

Economic Crisis and Labor Consumption: Calibrating Wage for Informalized Labor Households

Ujwal Prakash

Department of Economics, Ranchi University, Ranchi, India

Corresponding author: ujwal.prakash@live.com (ORCID ID: 0000-0002-8875-1559)

Received: 13-08-2021

Revised: 25-11-2021

Accepted: 07-12-2021

ABSTRACT

Economic shocks impelled by a growth retarding phenomenon hinders the overall functioning of an economy and influences the constituent unit of society, i.e., humans, with severity of its effect stretched to that extent of society which remains vulnerable to such shocks. The informal community of labor, participating in economic activity without the cover of social security often becomes a recipient of the economic and policy variations leading to unrest on their way to development. The present study explores the constraints of labor consumption as experienced by the informal labor in India due to restrictive lockdown imposed to contain the spread of covid-19 with the purpose to ascertain its determinant by explicating consumption function in the analysis and empirically using multiple regression on macro variables that influences consumption. It was observed that during lockdown the labor's consumption was dependent on the wealth accumulated in the past, whereas the regression estimation suggested that the consumption expenditure was influenced significantly by their earnings and mildly by the level of inflation in the country. In pursuit of assessing labor's desired earnings and their consequential migration, a theoretical condition is quantitatively explored. The study suggests that the government should assist the informal labor in upgrading their employable skills to help them secure a job with desired earnings in a quest to sustain present as well as future consumption needs and recommends that efforts should be made to endorse national policy empowering the labor towards wealth accumulation and social security.

HIGHLIGHTS

- ① Effect of the economic crisis on aggregate labor consumption.
- ① Examining the factors influencing consumption demand among informal labor-force.
- ① Importance of employability.

Keywords: Labor consumption function, Consumption and crisis, Economic adversity, Informal labor, Wages

Consumption under uncertainty subscribes to the influence covering a variety of factors engaging its source, income to its end, and expenditure. Labor consumption behavior is significant for raising the welfare index in a country which requires apparent interpretations of the societal composition and its limitations. Informality of the labor-force often places them on the frontline to face adversity offered by a crisis with variability of source, i.e., economic, social, political and demographic.

The Covid-19 crisis intensified the existing informality in the Indian economy. With the struggle of informal workers due to the covid-19 crisis, it was anticipated that the post-crisis period will put additional pressure

How to cite this article: Prakash, U. (2021). Economic Crisis and Labor Consumption: Calibrating Wage for Informalized Labor Households. *Int. J. Soc. Sci.*, 10(04): 305-313.

Source of Support: None; **Conflict of Interest:** None

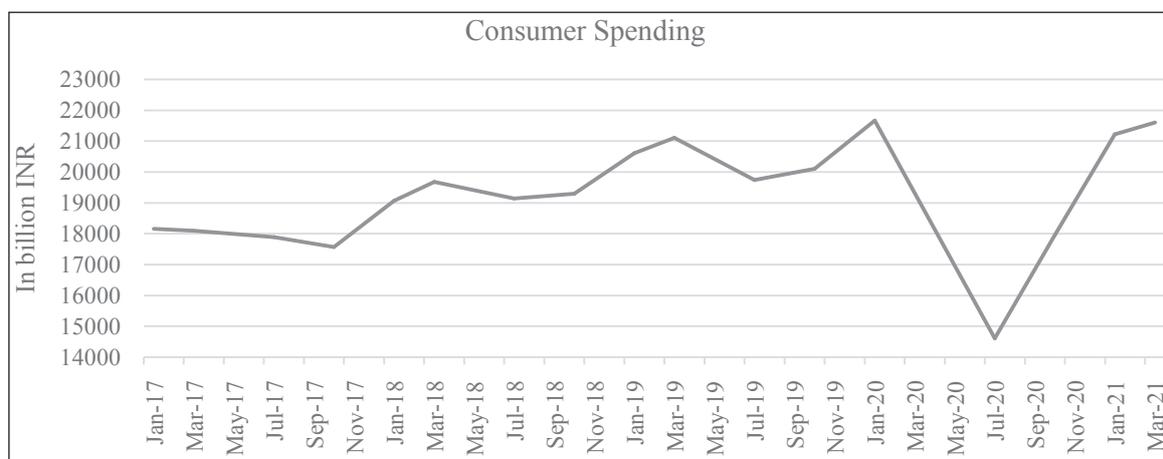


on the already brittle Indian informal sector, and the consequences of the covid-19 outbreak for the informal economy will continue (Shekar and Mansoor, 2020). The labor force, mostly the unorganized, were subjected to the severity of the crisis that had a multidimensional adverse impact on them. The reverse migration followed by re-migration before the second phase of lockdown measures kept the labor between uncertainty of anticipated futuristic prosperity and the need for revival. The critical part associated with lockdown was the effect it had on consumption of the households. In the view of the uncertain nature of work concerning the informal labor force in India, the lockdown proportionally as well as typically affected consumption, corresponding to the lagged growth of gross domestic product (GDP) in India over the past few quarters which has been credited to low private consumption approximating 60 per cent share to the GDP (Mishra and Dhanerwal, 2020). The unusual consumption aspect was attributed to the cause of scarce sources of income generation for the Indian households.

Theoretical elucidation of the macro level consumption entails the studies of consumption as a function of all forms of income. The crisis and its effect on income generation enticed a contrary change in the consumption behavior of the society that advocated raising measures towards better preparedness to counter and endure future economic crisis. Observing month-wise consumer

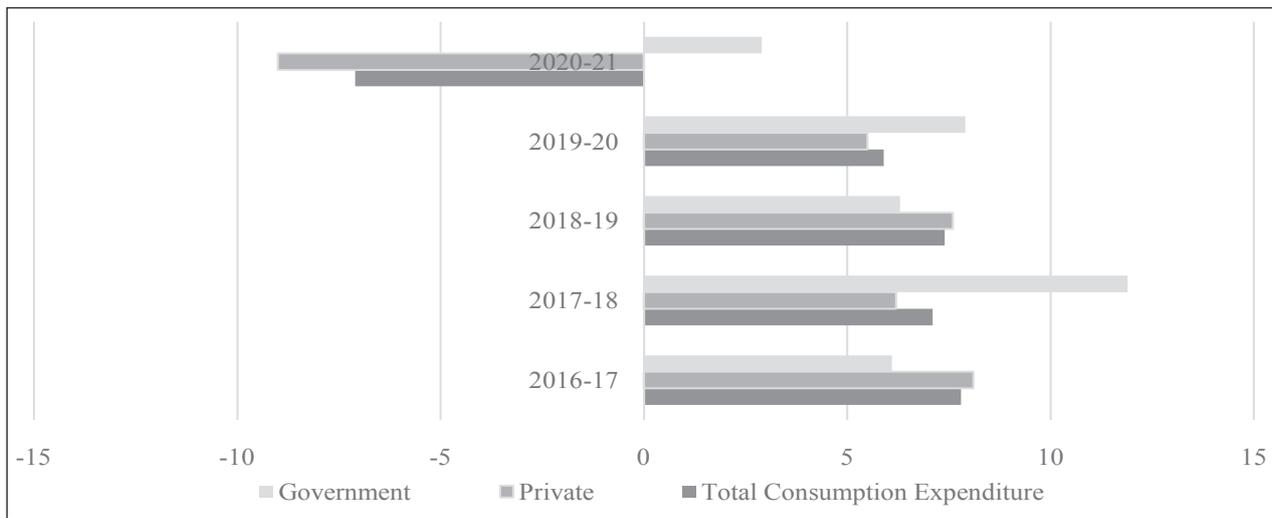
spending in India as presented in Fig. 1, explicate the steep decline in consumer spending for the month of July, 2020 resulting in 32.5 per cent lesser consumption as compared to the consumer spending in Jan, 2020 which can be reasoned as an impact of lockdown.

The private consumption expenditure was cut down, which depressed the total consumption expenditure for the year 2020-21, as expressed in Fig. 2. Taking cognizance of the incidence of lockdown on labor consumption, the present study focusses on the varying nature of macroeconomic behavior due to the economic crisis forced by non-economic shocks. Using the consumption parameters, the study establishes constrained labor household consumption behavior based on an empirical assessment with migrant labors along with the data on macro variables on the Indian economy and its intrinsic determinant during Covid-19 lockdown in India. An assessment is done to supplement the arguments with the necessary course of action towards reducing the incidence of economic stress on the labor household income and a conceptual wage model is designed which is ascribed to the consumption and subsequent migration need of the labor. For India, with abundant informal labor force, it is imperative to scale the temperament of the labor force towards consumption by advocating means for their sustenance beyond susceptibility. The significance of the study lies in the empirical approach towards building models to



Source: statista.com

Fig. 1: Consumer spending in India from January 2017 to March 2021



Source: Annual report, Reserve Bank of India.

Fig. 2: Consumption expenditure in India from 2016-17 to 2020-21

seek answers for queries concerning the balance of labor consumption with welfare.

METHODOLOGY AND DATA SOURCES

To empirically examine the dependency of rural household consumption expenditure on macroeconomic factors, the econometric tool of multiple regression was applied to construct and estimate a consumption model using EViews statistical software. Also, the concept of consumption function was applied to seek factors that governed consumption during lockdown. The study focused on primary as well as published data on the Indian economy. Labor information was derived as a sample from Sonahatu rural block of Ranchi district in Jharkhand State. The Sonahatu block witness migration of youth who have completed their basic secondary or graduation studies. This block is spread across 157 villages and 19 panchayats with a total population of 95,411. Purposive and simple random sampling technique were applied to get 117 respondent's feedbacks from the selected area through enumerators for the purpose of study. The respondent's feedback was recorded to estimate the determinant of labor consumption expenditure from their source of income. They were queried for the patterns of consumption expenditure which is expressed in Table 1, and the responses were generalized by assigning weights to

the factors that pointedly affected labor consumption pattern.

Table 1: Determinant of labor household consumption expenditure before lockdown

Determinants	Weight (per cent)
Current Income	36.67
Past earnings	27.27
Expectations future income	27.27
Wealth accumulated	6.58
Rate of Interest	0.31
Bank credit	0.31
Income distribution	0.31
Regulatory Fiscal policy	1.25

Source: Author's survey.

The first set of secondary data comprises inflation rate in the Indian economy for the assessment period July, 2019 to March, 2021, whereas the second set of published data was concerning unemployment rate in the Indian economy as stated in Table 2. An estimation was made using the data in Table 1 to compute daily and average rural household consumption expenditure which has been mentioned in Table 2. The consumption expenditure was administered as the dependent variable for the purpose of running multiple regression, whereas, explanatory variables included inflation

Table 2: Rate of inflation, unemployment and consumption expenditure in India

Month	Inflation rate [‡]	Unemployment rate [§]	Consumption expenditure [¶]
July 2019	5.98	7.30	10679.8
Aug 2019	6.31	8.20	10718.5
Sept 2019	6.98	7.10	10739.1
Oct 2019	7.62	8.10	10743.5
Nov 2019	8.61	7.20	10753.1
Dec 2019	9.63	7.60	10774.1
Jan 2020	7.49	7.20	10788.5
Feb 2020	6.84	7.80	10806.9
Mar 2020	5.50	8.80	10806.2
Apr 2020	5.50**	23.50	2701.6
May 2020	5.50**	21.70	2701.6
Jun 2020	5.06	10.20	11135.1
Jul 2020	5.33	7.40	11047.1
Aug 2020	5.63	8.30	10989.6
Sept 2020	5.62	6.70	10995.1
Oct 2020	5.91	7.00	10976.0
Nov 2020	5.27	6.50	11011.0
Dec 2020	3.67	9.10	11019.8
Jan 2021	3.15	6.50	11020.5
Feb 2021	5.03	6.90	11122.6
Mar 2021	4.29	6.50	11126.6

Source: [‡]MoSPI, Govt. of India, [§]CMIE data, [¶]CEIC data, **Author's assessment

rate, unemployment rate and average monthly wage of the laborers engaged in construction works for the rural households. Further, average monthly wage rate of laborers in rural India engaged in construction industry was computed from statistic of daily average wage of Bihar, Rajasthan, West Bengal, Uttar Pradesh, Madhya Pradesh and Haryana as a combined sample representative of the states in India, which is articulated in Table 3.

RESULTS AND DISCUSSION

Labor household consumption as a function of interdependent variables

The household sector is a major contributor towards the growth of other sectors in a developing economy like India. Consumption behavior of the households, essentially mandates including financial liberty as well as the constraints in terms of assets and liabilities that have a consequential bearing on the other sectors in the financial setting. Economic turbulence impedes

the fragile balance between a household's assets and liabilities, especially among the households comprising informal labor force. Incubating the liable forces as determinants of influence on the household sector, a functional relationship is established with to understand the incidence of economic commotion on the household sector. Household consumption is a determinant of income; however, in the contemporary scenario with associated constraints there are supplementary factors governing consumption of a household. Assuming that the variables which influences consumption in middle-and low-income societies are independent, their functional relationship with household consumption can be expressed in the functional form:

$$C_{jt} = b_1 Y_{jt} + b_2 Y'_{j(t-1)} + b_3 Y_{j(t+1)} + b_4 W_t + C_{it} + \dots(1)$$

where C_{jt} is the consumption of j^{th} household (HH), Y_{jt} is the current income of the j^{th} HH in time t , $Y'_{j(t-1)}$ is the accumulated labor HH income from the past,

Table 3: Average daily/monthly wage rate of rural labor engaged in non-agricultural work

Month	Bihar	Rajasthan	West Bengal	Uttar Pradesh	Madhya Pradesh	Haryana	Daily Avg*	Monthly Avg*
Jul 19	437.9	613.3	385.3	495.4	361.3	606.3	483.3	12564.5
Aug 19	444.3	613.3	393.3	495.2	357.6	606.3	485.0	12610.0
Sep 19	445.6	613.3	394.9	497.9	357.6	606.3	485.9	12634.3
Oct 19	445.6	613.3	394.3	500	357.3	606.3	486.1	12639.5
Nov 19	445.6	613.3	393.4	504.9	355.9	606.3	486.6	12650.7
Dec 19	445.6	613.3	394.4	508.2	357.3	606.3	487.5	12675.4
Jan 20	447.9	613.8	395.5	509.1	356.4	606.3	488.2	12692.3
Feb 20	450.4	613.8	398.7	509.1	355.7	606.3	489.0	12714.0
Mar 20	450.4	613.8	398.7	508.9	355.7	606.3	489.0	12713.1
Apr 20*	112.6	153.5	99.7	127.2	88.9	151.6	122.2	3178.3
May 20*	112.6	153.5	99.7	127.2	88.9	151.6	122.2	3178.3
Jun 20	460.9	602.5	371.1	511.1	471	606.5	503.9	13100.1
Jul 20	462.2	610	398.2	509.5	408.7	610.6	499.9	12996.5
Aug 20	461.8	609.5	404.8	508.4	396.8	602.3	497.3	12928.9
Sep 20	467	611	408.6	512.6	383.6	602.3	497.5	12935.4
Oct 20	466	603.3	411	515.3	381	603.3	496.7	12912.9
Nov 20	473	603.3	411.7	514	384.1	603.3	498.2	12954.1
Dec 20	472.1	610.9	413.3	514	378.2	603.3	498.6	12964.5
Jan 21	469.4	611.4	414.7	513.1	380.1	603.3	498.7	12965.3
Feb 21	474	613.3	416.5	520.6	384.7	610.6	503.3	13085.4
Mar 21	474.7	613.3	416.5	520.6	385.1	610.6	503.5	13090.1

Source: CEIC Data, Labour Bureau Govt. of India, *Author's estimation.

$Y_{j(t+1)}^e$ is the future expectation of average annual factor income by HH labor, W_t is the currently owned wealth, C_{it}^* is the consumption pattern of j^{th} individual in the society, b 's are the marginal propensity to consume and ε is the unexplained irrational consumer behavior. The above expression is assumed first, to be constructed on the premise that an individual in the middle-and-low-income group is earning sufficient income enough to sustain a living. Secondly, in a developing economy the variables in the expression are determining patterns of consumption. The explanatory variables in HH consumption expression (1) are susceptible to intra-national as well as inter-national economic disorder which are influenced by the sources of economic and non-economic stimuli. Between these two influences, the resultants of adverse consumption are the same, i.e., consequences on the pattern of aggregate demand in the economy.

Consumption, a determinant of wealth during economic crisis

During the first wave of Covid-19 infection that created a pandemic not only on the society but also on the economic forum, the entire cycle of income generation was unfavorably affected as all the sectors except for the sectors dealing in emergency and essential commodities suffered, which prompted a negative impact on the consumption pattern of the household and their savings. With lowered or no running income, the variable, Y_{jt} in equation (1) became redundant considering the loss of a job especially within the informal labor force in India. Furthermore, with no running income, the informal laborers were forced to live on the little savings they had which in the due course was exhausted causing the mass reverse migration of the laborers. A functional interpretation of the situation renders $Y'_{j(t-1)}$ in the expression (1), as void. Checking on the third explanatory variable $Y_{j(t+1)}^e$, since the pandemic exhibited a weak futuristic employment or earning prospect, it was also

the macro level which is intended towards enhancing savings and wealth accumulation.

Wage as a significant determinant of labor consumption: Empirical model assessment

With a view to ascertain the impact of lockdown on the informal labor in India, considering the period from July 2019 to March 2021 that covered the pre and the post Covid-19 crisis followed by recession-inflation mix, multiple regression model has been incorporated. The variables undertaken for the study includes labor household consumption expenditure (LHCE) which was the dependent variable, whereas, inflation rate (IR), average wage (AW) and unemployment rate (UR) was administered as the explanatory variables while assuming other determinant of consumption as constant. The functional form of the model can be denoted as:

$$LHCE = f(IR, AW, UR) \dots(3)$$

The expression (3) can be generalized in the form of an econometric model as equation (4), here,

$$LHCE_i = \beta_0 + \beta_1 IR_i + \beta_2 AW_i + \beta_3 UR_i + \varepsilon \dots(4)$$

subscript *i* refers to *i*th individual, ε is the stochastic term and β_1, β_2 & β_3 are the coefficient of explanatory variables IR, AW and UR respectively for individual *i*. The regression is estimated by means of necessary data in Table 2 and 3 comprising a sample size of 21 months. Using EViews statistical package, the following estimation was obtained:

$$\widehat{LHCE}_i = 0.0186 - 0.001IR_i + 0.8499AW_i + 0.00002UR_i$$

The model shows an inverse relationship between consumption expenditure of the labor households and the rate of inflation in the economy when holding the influence of AW and UR constant, i.e., with the lowering of the inflation rate, expenditure on consumption increases. The regression model also indicates that the consumption expenditure is positively related to the wage earned by the labor when the influences of IR and UR are constant. It suggests that if the wage of the worker increases by a thousand rupees, their consumption expenditure steps up by 84 per cent. The consistency of the model can be interpreted using the output of the regression statistic in Table 4. The standard error of all the variables in Table 4 has a very low value indicating that the observations are close to the fitted line of regression. The P-values of the coefficient of IR and AW is smaller than 0.01, suggesting that the estimated coefficient is very strongly significant at 1 per cent level. The coefficient for UR is not significant in the model. Moreover, the R-squared and the adjusted R-squared indicate that complete changes in the value of consumption expenditure of the labor household were determined by the changes in explanatory variables. The smaller values for S.E. of regression and sum of squared resid again indicate that estimated consumption expenditure does not differ with the actual consumption expenditure pattern. The prob (F-statistic) value of 0 enunciates that the independent variables in the model significantly affect the dependent variable at 1 per cent significant level.

Employability as a quantifiable condition for desired wage affecting migration

The study found two variables which determine labor consumption expenditure, i.e., wealth and wage, both being an interdependent variable. A constant

Table 4: Output of multiple regression

Variable	Coefficient	Std. Error	Prob.	R ²	:1
C	0.018661	0.001253	0	Adjusted R ²	:1
Inflation Rate	-0.000115	0.0000288	0.001	S.E. of regression	:0.000193
Monthly Wage	0.849999	0.000000068	0	Sum squared resid	:0.00000063
Unemployment Rate	0.0000273	0.0000435	0.538	Prob(F-statistic)	:0

Source: Author's estimation using EViews statistical package.

flow of desired wage assists the labor to accumulate wealth as a protective shield against economic unrest. Whereas, wealth helps an individual to upgrade their employable skills with respect to investing in vocational education. Conflicts between the anticipated wage and the prevalent wage act as a guide for labor that forms a dais to effect migration. The differential wage as a determinant of consumption expenditure expedites the labor behavior towards handling a crisis that severely affects their employment conditions and catalyzes the condition for migration.

To ascertain how wage affects migration from rural areas to urban areas and employability conditions that assists labor movement to fetch a desired job, let P_j denote probability of securing a job in the urban areas where the migrants move in search of a job. Considering that in the urban areas job opportunities for primary, secondary and tertiary sectors persist, quantitative adjustments to estimate probability of finding a job in the urban primary sector (P_{Uj}^a) will be:

$$P_{Uj}^a = \frac{J_a}{J_a + J_s + J_t}$$

where, J_a is the job available in the urban primary sector, J_s are the jobs in the urban secondary sector and J_t are the jobs in urban tertiary sector. Accordingly, the probability of finding a job in the secondary (P_{Uj}^s) and tertiary sector (P_{Uj}^t) will then be:

$$P_{Uj}^s = \frac{J_s}{J_a + J_s + J_t}, P_{Uj}^t = \frac{1}{J_a + J_s + J_t}$$

The expected wage, W_e in the urban sectors will be a sum of the product of individual probabilities, i.e., P_{Uj}^a , P_{Uj}^s and P_{Uj}^t with industry specific expected wage i.e., W_e^a , W_e^s and W_e^t booked as expected wage in the urban primary sector, secondary sector and tertiary sector respectively. The quantitative generalizations can be expressed as equation (5).

$$W_e = W_e^a \left(\frac{J_a}{J_a + J_s + J_t} \right) + W_e^s \left(\frac{J_s}{J_a + J_s + J_t} \right) + W_e^t \left(\frac{J_t}{J_a + J_s + J_t} \right) \quad \dots(5)$$

Here, W_e is significant as the migrant laborers weigh the same over actual wages in the rural areas to make decisions about migration. The apparent condition for migration assuming the subjective factors to remain unchanged may be represented by the inequality (6),

$$W_e > W_r \quad \dots(6)$$

where W_r representing wage in the rural sector is constrained by the fact that the actual urban wage is dependent on the industry specific skill set L_s that the labor is expected to possess, which acts as a limitation towards attaining a job that assures expected urban wage for the labor. The conditional supplement for the analysis is stated in proportionality expression (7).

$$W_e \propto L_s \quad \dots(7)$$

It is obligatory to develop job-specific skills to fulfill the expectation of a desired wage in the urban areas. With the majority of migrants not updated with industry specific skills, the proportionality condition (7) raises queries about the preparedness of urban sectors in accommodating the migrants and offer them work with a decent wage. There has been a struggle between the labor's intent to acquire a job of the desired wage and the industry's inability to offer a job to the labor with lower employable skill set. The resultant is a job offer at a debased wage.

CONCLUSION

Evidence from empirical assessment of the variables indicated that labor wealth accumulation during a favorable economic scenario supplements the resources for labor consumption during an economic crisis. Economic shocks in any form, whether as a part of business cycles or induced by other factors, may continue to interrupt the dynamics of an economic structure and accordingly necessitate wealth accumulation by the labor at least at the subsistence level. This can be substantiated by the fact that the key determinant of labor household consumption expenditure during the covid-19 pandemic was accumulated wealth. The present study stated that, since the consumption expenditure of

labor is significantly dependent on wage, it is imperative to ensure the labor acquires employment offering the required wage by inculcating and enhancing labor employability through self-development. To build up wealth in terms of house, bank savings, secondary means of living and enabling social security concerning labor's work, it is essential to enhance labor employability for entering an industry with a greater prospect of gaining a job with the desired wage. It becomes overbearing for the governing machinery of a country to open up venues and legislate vocational programs to skill the labor force. Assessed by the importance of employability as a contributing factor towards the attainment of the desired wage, the study comprehends that due to an uncertain economic scenario during a macro-level crisis, the labor consumption along with the severity of crisis on consumption, is dependent on employable opportunities and the employability of the labor. This premise opens up prospects for further economic inquiry that extends to the intrinsic nature of the problem as discussed in the study. The basic limitation of the study comprises analysis based on a limited number of informal labor respondents and consideration of only objective factors influencing the labor consumption process. The viewpoints narrated here can be extended to analysis in a multi-framework of factors that influences the labor

force and their consumption, aimed at simplifying the current findings. The findings about labor consumption behavior and related wage influence unveil hopeful areas of future research towards building a dynamic model of labor consumption behavior in constrained and non-constrained socioeconomic circumstances, interpretation of actual policy decisions of the government and their impact on the perilous aspects of crisis on the labor force in a labor-abundant country.

REFERENCES

- Mishra, P., and Dhanerwal. D. 2020. *Impact of COVID-19 on Select Private Consumption*.
- Demand in Urban India: A Primary Survey Findings. *Ind. Econ. J.*, 68(3): 352-364.
- Reserve Bank of India. 2020. Monetary Policy Report – October 2020. Retrieved from <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=19980> (Last Accessed on 3rd June 2021)
- Practice Connect, Azim Premji University. 2020. COVID-19: Lockdown Impact on Informal Sector in India. Retrieved from <https://ruralindiaonline.org> (Last Accessed on 3rd June 2021).
- The Economic Times. 2021. Lockdown anniversary: Worst behind, Indian economy poised for bounce back but rising Covid-19 cases a big risk. Retrieved from <https://economictimes.indiatimes.com/> (Last Accessed on 3rd June, 2021).

