is located (Roy, 2020). Weak financial literacy provides bad life choices (Steen & MacKenzie, 2013). Financial literacy and financial stress are the determinants of financial wellbeing (Rahman et al., 2021). On other hand, it was found that there was not a direct relationship between financial literacy and financial wellbeing (West et al., 2020). As a result of financial illiteracy, overspending, more impulse buying, and careless financial behavior are common among individuals. The street vendors are not exceptions to this. If the street vendors possess at least minimum financial knowledge, they may have managed the financial effects of the pandemic in a better way. But the reality is different. Financial hardships and financial stress of the street vendors get doubled as they have no or a limited literacy and have no or limited financial literacy. The street vendors confront with the adverse effects of the pandemic and financial illiteracy. Financial insecurity has implications on stress and work-family conflict (Odele-Dusseau et al., 2018). The pandemic enhanced the financial insecurity of the people (Rasdi et al., 2021). This study aims to measure financial stress, financial literacy, and financial insecurity of street vendors. Further, the study measures variance in financial stress, financial literacy, and financial insecurity of the street vendors based on their personal characteristics. Finally, the study aims to determine predictors of financial insecurity of the street vendors during the pandemic. Based on the objectives of the study, the following hypotheses are framed:

- H1: *Financial stress significantly varies based on the personal characteristics of street vendors.*
- H2: *Financial literacy significantly varies based on the personal characteristics of street vendors.*
- H3: *Financial stress, financial literacy, and personal characteristics of street vendors significantly impact financial insecurity of the street vendors.*

2. DATA AND RESEARCH METHODS

The research design of the study is descriptive, and the type of investigation is causal. Further, the study is carried out in a natural environment, and it has adopted a survey method to collect primary data. The unit of the analysis is the street vendors in Bangalore and so, the locale of the study is Bangalore, India. The study is a “cross-sectional study” as it is conducted between March 20, 2021 and November 11, 2021. Personal and telephonic interviews were conducted to collect the data from street vendors. The judgmental sampling technique has been used to identify the street vendors. However, during telephonic interviews, due care has been taken to ensure the genuineness of the street vendors by asking questions such as ‘Tell me about the landmarks near your place of business if the street vendor’s business is a static one’ and ‘Tell me the areas you cover for your business’, If the street vendor’s business is a mobile one. Data collection took almost four and a half months.

The researchers have contacted 563 street vendors and have received responses from 396 street vendors. Out of 396 responses, twelve responses are discarded as they are incomplete and the rest 384 responses are considered for the study as 384 is the sample size determined as per the Krejcie and Morgan formula (Krejcie & Morgan, 1970). The total number of street vendors in Bangalore is around 0.15 million (Deepika, 2020). Interview questions are well structured. Interview questions are originally prepared in English. But telephonic interviews have been conducted in Kannada and Tamil language according to the convenience of the respondents.

Financial stress in this study has been measured using a three-dimensional comprehensive financial stress scale (Heo et al., 2020). Three dimensions used in the comprehensive financial stress scale are Affective Reactions, Psychological Responses, and Relational behavior (APR) (Heo et al., 2020). Financial literacy (FL) has been computed employing the financial literacy scale of the OECD (Organisation for Economic Cooperation and Development, 2011). “Financial knowledge, financial attitude, financial behavior, and financial skill” are the sub-dimensions considered

to measure the financial literacy of the sample. Further, financial insecurity is measured by asking a dichotomous question “Do you think that you have an insecure financial future?”. Financial insecurity has been made a dichotomous question not to complicate the telephonic interview process with the street vendors by asking more questions during the given situation. Further, interview questions include demographic and occupation-related questions. The collected data are checked for reliability and validity. 37 responses collected in the pilot day are used for a reliability check. Alpha Cronbach scores are 0.753 and 0.936 for financial stress and financial literacy, respectively. Further, interview questions are validated through academicians.

3. RESULTS

The nature of data is identified using Tests of Normality. The test results reveal that financial stress and financial literacy data are not normally distributed as p-values are less than 0.05.

The sample population has more male street vendors. Most of the respondents belong to 41 years to 60 years. The sample population consists of more married respondents having 4 to 5 dependents with school education and monthly income of 10,001 to 20,000. More than three-fifths of the respondents carry out their business in a fixed place and more than half of the respondents deal with perishable products. Still, 10.9% of the street vendors are unbanked.

Differences in perceptions on financial stress caused by COVID-19 and financial literacy perceptions of the street vendors are measured using non-parametric statistical tools such as the Mann-Whitney test and the Kruskal Wallis test.

The statistical results presented in Table 1 reveal that financial stress levels among the street vendors do not significantly differ based on their gender, marital status, age, education, monthly income, and type of product dealt by them. These results indicate that the pandemic has brought financial stress to the street vendors irrespective of gender, marital status, age, education, monthly income, and type of product dealt. On the other

hand, financial stress differs significantly based on the nature of the business and the number of dependents. Financial stress gets aggravated when there are more dependents. Further, the street vendors having their business in a fixed place had a better opportunity to undertake their business during the lockdown relax time than the mobile street vendors. So, mobile street vendors may have more financial stress.

Table 1. Variances to financial stress

Source: Primary data.

Factor	P-value	Result
Gender	0.152	No significant variance
Marital status	0.277	No significant variance
Age	0.589	No significant variance
Dependents	0.004	Significant variance
Education	0.800	No significant variance
Monthly income	0.925	No significant variance
Nature of business	0.015	Significant variance
Type of the product dealt	0.363	No significant variance

Table 2. Variances to financial literacy

Source: Primary data.

Factor	P-value	Result
Gender	0.676	No significant variance
Marital status	0.005	Significant variance
Age	0.669	No significant variance
Dependents	0.348	No significant variance
Education	0.860	No significant variance
Monthly income	0.233	No significant variance
Nature of business	0.596	No significant variance
Type of the product dealt	0.259	No significant variance

Table 2 reveals that financial literacy level among the street vendors does not significantly differ based on their gender, age, dependents, education, monthly income, nature of the business, and type of product dealt by them. On the other hand, financial literacy differs significantly based on the marital status of the street vendors.

Kendall's Tau correlation, a non-parametric correlation tool, has been used to identify the correlation between financial stress and financial literacy. Financial stress and financial literacy are negatively and weakly correlated. The higher the financial literacy, the lesser the financial stress.

The binary stepwise logistic regression analysis has been employed in this study to measure and analyze the factors that affect financial insecurity perceptions of the sample street vendors in Bangalore, India. The binary logistic regression test has been chosen because financial insecurity perceptions of street vendors have been measured using a dichotomous question (Agree or Do Not Agree question) in the research instrument. Further, financial stress, financial literacy, and demographics of the respondents such as gender, age, marital status, number of dependents, education, and monthly income are considered as the predictors of financial insecurity. The results of binary stepwise logistic regression are presented and analyzed below.

The overall percentage of 89.6 represents the likelihood of prediction of variances in the dependent variable by predictors considered by the study. Wald chi-square value (165.911) and the significance value (0.000) denote that the constant value is not equal to zero. Exponentiation of B is also known as the odds ratio, which is the indicator of the constant effect of predictors on the dependent variable. In this study, the odds ratio is $40/344 = 0.116$. The base model includes only intercept and not the predictors. In step 1, the predictors are entered. Step 1 of binary logistic regression reveals that the marital status of the street vendors (p-value: 0.000) significantly impacts the financial security perceptions of the street vendors. All other predictors are insignificant.

To measure and analyze the effects of the predictors such as financial stress, financial literacy, gender, age, marital status, dependents, education, and monthly income on financial insecurity perceptions of the street vendors empirically and explore further into the model, forward stepwise logistic regression, and backward stepwise logistic regression are applied.

In forward stepwise logistic regression analysis, step 0 has only an intercept. In step 1, marital status has been entered and in step 2, the number of dependents of the street vendors has been entered. The overall likelihood of prediction on a dependent variable by the predictors in forward stepwise logistic regression in step 1 and step 2 remain 89.6%.

Table 3. Omnibus test of model coefficients

		Chi-Square	Df	Significance
Step 1	Step	11.469	1	0.001
	Block	11.469	1	0.001
	Model	11.469	1	0.001
Step 2	Step	20.958	2	0.000
	Block	32.426	3	0.000
	Model	32.426	3	0.000

Table 3 shows the first and second steps of forward stepwise logistic regression after the variables are included in the model. Further, since the p values for step 1 and step 2 are less than 0.05, the model is statistically significant. The Chi-square value has improved in step 2.

Table 4. Model summary

Step	-2 log-likelihood	Cox and Snell R square	Nagelkerke R square
1	245.153 ^a	0.029	0.060
2	224.196 ^b	0.081	0.166

Table 5. Hosmer and Lemeshow test

Step	Chi-Square	Df	Sig
2	0.152	3	0.985

Table 6. Forward stepwise model

		B	S E	Wald	Df	Sig	Exp (B)
Step 1 ^a	Marital status	-1.254	0.355	12.492	1	0.000	0.285
	Constant	-1.235	0.284	18.896	1	0.000	0.291
Step 2 ^b	Marital status	-1.404	.370	14.433	1	0.000	0.246
	Dependents	0.908	.510	3.167	1	0.075	2.479
	Constant	-1.647	.513	10.287	1	0.001	0.193

Note: a Variable(s) entered on step 1: Marital status.
b Variable(s) entered on step 2: Dependents.

The model summary table (Table 4) reveals that log-likelihood values are decreasing from step 1 to step 2, which indicates the data is fit for logistic distribution. On the other hand, Cox and Snell R square and Nagelkerke R square values increased from step 1 to step 2. So, predictors in step 2 explain more variance in the dependent variable than the predictors in step 1. It can be understood that marital status and number of dependents together have more impact on the financial insecurity of the street vendors. Hosmer and Lemeshow's figure (Table 5) shows that the model

has quite a good fit after performing forward stepwise regression analysis as the p-value (0.985) is more than 0.05.

The final model of forward stepwise regression is presented in Table 6. The overall likelihood of prediction on a dependent variable by the predictors in backward stepwise logistic regression in step 0 remains at 89.6%. Table 7 shows seven steps of backward stepwise logistic regression after the variables are included in the model. The Chi-square value has decreased in each step from step 2 to step 7. Further, since the p-value of the model in step 7 is less than 0.05, the model is statistically significant.

Table 7. Omnibus test of model coefficients

		Chi-Square	Df	Sig
Step 1	Step	39.009	12	.000
	Block	39.009	12	.000
	Model	39.009	12	.000
Step 2 ^a	Step	-.019	1	.891
	Block	38.990	11	.000
	Model	38.990	10	.000
Step 3 ^a	Step	-.249	2	.883
	Block	38.741	9	.000
	Model	38.741	9	.000
Step 4 ^a	Step	-.256	1	.613
	Block	38.485	8	.000
	Model	38.485	7	.000
Step 5 ^a	Step	-1.873	2	.392
	Block	36.613	6	.000
	Model	36.613	6	.000
Step 6 ^a	Step	-2.542	2	.281
	Block	34.070	4	.000
	Model	34.070	4	.000
Step 7 ^a	Step	-1.644	1	.200
	Block	32.426	3	.000
	Model	32.426	2	.000

Note: a. A negative Chi-square value indicates that the Chi-squares value has decreased from the previous step.

Table 8. Summary of the model

Step	-2 log-likelihood	Cox and Snell R square	Nagelkerke R square
1	217.613 ^a	.097	.198
2	217.631 ^a	.097	.198
3	217.880 ^a	.096	.197
4	218.137 ^a	.095	.196
5	220.009 ^a	.091	.187
6	222.551 ^a	.085	.174
7	224.196 ^a	.081	.166

Note: a Estimation terminated at iteration 20 as maximum iterations have been reached. The final solution has not arrived

Table 9. Hosmer-Lemeshow test

Step	Chi-Square	Df	Sig
1	4.380	8	.821
2	3.788	8	.876
3	4.545	8	.805
4	2.733	8	.950
5	4.062	8	.851
6	4.536	8	.806
7	0.152	3	.985

Table 10. Backward stepwise model

		B	S E	Wald	Df	Sig	Exp (B)
Step 7 ^a	Marital status	-1.404	.370	14.433	1	0.000	0.246
	Dependents	0.908	.510	3.167	1	0.075	2.479
	Constant	-1.647	.513	10.287	1	0.001	0.193

Note: a Variable(s) entered on step 1: Financial stress, financial literacy, gender, age, marital status, dependents, education, monthly income.

The model summary table (Table 8) reveals that log-likelihood values have increased from step 1 to step 7. On the other hand, Cox and Snell R square and Nagelkerke R square values have decreased from step 1 to step 7. Hosmer and Lemeshow figures (Table 9) show that the model has quite a good fit after performing backward stepwise regression analysis as p values are more than 0.05.

The final model of backward stepwise regression is presented in Table 10. Step 7 reveals that marital status and dependents of the street vendors impact the financial insecurity of the street vendors. It is the same model exhibited by forward stepwise logistic regression.

Based on the results of analysis, hypothesis 1 has been rejected except for number of dependents and nature of business and it is proven that financial stress varies according to number of dependents and nature of business of the street vendors. Hypothesis 2 is also rejected except for marital status, and it is observed that financial literacy varies according to marital status of the street vendors. Hypothesis 3 is rejected except for personal characteristics of the street vendors such as marital status and dependents of the street vendors and it is established that marital status and dependents of the street vendors impact the financial insecurity of the street vendors.

4. DISCUSSION

This study investigated financial stress and financial insecurity caused by the COVID-19 pandemic during its second wave among street vendors in Bangalore, India, and the financial literacy level of the street vendors. Further, the study examined the variables that affect the financial insecurity of the respondents. The study results are interesting. The pandemic has inflicted financial stress on the street vendors irrespective of their gender, marital status, age, education, monthly income, and type of product dealt. This result confirms the study results conducted in the USA among women during the pandemic, which has found that the respondents have one or more financial stressors (Sampson et al., 2021). This has also found that financial stress differs significantly based on the nature of the business and the number of dependents. During the lockdown, mobile street vendors have completely lost their livelihood because of disturbances of the product supply, time restrictions, and lack of storage place. Further, one of the mobile street vendors claimed during the telephonic survey that having the business in the mobile manual vehicle for a limited time is tough and unprofitable. So, the financial stress of the mobile street vendors is enormous. Inability to take care of the dependents enhances the financial stress of the street vendors. A woman street vendor stated that more than the loss of job and revenue, the most worrying factor was how she would manage her children's school fees and their well-being in the future. Thus, having dependents exacerbates the situation and augments the financial stress. Financial literacy does not differ significantly based on gender. This study result is against the study of OCED that states that women outperform men in financial behavior, a measure of financial literacy (OECD, 2020). Further, the OECD study states that significant differences exist between financial literacy and well-being of men and women. In this study, financial literacy does not differ based on age. This result is against the outcome of the study of Lusardi, which states that older women display little financial literacy (Lusardi & Mitchell, 2007). Financial literacy differs according to the marital status of the street vendors. A person becomes extremely sensitive and cautious in personal finance matters on getting married. Financial stress and financial literacy are negatively correlated.

The study examined the factors that affect the financial insecurity of street vendors during the second wave period of the pandemic. Financial stress, financial literacy, and demographics of the respondents such as gender, age, marital status, number of dependents, education, and monthly income are the predictors of financial insecurity. 89.5% (344 of 384) of the street vendors have agreed that they have financial insecurity in the future due to this pandemic. Stepwise logistic regression results have exhibited that financial stress and financial literacy have an insignificant impact on financial insecurity perceptions of the street vendors. Further, demographics such as gender, age, education, and income level affect financial insecurity insignificantly. Logistic regression results have revealed that marital status alone significantly impacts financial insecurity

perceptions of street vendors to the extent of 6%. The study results have conveyed that marital status along with the dependents of the street vendors impacts their financial insecurity perceptions to the extent of 16.6%. It is quite interesting that in the given model, marital status impacts financial insecurity significantly, and the number of dependents has an insignificant impact. But as the model, both marital status and number of dependents together have more impact on financial insecurity. Thus, marital status enhances financial insecurity perceptions of street vendors during the second wave of the pandemic and financial insecurity perceptions have been aggravated by the number of dependents. So, the street vendors who have a higher number of dependents along with marital status have serious financial insecurity perceptions.

CONCLUSION

This study aimed to measure financial stress and financial insecurity levels of street vendors. Further, the study focused on measuring the financial literacy levels of the respondents as financial literacy helps in the management of personal finance well. The study found that the pandemic instigated financial stress on street vendors. The financial stress levels differ based on the number of dependents of street vendors and their nature of business. Financial literacy level differs based on marital status. Further, financial stress and financial literacy have not affected financial insecurity perceptions of street vendors. The predictors of the financial insecurity in this study are marital status and the number of dependents of street vendors. This study results assist the regulatory bodies and the government to understand the financial literacy level of the stakeholders of informal economy and to frame appropriate financial education programs targeting the informal economy. Further, the results of the study demonstrate financial stress and financial insecurity levels of the informal sector, which will provide a base for the financial resilience of the informal economy. This study is a behavioral study. So, it has a limitation of behavioral bias. This study focuses on the financial aspects of street vendors and does not focus on the psychological and physiological health aspects of street vendors caused by the pandemic. Moreover, future studies can be conducted on other sections of the informal economy and their financial, psychological, and physiological health behavior due to the pandemic.

AUTHOR CONTRIBUTIONS

Conceptualization: Thangaraj Ravikumar, Mali Sriram

Data curation: Thangaraj Ravikumar, S Girish, R Anuradha, M Gnanendra.

Formal analysis: Thangaraj Ravikumar, R Anuradha, M Gnanendra.

Investigation: Thangaraj Ravikumar, Mali Sriram, S Girish, R Anuradha, M Gnanendra.

Methodology: Mali Sriram.

Project administration: S Girish, R Anuradha, M Gnanendra.

Resources: S Girish, R Anuradha.

Software: Thangaraj Ravikumar, S Girish

Supervision: R Anuradha, Mali Sriram.

Validation: M Gnanendra.

Visualization: S Girish, M Gnanendra.

Writing – original draft: Thangaraj Ravikumar.

Writing – review & editing: Mali Sriram, R Anuradha.

REFERENCES

- Banerjee, M. (2020). Emerging from the Lockdown: Insights from Women Domestic Workers. *Lives in Delhi*, 1-18.
- Barrafrem, K., Västfjäll, D., & Tinghög, G. (2020). Financial well-being, COVID-19, and the financial better-than-average-effect. *Journal of Behavioral and Experimental Finance*, 28. <https://doi.org/10.1016/j.jbef.2020.100410>
- Bowman, D. et al. (2017). *Understanding financial wellbeing in times of insecurity, Understanding financial wellbeing in times of insecurity*. Retrieved from https://www.researchgate.net/publication/316636978_Understanding_financial_wellbeing_in_times_of_insecurity
- Britt, S. L., Canale A, Fernatt F, Stutz, K., & Tibbetts, R. (2015). Financial stress and financial counseling: Helping college students. *Journal of Financial Counseling and Planning*, 26(2), 172-186. <https://doi.org/10.1891/1052-3073.26.2.172>
- Brodeur, A., Gray, D., Suraiya, A. I., & Bhuiyan J (2020). *A Literature Review of the Economics of COVID-19*. Retrieved from www.iza.org
- Business Standard. (2021a). *Covid impact: World Bank slashes India's FY22 GDP growth forecast to 8.3%*. Retrieved from https://www.business-standard.com/article/economy-policy/world-bank-projects-india-s-fy22-gdp-growth-at-8-3-121060801290_1.html
- Business Standard. (2021b). *RBI projects GDP growth rate at 10.5% over recovery in economic activities*. Retrieved from https://www.business-standard.com/article/economy-policy/rbi-projects-gdp-growth-rate-at-10-5-over-recovery-in-economic-activities-121020500331_1.html
- Carroll, N., Sadowski, A., Laila, A., Hruska, V., Nixon, M., Ma D., & Haines J., (2020). The impact of covid-19 on health behavior, stress, financial and food security among middle to high income canadian families with young children. *Nutrients*, 12(8), 1-14. <https://doi.org/10.3390/nu12082352>
- Chartered Institute of Personnel and Development (2021). *Financial Wellbeing*.
- Davis, C. G., & Mantler, J. (2004). *The consequences of financial stress for individuals, families, and society centre for research on stress, coping, and well-being*.
- Deepika. (2020). *Street vendors struggle to stay afloat, The Hindu*. Retrieved from <https://www.thehindu.com/news/cities/bangalore/street-vendors-struggle-to-stay-afloat/article31387525.ece>
- Economic Times. (2021). *India's double-digit growth forecast in peril*. Retrieved from <https://economictimes.indiatimes.com/news/economy/indicators/indias-double-digit-growth-forecast-in-peril/articleshow/82253233.cms?from=mdr>
- Friedline, T., Chen, Z., & Morrow, S. P. (2021). Families' Financial Stress & Well-Being: The Importance of the Economy and Economic Environments. *Journal of Family and Economic Issues*, 34-51. <https://doi.org/10.1007/s10834-020-09694-9>
- Hasler, A., Lusardi, A., & Valdes, O. (2021). *Anxiety-and-Stress-Report-GFLEC-FINRA-FINAL*. Retrieved from <https://gflec.org/wp-content/uploads/2021/04/Anxiety-and-Stress-Report-GFLEC-FINRA-FINAL.pdf?x85507>
- Heckman, S., Lim, H., & Montalto, C. (2014). Factors Related to Financial Stress among College Students. *Journal of Financial Therapy*, 5(1). <https://doi.org/10.4148/1944-9771.1063>
- Heo, W., Cho, S. H., & Lee, P. (2020). APR Financial Stress Scale: Development and Validation of a Multidimensional Measurement. *Journal of Financial Therapy*, 11(1), 1-28. <https://doi.org/10.4148/1944-9771.1216>
- Idris, F. H., Krishnan, K. S. D., & Azmi, N. (2013). Relationship between financial literacy and financial distress among youths in Malaysia – An empirical study. *Malaysian Journal of Society and Space*, 4(4), 106-117.
- Kambara, C., & Mutharayappa R (2018). *Female Street Vendors in Bangalore City*. Retrieved from <http://www.isec.ac.in/PB%2015%20Policy%20Brief%20Street%20Vending%20final.pdf>
- Karakara, A. A.-W., Sebu, J., & Dasmani, I. (2022). Financial literacy, financial distress and socioeconomic characteristics of individuals in Ghana. *African Journal of Economics and Management Studies*, 13(1), 29-48. Retrieved from <https://doi.org/10.1108/AJEMS-03-2021-0101>
- Krejcie, R. V., & Morgon, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.
- Lim, H. N., Heckman, S. J., Letkiewicz, J. C., & Montalto, C. P. (2014). Financial stress, self-efficacy, and financial help-seeking behavior of college students. *Journal of Financial Counseling and Planning*, 25(2), 148-160.
- Lusardi, A. and Mitchell, O. S. (2007). *Planning and Financial Literacy: How Do Women Fare?* Retrieved from https://repository.upenn.edu/prc_papers/556
- McCloud, T., & Bann, D. (2019). Financial stress and mental health among higher education students in the UK up to 2018: Rapid review of evidence. *Journal of Epi-*

- demiology and Community Health*, 977-984. <https://doi.org/10.1136/jech-2019-212154>
24. Millimet, D. L., McDonough, I., & Fomby, T. B. (2021). Financial Literacy and Food Security in Extremely Vulnerable Households. *SSRN Electronic Journal*, 9103. <https://doi.org/10.2139/ssrn.2655051>
 25. MoHFW. (2021). *No Title, GoI*. Retrieved from <https://www.mohfw.gov.in/>
 26. Money Control. (2021). *RBI lowers GDP growth forecast to 9.5% for 2021-2022*. Retrieved from <https://www.moneycontrol.com/news/business/rbi-monetary-policy-real-gdp-growth-projected-at-9-5-says-shaktikanta-das-6986461.html>
 27. Odle-Dusseau, H. N., Matthews, R. A., & Wayne, J. H. (2018). Employees' financial insecurity and health: The underlying role of stress and work-family conflict appraisals. *Journal of Occupational and Organizational Psychology*, 91(3), 546-568. <https://doi.org/10.1111/joop.12216>
 28. OECD. (2020). *OECD/INFE 2020 International Survey of Adult Financial Literacy*.
 29. Organisation for Economic Cooperation and Development. (2011). Measuring financial literacy: questionnaire and guidance notes for conducting an internationally comparable survey of financial literacy. *OECD*, 31. Retrieved from <https://www.oecd.org/finance/financial-education/49319977.pdf>
 30. Rahman, M., Isa, C. R., Masud, M. M., Sarker, M., & Chowdhury, N. T. (2021). The role of financial behaviour, financial literacy, and financial stress in explaining the financial well-being of B40 group in Malaysia. *Future Business Journal*, 7(1), 1-18. <https://doi.org/10.1186/s43093-021-00099-0>
 31. Rasdi, R. M., Zaremohzzabieh, Z., & Ahrari, S. (2021). Financial Insecurity During the COVID-19 Pandemic: Spillover Effects on Burnout-Disengagement Relationships and Performance of Employees Who Moonlight. *Frontiers in Psychology*, 12(February), 1-14. <https://doi.org/10.3389/fpsyg.2021.610138>
 32. Reserve Bank of India. (2020). *Survey of Professional Forecasters on Macroeconomic Indicators – Results of the 67th Round*, RBI. Retrieved from <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/SPF67886AC5A9D2F-64CB7862B02F3D8D3C135.PDF>
 33. Robillard, R. Saad, M., Edwards, J., Solomonova, E., Pennestri, M. H., Daros, A., Louis Veissière S.P., Quilty L, Dion K, Nixon A, Phillips J, Batla R, Spilg E, Godbout R, Yazji B, Rushton C.H., Gifford W, Gautam M, Boafu A, and Kendzerska T (2020). Social, Financial and Psychological Stress during an Emerging Pandemic: Observations from a Population Web-Based Survey in the acute phase of the COVID-19 pandemic. *BMJ Open*, 10(12). Retrieved from <https://bmjopen.bmj.com/content/bmjopen/10/12/e043805.full.pdf>
 34. Rodriguez, L. M., Litt, D. M., & Stewart, S. H. (2021). COVID-19 psychological and financial stress and their links to drinking: A dyadic analysis in romantic couples. *Psychology of Addictive Behaviors*, 35(4), 377-390. <https://doi.org/10.1037/adb0000724>
 35. Roll, S. P., Taylor, S. H., & Grinstein-Weiss, M. (2016). *Financial Anxiety in Low- and Moderate-Income Households: Findings From the Household Financial Survey*.
 36. Roy, S. M. (2020). *The Importance of Financial Literacy in India*. Retrieved from <https://streetfins.com/the-importance-of-financial-literacy-in-india/>
 37. Sampson, L., Ettman, C. K., Abdalla, S. M., Colyer, E, Dukes K, Lane, K. J., & Galea S (2021). Financial hardship and health risk behavior during COVID-19 in a large US national sample of women. *SSM - Population Health*, 13. <https://doi.org/10.1016/j.ssmph.2021.100734>
 38. Shapiro, G. K., & Burchell, B. J. (2012). Measuring Financial Anxiety. *Journal of Neuroscience, Psychology, and Economics*, 1-12. <https://doi.org/10.1037/a0027647>
 39. Statista. (2021). *Cumulative of the coronavirus (COVID-19). confirmed, recovered and deceased numbers across India from January 29, 2020 to June 20, 2021*. Retrieved from <https://www.statista.com/statistics/1104054/india-coronavirus-covid-19-daily-confirmed-recovered-death-cases/>
 40. Steen, A., & MacKenzie, D. (2013). Financial Stress, Financial Literacy, Counselling and the Risk of Homelessness. *Australasian Accounting, Business and Finance Journal*, 7(3), 31-48. <https://doi.org/10.14453/aabf.v7i3.3>
 41. Tesfaw, A. A., & Yitayih, T. T. (2018). A study on financial stress and coping strategies among students in Rift Valley University, Ethiopia. *Humanity & Social Sciences Journal*, 13(1), 1-10. <https://doi.org/10.5829/idosi.hssj.2018.01.10>
 42. The Indian Express. (2020). *Explained: Who is a 'street vendor' in India? What is the Street Vendors Act?* Retrieved from <https://indianexpress.com/article/explained/street-vendor-act-pm-svanidhi-scheme-explained-6911120/>
 43. Tran, A. G. T. T., Lam, C. K., & Legg, E. (2018). Financial Stress, Social Supports, Gender, and Anxiety During College: A Stress-Buffering Perspective. *Counseling Psychologist*, 46(7), 846-869. <http://doi.org/10.1177/0011000018806687>
 44. Udayam Mitra. (2020). *PM SVANidhi*. Retrieved from <https://www.udyamimitra.in/page/PM-SVANidhi>
 45. West, T., Cull, M., & Johnson, D. (2020). Does Financial Literacy Reduce Money Stress? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3671178>
 46. World Bank Group. (2020). *The Economic and Social Impact of COVID-19*. Retrieved from <https://documents1.worldbank.org/curated/en/790561591286827718/pdf/The-Economic-and-Social-Impact-of-COVID-19-Financial-Sector.pdf>