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41st Annual Conference of the Parishad

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Publication of ***Artha Beekshan***, the quarterly referred journal of Bangiya Arthaniti Parishad, that is, the Bengal Economic Association, is one of the most important academic activities of the Association. The present volume, **Volume 29, No. 4** of the Journal, is a Special Issue dedicated to the 41st Annual Conference of the Parishad, containing the selected papers contributed by scholars in the Conference. We are thankful to the authors and members who have helped in one way or other in the preparation of this volume. Because of the difficulties and disruptions caused by the intervention of the Pandemic in between, we have been compelled to bring out the combined issue.

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A New Ricardian Theory of Trade, Growth and Inequality©[1]

Sugata Marjit[2]

Abstract

The classical Wage Fund (Capital or Credit) framework is integrated with the simplest text-book version of the Ricardian model of comparative advantage, generating a model that replicates important features of the neo-classical production theory involving capital and labour without neo-classical assumptions. Interestingly the growth story of the model seems to be observationally equivalent to the Solow (1956) model of steady state growth. It can easily and effectively reflect on critical contemporary issues without the ammunitions of a more complex neo-classical system. Trade may pamper inequality all across the globe. It is likely to increase growth rate but that rate declines over time. Technological progress without physical capital accumulation magnifies inequality in or out of steady state, generating a Picketty (2013) like situation. Financial crisis in terms of credit shortage hurts workers but benefits capitalists etc.

Key Words – Wage Fund, Finance, Trade, Inequality

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I. Introduction

The role of wage fund in neo classical economic theory has not been entertained at all as the core theoretical structure always undermined active role of finance. The reason seems to be that perfect financial market or perfect capital market can make the role of finance superfluous as it is always available in plenty. Neo classical reinterpretation of the Ricardian theory however used the wage fund hypothesis of the classical world and diminishing marginal productivity of neo classical tradition in analysing the Ricardian

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2. Distinguished Professor, Indian Institute of Foreign Trade, Kolkata, India; CTRPFP at CSSSC, India, & CES-Ifo, Munich, Germany. Revised Draft – May, 2021

theory of stationary state. One may look at Findlay (1974),Hicks and Hollander (1977) and others. But the standard workhorses of the mainstream theory have not introduced wage fund as financial capital in the production process, although the entire inter-temporal macroeconomics starts with loanable funds via the consumption system.

The classical economists generally worked with unemployment and fixed real wage, an assumption which was retained whenever modern theoretical treatment was used to reflect on the Ricardian system. Somehow the benchmark assumption of wage flexibility and full employment of the modern day classical or neo classical model was never associated with the wage fund hypothesis and as an intellectual tradition the whole experiment of using wage fund as a source of finance in an otherwise ideal full employment model was ignored altogether in the entire history of economic thought of nineteenth century and beyond. It is through the ramifications of the benchmark, distortion free, unreal, abstract model that we form our opinion about what distortions would do in that set up, yielding rich variety of results. Thus the absence of a benchmark model completely washed away what could have been an interesting alternative theoretical system. . This paper tries to bridge that gap.

On one hand it extends the basic text book Ricardian model of trade and simple general equilibrium model, made popular in mainstream theory as a two good one factor linear model with no reference to the wage fund hypothesis, by just introducing wage fund as source of capital. On the other it shows such a modified model mimics many results of the standard neo classical model without any assumption of diminishing marginal productivity. Thus it attempts to build up a system which should have been in focus much earlier , before the introduction of marginal productivity theory, but was never there.

This paper brings in the classical wage fund framework incorporating it as capital K in a standard 2x2 Ricradian model of trade and comparative advantage [Caves and Jones(1973 or its any edition)] Start-up level of K determines wage rate given that labour has to be fully employed. This structure replicates many features of the neo-classical system of production with CRS and diminishing returns technologies such as the wage and return to capital depend on K/L ratio with usual signs. Several interesting and new results are derived in the context of trade and inequality. In the dynamic context this replicates fundamental features of the Solow growth model with a unique and stable steady state and smooth convergence of the growth of K to the natural rate of growth in L. But mechanism behind such a process is quite different from the usual Solow model. The paper generates many interesting results such as decline in workers real income following free trade with the possibility of a rise in inequality independent of the pattern of trade, positive but dwindling effect on growth due to trade etc.

The paper is related to Ricardo's original work (1817) and contributions by Findlay (1974, 1984, 1995) , Hicks and Hollander (1977), Steedman (1979), Maneschi (1983, 2008)etc. and references therein. Typically, the classical model has been modelled in some of these papers by adhering to the basic presumption of the classical system regarding the labour market i.e. unlimited supplies of labour at a given real wage. The use of neo-classical tools such as marginal product of labour has also been common either to characterise the wage unemployment adjustment process (Hicks and Hollander 1977) or to characterize the agricultural sector.

Hicks and Hollander (1977) raised the issue that Ricardo did not always talk about a fixed real wage and was aware of the fact that real wage might increase in the process of growth but would fall to the subsistence level as labour force would also grow. They went on modelling such a conjecture using diminishing marginal productivity of labour. In a way this paper is related to the same idea with two stark differences.

First, we do not talk about unemployment at all, not because it is irrelevant or we ignore the Ricardian hypothesis of unlimited supplies of labour at a given real wage or we cannot model unemployment in this model. Our purpose is entirely different from Ricardo or Hicks and Hollander (1977) and other papers in this area . We wish to demonstrate that with the assumption of full employment in a wage fund incorporated model of Ricardian comparative advantage, we get similar results as in a fundamental neo-classical model with conventional assumptions and the model is capable of reflecting on series of contemporary global problems.Second, while doing this we do not bring in the neo-classical assumption of diminishing returns since we are not interested in the wage goods problem of Ricardo involving agriculture where real wage is fixed in terms of the agricultural good. Ricardo's main project was to show that cheaper wage goods induced by the comparative advantage driven trade pattern stimulated the pace of accumulation. Such growth trade nexus is not our point of focus, though Ricardo's framework could be coined as the first model of trade and endogenous growth. For a contemporary discussion on the issue one may refer to Marjit and Mandal (2017) and Marjit, Basu and Veeramani (2019). In this set up full employment condition holds and hence it is not unemployment but wage which is determined in the process. The flexibility of wage depends entirely on the supply of credit or the wage fund. With a given wage fund and a specified size of the labour force only a certain level of wage can be paid to the workers. Real wage in this paper is endogenous.

More recently Marjit, Mandal and Nakanishi (2020) , Long and Nakanishi (2020), Kikuchi and Marjit (2011) and Marjit and Mandal (2017) have built on Marjit (2007) which explores Ricardo in the context of trade on virtual platforms.However, for contemporary issues discussed in the paper on trade inequality, growth etc. one can refer to the outstanding graduate text by Feenstra (2003) and for exhaustive recent extensions of the

Ricardian aspects of trade Autor (2018). But none of the materials referred here has used the structure we are developing in this paper.

II. Model and Results

A country produces two goods of amounts X_1 and X_2 with only Labour in total quantity L, a constant. Per unit labour coefficients are given by al_1 and al_2. Goods are sold at a competitive price P_1 and P_2. We choose good 2 as the numeriare with $P = P_1/P_2$. In fact all variables are measured in the units of the second good.

At the beginning of the production period workers are hired and wages are paid before the outputs are realized. The wage fund or the sum is borrowed at a rate of interest r and after the revenue is realized producers pat back the principal with interest. The wage fund is given at the start of the period by previous accumulation process defined as capital in the model and denoted by K.

To absorb the entire L, given K ,W has to adjust such that

$$W = K/L \qquad (1)$$

(1) relates W positively to K/L . Note that the relationship qualitatively is the same for a CRS production function with diminishing marginal productivity, most commonly used in neo classical production theory.

Competitive price conditions will yield

$$W\, al_1 (1+r) = P \qquad (2)$$

$$W\, al_2 (1+r) = 1 \qquad (3)$$

(2) and (3)give us the same relative price as in the standard text book example with both sector paying same W and r in equilibrium under autarky.

We assume homothetic demand function which leads to the following market clearing condition

$$D(P) = X_1/X_2 \qquad (4)$$

Full Employment condition

$$al_1X_1 + al_2X_2 = L \qquad (5)$$

(1)-(5)determine W, P, r, X_1 and X_2

Point to be noted is that W is determined exclusively from K/L. One could interpret K/W as the demand curve for labour (Figure-1). As W goes up the same K can employ less workers. With the full employment constraint a unique W is determined which absorbs L. As W goes up r must fall given the competitive price conditions (Fig-2).

Typically in the classical system real wage is assumed to be given and unlimited labour supply is available at that real wage, mimicking the state of the economy around the age of industrial revolution. More modern versions of the classical Ricardian system incorporate a mix of such system with diminishing marginal productivity in agriculture. In the present set up W is perfectly flexible but is determined by the available stock of capital and the size of the labour force. Any deviation of W from K/L either leads to a rise or a fall in the wage rate due to competitive pressure. K/W> L implies a rise in the wage as demand exceeds supply and K/W< L leads to a drop in W due to excess supply of workers.

Suppose K and L grow at the same rate. Note that W remains frozen. Also P does not change pegged by technologies. But aggregate income goes up for workers and capitalists i.e. the owners of capital. Relative outputs have to remain the same though higher L will increase both Hence, both outputs will increase at the same rate. Thus following uniform growth in K and L, outputs grow at the same uniform rate. Though demand plays a role here, the result, de facto, has a CRS flavour. The only twist is that along such a balanced growth path W and r do not change. In this model W/r remains the same as long as K/L does not change. This happens from the supply side. But the mechanism is completely different from the standard production models.

II.1 International Trade

Consider a situation where the world relative price P* is greater than P, the autarkic relative price of X_1. The usual and predictable outcome is that the country will specialize in production of the first good. That will maximize the value of production at world prices. This will imply a rise in r and all L will flow into this sector and hence K. W remains the same as K/L remains the same. With P_2=1, W fixed andP_1 rising, consumer price index must rise, reducing real wage. (1+r) must rise as P rises and in the same proportion with P. r rises in terms of the import good and real return to capital must go up. So real wage falls and real return to capital increases.

This is like the well-known Stolper -Samuelson result but it holds independent of the "factor intensity" ranking. One can easily show that capital intensity of production (WLi/WL) will rise for the export good in both countries.

We should highlight a point that is critical from a distributional point of view involving K and L. It is undesirable to assume that workers in the system would not own any capital. Let us assume that a fraction of K is owned by the workers and hence they do get the benefit of a rise in r. But still the following proposition would hold.

Proposition 1-

a) International Trade that increases the absolute and relative price of exportable must reduce the real income of the workers and inequality between labour and

capital income rises assuming that the workers do not own capital and earn less than the capitalists to start with.

b) If workers own a part of the capital stock their real income can still go down.

Proof -

Proof of part **a** follows from discussion above.

Part **b** - Suppose a fraction α of K is owned by the workers. Then their real labour income will be given by

$W_R = [WL + \alpha(1+r)K]/P.$

Since W/P falls, distribution goes against labour and in favour of those who only own capital even if W_R increases as income from capital is only a part of aggregate income.

One can show by differentiating above, using a simple price index and the competitive price conditions that W_R will go down iff $S_k < S1$, where S_k is the share of capital income and S1 is the share of X1 in consumption. QED

Double sided wage inequality by which trade worsens inequality in both trading countries has been an intriguing feature as the standard Heckscher-Ohlin-Samuelson model that predicts asymmetric response. Voluminous literature exists and has been discussed in Feenstra and Hanson (1996). Marjit and Acharyya (2003) have analyzed these cases for the developing countries and Marjit and Acharyya (2007) provide a detailed survey of the literature. These works deal with the wage gap between the skilled and the unskilled. What we have shown here is that such a result relating capitalists and workers has a natural outcome in our model which occurs with the rising world price of exportable. The rising income gap between capital and labour echoes the concern of many and notably that of Picketty (2013).Point to note is that trade leads to the entire allocation of K to the more profitable sector without any impact on W and raising r in both countries. Trade in this set up continues to depend only on technological differences and trade is entirely driven by technology.

One crucial point to be noted here is that W should be interpreted as money wage as K is like a stock of loanable funds denominated in a currency and L is just number of people who can work. So this is like Rupee or Dollar per capita. When we choose X_2 as the numeraire and let price of X_1 to drop in world market generating a comparative advantage in X_2 and hence think of exporting X_2, it has the same relative price effect where P goes down. But the real income effect on workers will be different. Given $P_2=1$, (1+r) will not change, but it will be lower in sector 1 and all K and L will fly to sector 2. The price index must drop as P_2 does not change and P_1 drops. As money wage W is effectively held fixed, there is a positive real income effect for workers as well as capitalists

of the same magnitude if they have same preference structure. Hence, it is important that how the relative price adjusts. If relative price adjusts just with a drop in nominal prices , workers are likely to have a real income gain. But as pointed out in the proposition higher absolute and relative price of exportable will reduce real wage. This is a kind of money illusion effect. If all nominal prices are reduced in same proportion, real variables must not change. But real income will be redistributed towards workers.

Proposition 2 - Factor endowments do not affect the pattern of trade, but only factor returns.

Proof-

The proof is fairly straight forward. K/L determines W and hence r but not P which is pegged by technology. Higher K/L means higher W and lower r before trade takes place. Once trade takes place and the country gets completely specialized, a rise in K/L will do the same, raising the wage and reducing r . But nothing else should change. QED.

II.2 Economic Growth

Ricardo's original work stressed the significance of capital accumulation and how the principle of comparative advantage could positively impact the industrial revolution in England. He proposed the repeal of corn-law, which happened in 1846. That made import of corn, the wage good, cheaper boosting rate of profit and rate of accumulation. International Trade, according to British comparative advantage in industrial goods , was supposed to stimulate trade and growth at the same time. His was the first model of trade led endogenous growth. Similar process can work on virtual platform where trade automatically leads to higher productivity and hence growth in an otherwise Ricardian set up.

Classical economists often made a common assumption that capitalists save and invest all their profits and workers consume all their income. We do not need to make such assumption as workers can own capital and invest. In this simple model we postulate that all profits are invested, whoever earn it. To make it look like the Solow model we assume that L grows at an exogenous rate **n**.

Let K_t be the capital stock at t , then

$K_{t+1} = K_t (1+r)$ and similarly

$L_{t+1} = L_t (1+\mathbf{n})$

Therefore, K/L grows at a rate $(1+r)/(1+\mathbf{n})$.

*Proposition 3 – A unique and stable steady state growth path exists with r = **n***

Proof- Start from any K/L and we have a unique closed economy equilibrium values of P and r, given K/L=W, and assumptions of the model. First, we show that if there is a steady

state it must give us a unique set of values of the variables.

Steady state implies r=**n**. K/L is a constant, so is W and given W, all other variables have same values over time. Hence, it is unique.

Given **n**>0, we can solve for r = **n,** if there is a solution for the system at initial K/L, the same solution will persist for r = **n**. Hence, a steady state exists.

Suppose r>**n**, K/L is rising, so is W (P is frozen by technology) and r will fall up to n. Once it reaches **n**, it will remain there as K/L will reach its steady state value.

Suppose r< **n**. K/L is falling, so is W and r will be rising until it hits **n** and steady state will be reached.

Thus the steady state equilibrium is stable. This completes the proof. Q E D .

The same story will be repeated for a completely specialized economy trading at world prices.

Note the similarity with the Solow (1956) model of growth. Per capita income does not grow in steady state and income grows at the natural rate n as in the Solow model. The convergence to the steady state is not guaranteed by diminishing returns as in the neo-classical model, but through a rise in r followed by a drop in W when K/L falls and through a fall in r when W rises and K/L rises. We replicate all results usually derived via the marginal productivity theory of distribution. Countries with lower K/L grow faster because of the decline in the wage rate. Thus typical Solow model driven idea of absolute convergence holds.

Proposition 4 – Trade can only temporarily boost up growth in per capita income but in the long run per capita income will depend only on steady state K/L [= (K/L)]*

Proof – Let us tart from (K/L)* and go for trade at world prices which are different from local prices, which lead to complete specialization raising r beyond **n.** K/L and W start rising and r starts falling up to n reducing the growth of capital and eventually converging to r. Thus over some periods per capita income must rise as r>**n**. In fact during the transition process per capita income will be given by

$$Y_t = Y^* + F[(K/L)_t - (K/L)^*],\ F[0]=0,\ F' >0,$$

where $Y^* = (K/L)^* (1+r^*)$ is the steady state per capita income.

As trade leads to a jump in r, Y increases and K/L starts rising and r starts falling, dragging K/L down to the steady state. Thus the growth in per capita income falls to zero eventually.QED.

II.2. Optimal Growth under Free Trade

We have demonstrated that this new Ricardian model exhibits similar properties as in a Solow type model. Now we turn to optimum growth in this context. We talk about the nature of optimum growth under free trade. It is obvious that under free trade the country is likely to be completely specialized in production given a set of world prices captured by P* while consuming all goods available. We assume that P* does not change overtime, though this turns out to be a redundant assumption for our purpose as would be revealed soon.

We follow a standard saving-investment process unlike the classical view that only capitalists save and workers consume. As stated earlier, workers can own capital and therefore income can be different from W for a typical worker. Each and every agent has the same instantaneous utility function defined over available consumption goods and also the same rate of time preference captured by a discount rate $\beta = 1/1+\rho$ with $\rho\varepsilon$ (0, 1) is the pure rate of time preference. Agents will maximize discounted sum of utilities over infinite horizon subject to a dynamic budget constraint that takes into account the natural growth rate of L as n and required investment in K. I shall first derive the steady state result based on the Euler's condition intuitively to find out the optimal K/L to derive what is known as the "Modified Golden Rule". Then the explicit dynamic programming exercise will be outlined by specifying the Bellman equation.

Think of investing 1 unit of K at period t in a two period model with (t, t+1) as the relevant periods. Whichever consumption good you focus the sacrifice will mean marginal utility or MU at t i.e. MU_t. If K grows at a rate r it has to be the case that it covers the extra labour that it has to employ as L is growing at a rate n. So (r-n) is left over and above such requirement and total extra income to be spent will be given by [1+(r-**n**)]. The utility value of that in present terms will be $\beta MU_{t+1}[1+(r-\mathbf{n})]$. Optimality implies this has to be equal to MU_t. Under steady state (or stationary state as per capita income is not growing and is a constant), this will boil down to

$$r = \mathbf{n}+\rho$$

This is the well-known modified golden rule result. Given the natural rate of growth and pure rate of time preference, r will be determined and since it is a monotonically declining function of K/L , a unique K/L will be determined.

Just to reiterate the point that the supply conditions of the model is completely Ricardian and we have used marginal analysis in consumption to compare it with a very conventional result of optimal growth in neoclassical models. Thus we demonstrate that golden rule or modified golden rule that is fundamental to the optimum growth literature in neoclassical models is also captured in the new Ricardian model we develop here.

II.4. Technological Progress

This model has another interesting feature. Any kind of technological progress without the growth in K/L does not improve the economic conditions of labour. With K/L held fixed W will not rise but a fall in labour coefficients will raise r. If we start from a steady state , r will rise and K/L will start growing only then W can rise. But at a steady state W will remain the same but r will be higher with technological progress. Technology does not help workers because given amount of wage fund and the size of the labour force there is only one wage rate than can be paid to the workers and that remains insulated from technological progress. Quantities increase and the higher value of income is all retained by the capitalists. Pre trade uniform technological progress across sectors will have usual outcomes as in Ricardian model. With trade it will be only for the single traded sector.

Proposition 4 – Technological Progress will increase return to K while W does not change.

Proof- See the discussion above.

One could conceive a slightly different set up where there is an R and D sector which uses labour to reduce the labour coefficient. In the completely specialized world al_1 gets reduced by employing L_d amount of workers through the following function

$$al_1 = A(L_D),\ A(0) = al_1(0) > 0 \text{ and } A' < 0 \qquad (6)$$

Note that K is divided between wage funds deployed in two sectors, X_1 and D with workers paid the same W. ($L - L_D$) will be allocated for production and the rest for R and D. Interestingly the equilibrium level of L_D is indeterminate as more is invested in D , higher will be r. In principle close to all K should be invested in D sector to maximize income from capital or wage fund i.e. rWL, with both L and W held constant. In fact as Beladi, Jones and Marjit (2002) show zero production can be a feasible equilibrium in a Ricardian trade model if technology could be sold out to the rest of the world against a proper fee. However, main point is that wage does not increase with technological progress but r does.

Proposition 5- Both trade and technological progress contribute unambiguously to rising inequality.

Proof- See the discussion above. QED

Now consider a case where K, L and L_D all are growing at the same rate n. We have already shown that in such a state as K/L does not change W remain the same but growth in R and D will continuously reduce the labour coefficient and hence r will increase. Hence, the growth rate of r will be greater than that of W which does not change. Thus the outcome of the steady state can be a continuous rise in inequality with income from K growing faster than that of labour. This is a similar situation as emphasized by Picketty

(2013) in his celebrated book, but ours originates in this new Ricardian structure.

III. Concluding Remarks

A text book Ricardian model stapled with the wage fund hypothesis, defined as the New Ricardian model, captures the classical notion of capital (K) or working capital or credit. Bringing in K in this model leads to neo-classical type relationship between factor endowments and factor prices, though income distribution between labour and capital is fuelled by entirely different mechanisms. We replicate the fundamental results of the Solow (1956) paper and those related to optimal growth. There are certain robust outcomes which are quite interesting from contemporary perspectives such as unambiguous rise in inequality due to trade and technological progress all across the globe.Trade benefits growth but not over the long run. Key to rising wage and decline in inequality is physical accumulation of capital, but not technological change. Trade increases credit intensities of the export good and may encourage more or less credit intensive sectors. Only technologies determine trade pattern not factor endowments i.e. labour and credit supply. Interesting extension can be done in terms of the impact financial crisis and trade as the supply of credit is affected and possible overall impact on demand.

The limitation of this approach is that it is based entirely on a notion of working capital as given by the classical wage fund system and completely abstracts from the role of capital inside the production process. Hence, we cannot talk about fixed investments. But role of capital in innovations has been accommodated, leading to an impact that lingers over time. The decision to allocate K for R and D now has to be based on a dynamic choice which we do not model here explicitly. Thus finance in the current period does have significant future implications from the supply side.

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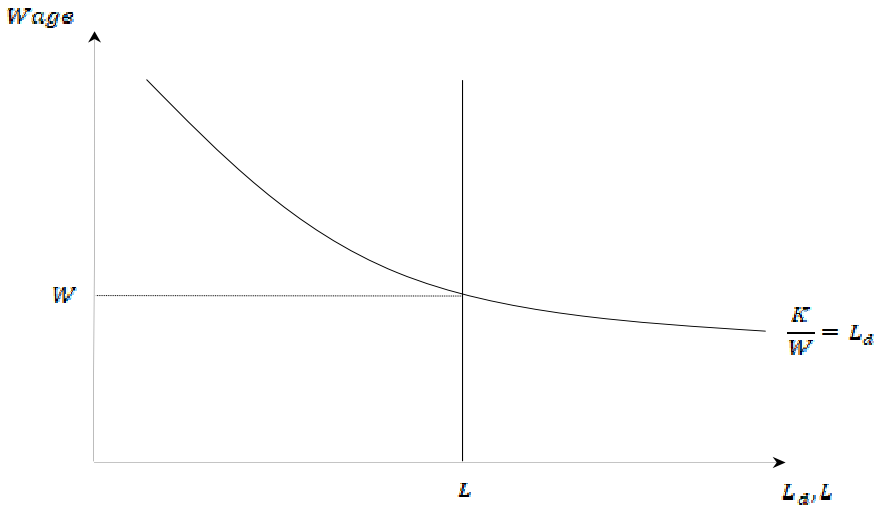

Figure 1

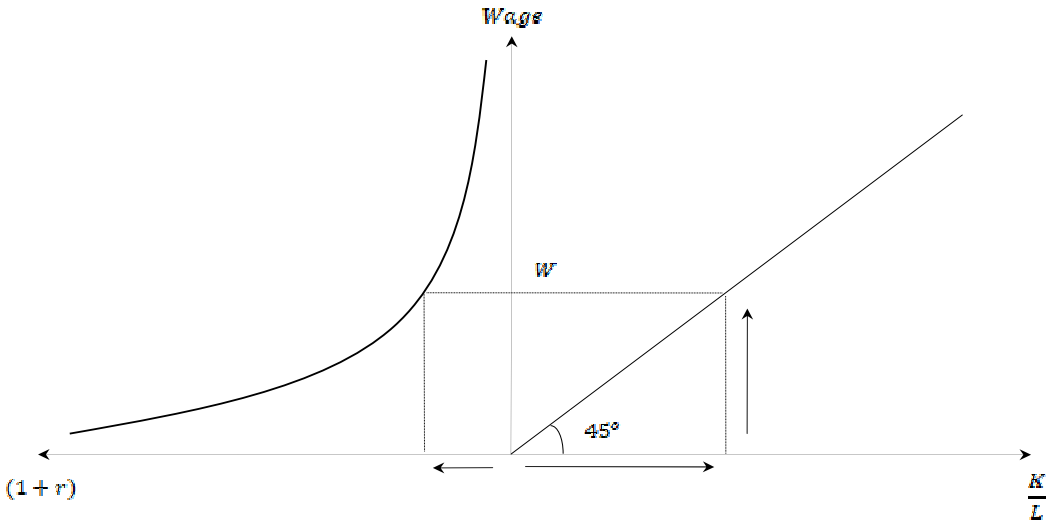

Figure 2

Monetary-Fiscal responses to tackle Covid-19 Pandemic

Lekha Chakraborty[1]

Abstract

The Covid-19 pandemic has ravaged the world economy and macroeconomic policy responses are recommended for the revival of the economies across the globe. The policy responsiveness to "life versus livelihood" crisis of COVID-19 in most of the countries has been "sequential" rather than "simultaneous". In the realm of macroeconomic policy making in most countries, there has been a transition from the discretion to the rules-based framework,– be it fiscal or monetary. While the fiscal space determines the size of the economic stimulus packages across countries, the recovery will depend on the monetary and fiscal policy measures of a country. The empirical evidence from the Asia Pacific region has proved that over-adjusting to fiscal rules (especially through capital expenditure compression) has adversely affected human development. The non-conventional policy tools like financing of fiscal programmes by money creation are not yet explored. The booms and exuberance in financial markets alone cannot be an indicator of economic recovery . Unless there are policy responses to covid-19 in terms of redressing inequalities, climate justice and other social protection measures, the recovery processes cannot be sustainable. There are opportunities in crisis, but it is difficult to analyse the impacts of fiscal stimulus packages, unless a few social policy components of public expenditure including for (i) food security, (ii) social infrastructure, (ii) labour and social protection and (iv) economic activity, which requires urgent attention , are examined.

Key Words : Monetary Policy, Fiscal Policy, Covid-19 pandemic

JEL Classification Codes : E 52, E 63, O29.

I. Introduction

Extraordinary times require extraordinary macro policy responses. The United Nations Secretary General (UNSG) has called for an emergency pandemic response package, with a threshold of 10 per cent of GDP, when the covid-19 pandemic broke out. The fiscal space has determined the size of the economic stimulus packages across countries. The IMF has cautioned the member countries not to abruptly withdraw the pandemic package as it can deepen inequalities and trigger a humanitarian crisis. Over the last one year, many countries in the Asia Pacific region has systematically "flattened the curve" by containing the COVID-19 pandemic and has been moving slowly to a V-shaped re-

1. Professor, NIPFP and Research Affiliate, Levy Economics Institute of Bard College, New York

covery. The sustainability of this recovery will depend on the monetary and fiscal policy measures a country has designed "like never before" to tackle this dual crisis —the public health crisis and the macroeconomic crisis.

The IMF projections show that the drag of the pandemic on global growth could be to the extent of -4.9 %. This is a major revision in the global growth rate over a very short period of time (IMF World Economic Outlook, 2020). The IMF highlighted that "the Great Lockdown is the worst economic disruption since Great Depression, and far worse than the global financial crisis." Its estimates suggest that the cumulative loss to global GDP over 2020 and 2021 from the effects of the COVID19 pandemic would be around $12 trillion, greater than the economies of Japan and Germany combined. On the fiscal side, it is too early to get the data of "fiscal marksmanship" (what is announced and what is realised in case of economic pandemic measures) of emergency pandemic package components.

II. Issues

The COVID-19 pandemic is revealing and compounding inequalities, including economic inequalities and gender inequalities. The policy responsiveness to "life versus livelihood" crisis of COVID-19 in most of the countries has been "sequential" rather than "simultaneous". The lockdown, though the only policy option to prevent community spread, has resulted in unintended economic disruption. From a health perspective, what is necessary is "testing, tracing, and containing". Unless a judicious "exit strategy" is planned, the prolonged lockdown can lead to irreversible loss in economic growth. More than that, the loss of livelihood due to lockdown strategy can lead to starvation deaths, unless addressed through policy interventions. This has also led to distress migration (A Pande, 2020; Mukhra, R., and Krishan, K., and Kanchan, T. 2020 ; MDP, 2020)[2]. The mass exodus of migrant workers become a chaotic event (UNU WIDER, 2020).

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2. Mukhra, R., and Krishan, K., and Kanchan, T. 2020 "COVID-19 Sets Off Mass Migration in India" Archives of Medical Research, Opinion. https://www.sciencedirect.com/science/article/pii/S0188440920309401

Pande, A. 2020 "COVID-19 and the Distress Migration in India: A Gendered Perspective" Global Research Forum on Diaspora and Transnationalism https://grfdt.com/PublicationDetails.aspx?Type=Articles&TabId=10144

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UNU WIDER. 2020 "COVID-19 and socioeconomic impact in Asia: The case of India" UNU WIDER, WIDER Background Note1/2020; April. https://www.wider.unu.edu/publication/covid-19-and socioeconomic-impact-asia

The COVID-19 pandemic is revealing and compounding inequalities, including economic inequalities and gender inequalities. The policy responsiveness to "life versus livelihood" crisis of COVID-19 in most of the countries has been "sequential" rather than "simultaneous". The lockdown, though the only policy option to prevent community spread, has resulted in unintended economic disruption. From a health perspective, what is necessary is "testing, tracing, and containing". Unless a judicious "exit strategy" is planned, the prolonged lockdown can lead to irreversible loss in economic growth. More than that, the loss of livelihood due to lockdown strategy can lead to starvation deaths, unless addressed through policy interventions. This has also led to distress migration (A Pande, 2020; Mukhra, R., and Krishan, K., and Kanchan, T. 2020 ; MDP, 2020)[3]. The mass exodus of migrant workers become a chaotic event (UNU WIDER, 2020).

How have Governments and the Central Banks responded to the covid-19 crisis in Asia Pacific region? The IMF is charting the fiscal and monetary policy measures that governments are implementing and the OECD is tracking changes in tax policies (IMF, 2021 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19 and OECD, 2020 https://www.oecd.org/tax/tax-policy/). Governments and their respective central banks are launching a range of fiscal and monetary policies, along with labour market measures to mitigate the socio-economic and health effects by massive injections of liquidity and other related supply side policy tools. The goals of these measures are set to be avoiding widespread bankruptcies, losses of organizational capital, and an even steeper path to recovery. (Stiglitz and Rashid, 2020).

The pandemic economics of governments and central banks is twofold. One is the focus on measures that relate to "instantaneous economic firefighting". The second is the "medium-term policy imperatives". As this crisis is of an unprecedented scale, it calls for unprecedented policy responses. However, it must be noted that economic stimulus effectiveness largely depends upon the size and structure of the economy andexisting social protection systems coverage and accessibility, and size of the stimulus packages to catalyse the growth recovery processes.

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3. Mukhra, R., and Krishan, K., and Kanchan, T. 2020 "COVID-19 Sets Off Mass Migration in India" Archives of Medical Research, Opinion. https://www.sciencedirect.com/science/article/pii/S0188440920309401
Pande, A. 2020 "COVID-19 and the Distress Migration in India: A Gendered Perspective" Global Research Forum on Diaspora and Transnationalism https://grfdt.com/PublicationDetails.aspx?Type=Articles&TabId=10144
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In the macro policy making, in most countries, particularly in the emerging market economies, there has been a transition from the discretion to the rules-based framework,– be it fiscal or monetary. It is such that, when the policy framework is rule based, there is a need to identify certain policy tools stipulated for the response to the crisis. In recent years, the Central Bank has moved towards a rule-based inflation targeting regime in most of the countries in the region. The Ministry of Finance of various countries have implemented rule-based Fiscal Responsibility mostly through legislations to maintain a threshold level of deficit to a fixed numerical per cent of GDP. These rules may act as initial constraints to incorporate the pandemic response programmes.

It is also an opportunity to set the macroeconomic policy response based on the "economic growth plus "paradigm. "Beyond GDP" or "economic growth plus" is a paradigm that incorporates Sustainable Development Goals (SDGs). Holistic human rights and gender-responsive principles and approaches in responding to situations of economic crisis and supporting the building of more equal and inclusive societies that are more resilient in the face of crises of different kinds, and support progress on efforts towards the 2030 SDG Agenda . In the US, the Federal Reserve has responded to the pandemic by lowering interest rates to effectively zero, engaging in unlimited asset purchases, and establishing emergency lending facilities to keep credit flowing to households and businesses. In a flexible inflation targeting regime, such actions are called for since the unemployment rate in the US is at the Great Depression levels and inflation has consistently undershot the Fed's 2% objective for almost a decade and is now under downward pressure.

In March 2020, European Central Bank floated the Pandemic Emergency Purchase Programme (PEPP) as a temporary asset purchase programme of private and public sector securities, to the tune of 750 billion euros, which was scaled up subsequently.The new emergency pandemic purchase programme initiated by ECB does that and it has been scaled up recently to the point where it is convincing market participants that ECB support will be there and effective. Broadly this is effective with generally in low interest rates regime, to issue long term bonds to hold down future financing costs. There has been initiatives in ECB to integrate "climate change" within monetary policy reaction function. However, in the context of Asia Pacific, central banks have not yet effectively started articulating about the climate change concerns. However, the "green bonds" initiative is gaining momentum in a few countries, but not necessarily by the central bank.

In the Asia Pacific region also, there are many countries including India which have adopted the inflation targeting framework. In an inflation targeting framework, the policy rate is pegged on the basis of an inflationary expectations and output gap. Both are "unobserved variables". The inflationary expectations models in times of a pandemic is a concern. The central banks try to solve this issue by relying on "expectations" survey.

The output gap is the deviation between actual and potential output. The potential output is hard to measure. It becomes all the more difficult in times of crisis.

The output gap in times of COVID-19 pandemic is hard to measure. The potential output is an unobserved variable. There is an increasing concern about the way we measure the potential output—decomposing the output into trends and cycles. This is because the business cycle always is not a "cycle". Sometimes, the "cycle is the trend', as rightly argued by IMF Chief economist Gita Gopinath in her paper with Mark Aguir (bit.ly/38vuOCd).

When the macroeconomic crises and recessions tend to "permanently" push down the level of a country's GDP, it is inappropriate to assume that output will bounce back to previous levels. It is argued that the output gap is ill-measured. An IMF paper highlights the significance of hysteresis (the dependence of economic path on history) in analysing the output dynamics in crisis (bit.ly/2WC06S9). In the backdrop of Covid-19 crisis, there is a renewed interest in "hysteresis" and business cycles. The IMF paper argues that the state of the economy and the level of GDP are history-dependent ("hysteresis"). The hysteresis has relevance for designing apt fiscal and monetary policies to tackle low demand during a recession.

The persistence of sluggish growth and weak macroeconomic recovery have robbed the sleep of many economic policymakers and academicians. For instance, in 2009, in the Economic Report of the US President for 2009, the Council of Economic Advisors (CEA) had forecast a fast rebound of economic growth in the aftermath of global financial recession. However, the macro scholars had responded to CEA's claim - that "recessions are followed by quick rebounds" - with vehement blog debates (bit.ly/2KqYbNT). The debate was highly technical and predominantly based on whether the growth time series had unit-roots. With the empirical evidence of more than a decade, we now know now that recession was always not followed by quick growth rebound. Researchers identified that the secular fall in growth was due to the productivity slowdown, legacies of debt crisis, chronic deficiency of demand, labour market challenges and decline in the equilibrium real interest rates.

The output gap is a crucial variable in the macroeconomic policymaking, by both central banks and the fiscal authorities. The central banks base their inflation targeting for setting the policy interest rate on the deviation of inflationary expectations from its nominal anchor and a measure of the output gap to capture the "economic slack". Similarly, fiscal authorities measure "cyclically-adjusted fiscal stance" to analyse public debt sustainability.

With zero lower bound on nominal interest rates, the monetary policy has proved inefficacious as a countercyclical policy tool to reset the economy to pre-crisis growth levels.

The fiscal re-dominance at the same time, though desirous, has been bound to the fiscal austerity wave and tight fiscal rules. The world nations have missed the chance to reset the economy to the pre-crisis levels through "fiscal re-dominance".

III. Indian Case

In India, Ministry of Finance has not used cyclically neutral fiscal constructs for policymaking. However, RBI's inflation targeting is inclusive of output gap estimations. The recurrence of forecasting errors in growth by multilateral agencies, including IMF points to the fact that weak economic recovery was not widely expected. This led to a rethinking about "output gap" itself.

A recent blogpost in VoxEU by IMF economists pointed out that "the frequency of output gap discussions is positively correlated with a country's income level: 66% of IMF staff reports covering advanced economies mentioned the output gap, versus 29% for emerging markets, and only 5% for low-income countries. In the latter, structural issues are often of greater relevance". (bit.ly/3h8b0Zg). The IMF scholars found a limited connection between the size of the output gap and policy recommendations. They suggest caution in using output gap estimates for policymaking during the Covid-19 recovery. Ex-ante, a higher output gap is expected to be linked with a tighter monetary policy stance. However, analysing both levels and changes in output gaps and policy advice, they found only a slight positive link between the level of the output gap and the recommended tightening of monetary policy, but a very limited trend for fiscal policy and public debt management. In the Presidential Address by Oliver Blanchard in American Economic Association (AEA) meetings in Atlanta in January 2019, he had put it up front that "public debt has no fiscal costs if real rate of interest is not greater than real rate of growth of economy". He also highlighted that high public debt is not catastrophic if "more debt" can be justified by clear benefits like public investment or "output gap" reduction. He also highlighted the "hysteresis effects" (the persistent impact of short-run fluctuations on the long-term potential output) and suggested that a temporary fiscal expansion during a contraction could even reduce debt on a longer horizon.

There is an increasing recognition of the fact that public investment has suffered from fiscal consolidation across advanced and emerging economies. This is particularly important, when public investment is one of the crucial determinants in strengthening private corporate investment in the context of emerging economies . He mentioned that if we are worried about a "bad equilibrium", it is better to have a "contingent fiscal rule" (which may not need to be used) rather than steady fiscal consolidation.

Economic cycles defined as a succession of crises that followed periods of prosperity, though these peaks and troughs do not follow a given frequency or periodicity (bit.ly/3h9xQ2C) . The assumption that demand shocks have only a transitory impact on the

economy needs a relook. Even demand shocks can have a permanent impact on output. The persistent effects of recessions imply that "cycles" themselves affect the trend. With the persistence of cyclicality, the economy will not rebound to prior trend and persistence can be seen as the permanent "scars" left by the recession (bit.ly/2WC06S9). Therefore, In a crisis, the output gap may become more difficult to measure and interpret. In addition, as argued by the IMF economists, there are no obvious silver bullets that address the paucities of output gap construction.

Romer (NBER, 2020) (bit.ly/3pd7foi) suggested the use of "confidence intervals" when presenting output gap results and emphasising on both upside and downside risks in—Covid-19 induced crisis and growth recovery—policy discussions would be useful. Though output gaps remain a popular measure for capturing "slacks", their relevance for policymaking in Covid-19 crisis is controversial due to the methodological challenges to arrive at the potential output. In the context of emerging economies, the business cycles and the level of economic growth need a different interpretation incorporating the "hysteresis".

Fiscal marksmanship- the deviation between what is announced and the actual spending - is a significant concern with respect to the emergency pandemic package programmes announced in Asia Pacific. In most of the countries, a threshold 10 per cent of GDP norm for economic policy packages to deal with pandemic has not been designed due to lack of fiscal space. The budget credibility and fiscal transparency are matters of urgent concern as we do not know how effectively these emergency pandemic programmes are translated into actual spending. The significance of institutions like "Fiscal Councils" in such a context cannot be underestimated. Fiscal councils can analyse and provide inputs relate to fiscal forecasting errors and the budget credibility. Second, when we articulate about fiscal rules, the Asia Pacific countries have been grappling with new "levels of deficit". The threshold fiscal deficit of "3 per cent of the GDP" in most of the countries are increasingly becoming unrealistic to face the pandemic through fiscal stimulus programmes. Third, the objective of fiscal rules and budget management in most of the countries has been to enhance economic growth. As we are primarily facing a "human tragedy", we may consider this crisis as an opportunity to try for a paradigm shift with a new fiscal rules framework integrating the "economic growth plus" or GDP-plus" analytics. In the fiscal rules framework, exclusively designing the rules with growth parameters and excluding the sustainable development perspectives can be detrimental in the medium term. Fiscal rules need to be re-framed in a "growth plus" framework to address the development and humanitarian crisis which we need to tackle.

A policy suggestion is to re-negotiate the numerical limits for the deficit threshold ratios to do the "economic firefighting". Fourth, is the crucial concern about measurement issues related to deficits. The question is "which deficit" we need to focus on as

an operational parameter and this is a country-specific decision. Fiscal deficit is the net borrowing requirement. The primary deficit is fiscal deficit minus interest payments. In times of pandemic, do we need to focus on the primary deficit, as this reflects the "current fiscal stance" devoid of interest payment obligations? There is also a re-emergence of "monetised deficit" in the region, to go for printing money to finance deficits. This relates to identifying innovative modes of financing human development. The notion that strict adherence to fiscal rules is fiscal discipline is losing grounds as the route to fiscal consolidation has been through expenditure compression than tax buoyancy. This expenditure compression has severely affected social sector spending and in turn gender-aware human related spending and rights-based expenditure components like the spending on "employer of last resort" programmes. However, the public sector borrowing requirement (PSBR) to finance current (wages and salaries) and capital (infrastructure) components for the entire public sector would have been the right measure, however data paucity on intra-public sector transactions thwarts construction of such deficit measure in Asia Pacific region. The salary loss and salary deferment issues relate to the public sector, as per the high frequency data available during the pandemic period are highly confined to a few sectors, and not the macro level data.

Fifth, the modes of financing the deficit is significant from a macroeconomic perspective, and also from a political economy perspective. The political economy of money financing of fiscal programme is relatively difficult as it is interpreted as fiscal dominance and also economists fear fiscal profligacy in the long run. Any excessive mode of financing the deficit has its own specific macroeconomic consequences. And it is quite distinct, like bond financing may trigger a financial crowding out. A seigniorage financing (print money to finance deficits) may or may not be inflationary. So the choice over the financing pattern of deficit has both political economy imperatives and macroeconomic consequences. The broad picture emerging from Asia Pacific region is that, broadly, fiscal conservatism determines the emergency pandemic programmes. This has adverse consequences to design the adequate cash transfer programmes or other rights-based programmes to deal with the crisis related to food security, social protection and social infrastructure programmes.

Sixth, a significant element in enhancing the fiscal space is to tackle the debt-deficit dynamics during times of the pandemic. In low interest regime, there has been debates to look at "public debt" differently. One such initiatives is to elongate the maturity structure of public debt to mitigate immediate refinancing risks, by changing the composition of debt from short term bonds/securities to long term. The "operation twist" programme by the Indian central bank is one such initiative by simultaneously selling the short term bonds and buying long term bonds, to elongate the maturity structure of public debt. This flexibility in debt-deficit dynamics can give leverage to economic growth rather than tak-

ing an alternative route of expenditure compression. Oliver Blanchard has highlighted in his Presidential address to the American Economic Association conference in 2019 that low public debt is not a concern, if the real rate of interest is below the real rate of growth of the economy. This is an effective way of looking at debt-deficit dynamics rather than strictly adhering to the threshold debt-deficit ratios. The threshold ratios to be maintained as per the fiscal rules of a specific country, more often is articulated as the fiscal deficit to be at 3 per cent of GDP. The flexibility in debt deficit dynamics can provide fiscal space to respond to the pandemic, as strictly adhering to monetary-fiscal rules and not designing programmes to mitigate adverse impacts of the crisis can lead to deepening the humanitarian crisis.

As highlighted by Oliver Blanchard, public debt is not catastrophic if more debt can be justified by clear benefits, like increasing public investment on physical and social infrastructure; including care economy infrastructure or output gap reduction. He also highlighted that public debt has no fiscal costs if the real rate of interest is not greater than the real rate of growth of the economy. There is quite a bit of ambiguity in the fiscal rules of the region on whether any "escape clause" exists in the fiscal rules which can be invoked in extraordinary times. However, the empirical evidence from our analysis suggests that such "escape clauses" do not exist. In the countries where they do exist, they are confined to the national level of government, and they have not invoked the "escape clause" to spend more on pandemic related spending. In the Stability and Growth Pact in the context of European Union, there is an "Excessive Deficit Procedure". Against the backdrop of pandemic, the revision of fiscal rules to higher upper bound of deficit threshold ratios, the countries in Asia Pacific may also think about an "excessive deficit procedure" to avoid fiscal profligacy in the long run. In other words, allow the states to go beyond the numerical limit but with a clear road map or an excess deficit procedure map in which there is a clear articulation or plan saying that we will get back to the threshold position over a definite period of time. That is important, from the perspective of fiscal prudence in the long run.

IV. Conclusion

To sum up, there is a macroeconomic policy transition from discretion to rules, both in fiscal and monetary policy frameworks. If the fiscal consolidation targets are achieved through "expenditure compression" rather than "enhanced tax buoyancy", it will affect the quality of consolidation as it has adverse consequences on a gender-aware and rights-based fiscal policy stance in the long run. There is a narrative behind fiscal rules that "fiscal discipline is growth enhancing". However, the empirical evidence from the Asia Pacific region has proved that over adjusting to fiscal rules (especially through capital expenditure compression) has adversely affected human development. The non-conventional policy tools like "helicopter money" – money financing of fiscal programmes (MFFP)

–is not yet explored. However, the seigniorage Laffer Curve may provide a threshold regarding how much we can finance through the seigniorage (print money). A few countries have explored the external financing of the deficit, by engaging in foreign aid. The booms and exuberance in financial markets alone cannot be an indicator of economic recovery . Unless there are policy responses to covid-19 in terms of redressing inequalities, climate justice and other social protection measures, the recovery processes cannot be sustainable. There are opportunities in crisis. The covid-19 pandemic provides an opportunity to fundamentally rethink political choices in a way that prioritizes the most vulnerable, protects societies from extreme inequality, and provides proactive and systemic—not reactive and ad hoc—responses to protect the population (UNGA, Nov 2020). To quote UNGA (2020), "we must avoid the 'tyranny of the urgent' and the budget balancing logic to address structural issues in the design of social protection." It is difficult to analyse the impacts of fiscal stimulus packages, unless we examine a few social policy components of public expenditure including for (i) food security, (ii) social infrastructure, (ii) labour and social protection and (iv) economic activity, which requires urgent attention.

MGNREGA and Contemporary Employment Opportunity for Migrant Workers

Sujoy Kanti Ghoshal[1]

Abstract

The Covid-19 has shaped unprecedented challenges to the underprivileged and marginalized communities globally. Indian working class people including migrant workers have faced a sharp rise in severe unemployment due to severe economic lockdown. Migrant workers are hit hardest during the Covid-19 crisis. Their basic needs and human rights were not addressed. The majority of the marginalized migrant workers lost their jobs and returned to their homes. Unfortunately, this reverse migration has altered the labour market's demand and supply dynamics. Earning opportunities is indeed critical for them. However, creating a job opportunity for this large group of people is a tricky task. Fortunately, MGNREGA has been providing livelihood sources to them. MGNREGA is a flagship programme. It creates employment opportunities for unskilled/semi-skilled workers significantly in rural India. Over 252 crore person-days were generated till November this year and it signifies an increase of 43 percent compared to the previous year. Unfortunately, the government of India has failed to meet the rising demand for job cards (JC). However, West Bengal and Rajasthan have done well to keep the unmet demand for jobs under MGNREGA lower than the national average.

Key Words: Covid-19; Migrant Workers; MGNREGA; Employment; Job Cards

JEL Code: I38; J08; J68

I.Introduction

The magnitude of MGNREGA has been growing during the Covid-19 crisis in rural India. Indian working class people including migrant workers have faced a sharp rise in severe unemployment due to severe economic lockdown. India recorded the highest unemployment rate of 27.1 percent in the first week of May according to CMIE. Migrant workers are hit hardest during the Covid-19 crisis. Their basic needs and human rights were not addressed. The majority of the marginalized migrant workers lost their jobs and returned to their homes. Earning opportunities is indeed critical for them. However, creating a job opportunity for this large group of people is a challenging task. Fortunately, MGNREGA has been providing livelihood sources to them. MGNREGA is a flagship programme. It creates employment opportunities for unskilled/semi-skilled workers significantly in rural India. Over 252 crore person-days were generated till November this

1. sujoy_kanti@yahoo.in; Assistant Professor, St. Joseph College, Darjeeling, India; Life Member of BEA

year and it signifies an increase of 43 percent compared to the previous year. Unfortunately, the government of India has failed to meet the rising demand for job cards (JC). However, West Bengal and Rajasthan have done well to keep the unmet demand for jobs under MGNREGA lower than the national average.

Migration is a worldwide fact. It is a livelihood strategy for millions of people in India. Migrant workers constitute 93 percent of the overall workforce and contribute 50 percent towards the Gross National Product in the Indian economy. Unfortunately, about 77 percent of the workforce is included under the vulnerable employment category. The Census, 2011 data suggests that more than 450 million or about 37.7 percent of total population internal migrants in India by the 'Place of Last Residence' metric (Registrar General of India 2011). In addition, about 90 percent of the migrant workers belong to lower castes, tribes, and religious minorities in the rural areas and they often work as temporary workers with no protection from their employers nor the formal social safety net (Shahare, 2012; R. Srivastava, 2020). The Covid-19 crisis has exacerbated the vulnerable situation of migrant workers.

The Covid-19 has shaped unprecedented challenges to the underprivileged and marginalized communities. The economic impact was severely affected the normal life of the people in India, as the Indian economy was facing a slowdown and unemployment was increasing and this has resulted in a huge fall in aggregate demand. The circumstance of returnee migrant workers in the context of employment is insignificant. However, MGNREGA has been successful in providing livelihood sources to them. Most of them are engaged in the agriculture sector, but very few of them have their own land. MGNERGA is a pro-poor anti-poverty employment generation programme. It guarantees at least 100 days of paid employment to each household in a stipulated financial year. Unfortunately, the government of India has failed to meet the rising demand for Job Cards.

Migrant workers were indeed the worst affected during the Covid-19 crisis. The slowdown of economic activities is now a worldwide phenomenon. The Indian economy faced a sharp decline in GDP growth. The unemployment rate reached the highest level in Indian economic history. The return migrants have been facing unprecedented challenges in the context of the job opportunity. Under these circumstances, MGNREGA can play a significant role to create job opportunities for migrant workers. However, shortage of budgetary allocation and poor implementation are the barriers for the marginalized migrant workers.

II. MGNREGA – A Flagship Programme

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is significant to the Indian economy in the socio-economic context. It emerged in a context wherein there was economic growth without wider reach when poverty and unemploy-

ment were increasing, and agriculture and rural economy were in distress (Sharma, 2010). MGNREGA was implemented and came into force on February 2, 2006. It was the first act of its kind in the world wherein an economic safety net is provided to around two-third of the population through the right to work. The focus of the scheme is on rural employment and asset creation. MGNERGA is a pro-poor anti-poverty employment generation programme guaranteeing at least 100 days of paid employment to each household in a stipulated financial year (Bhattacharyya and Vauquline, 2013: 84).

However, India has a long history of public-works based employment guarantee programs and its experiments with them date back to the 1980s. MGNREGA has its inspiration from the Employment Guarantee Scheme (MEGS) of Maharashtra, which was conceived as a drought relief measure in the years 1972-73 and later got converted into a legal guarantee programme in the year 1975. MGNREGA marks a significant departure from these supply driven work based employment policies and makes a transition to right-based demand driven policy. It is arguable that although MGNERGA had failed to stop the flow of the migrant workforce, but during the lockdown, that is, post the return of the migrants, 33.3 million households worked under MGNERGA in May 2020, which further surged to 41 million in June 2020.

The MGNREGA act has laudable purposes of providing a work guarantee to the poor rural households and creating asset, strengthening the rural resource base, ensuring social inclusion. It is a flagship programme. The daily wage has recently been increased to Rs.202 by the Centre although there is significant interstate variation in the wages paid (increased wage rates effective from 01 April, 2020 and notified on 23 March, 2020). In many cases, the scheme wage rates are lower than the minimum wages in respective states. Spending under MGNREGA projects is mandated to be at least 60 percent on wages to unskilled labour with the remaining 40 percent for semi-skilled/skilled labour and material.

Various reports pointed out that about ninety percent of migrant workers belong to lower castes, tribes, and religious minorities in the rural areas. Most of them are unskilled. As a policy instrument MGNREGA fits into many areas. It can be seen as a means to provide social security, employment generation, conditional cash transfer, and it also works as an initiative for rural development and macroeconomic policy intervention. Its multidirectional and multi-pronged objectives create a lot of confusion about the exact nature of the program. One of the key things it does is to enshrine the principle of minimum livelihood security as a non-negotiable democratic right of citizens despite concerns about the course and exact nature of development. It, therefore, establishes the idea of rights and entitlements as part of democratic citizenry firmly, which can have substantial implications for the future, especially during the COVID economy.

MGNREGA is indeed a lifeline for the migrants. It is vital for the government of India to COVID economy. Increasing the budgetary allocation is necessary. The government report shows that in the wake of COVID-19-related reverse migration, the Centre has recently enhanced the budgetary allocation. However, this would not be enough to provide meaningful employment to a large number of returnee migrants, and also faces the difficulty of implementation. However, despite implementation issue that varies widely across states, the programme provides a credible safety net, especially during the COVID season and for disadvantaged and marginalized communities.

III. Migrant Workers and COVID Economy

Migration is a global fact. The Covid-19 is a novel crisis. This crisis is an unprecedented challenge to human civilization. The Covid-19 catastrophe has pummeled the migrants into a wretched shape. The pandemic has shredded their livelihoods, robbed them of their savings and thrust on them an agonizing uncertainty over their future. The pandemic has indeed exposed the vulnerability of millions of migrants in India. The pandemic that has been raging across the country has unleashed cascading miseries on migrants who have always languished on the margins of the society with little public and government attention.

The number of migrant workers has been increasing nationwide. A number of studies on India's internal migrants delineating the varied socio-economic reasons and patterns of migrations, the challenges of the everyday lives of their left behind and accompanied families and children and the constraints at the destinations. Various analysis on the interstate/intrastate studies reveals that the push - famine, poverty, war, population pressure, political oppression/instability, religious intolerance - of the locations of origin and the pull factors - better living conditions, better economies of economically well off states, prosperous job opportunities - of the destination states govern interstate economic migrants.

Migration is a livelihood policy for millions of people in India. Unfortunately, the Indian economy has been affected very poorly due to the Covid-19 pandemic. A significant number of migrant workers are temporary or seasonal migrants, and the bulk of these migrants hail from marginalised sections of the country and from among the lower-income quintile groups. Most migrants are involved in employment in the informal sector, making them some of the most vulnerable working groups, which eventually exclude them from social security benefits and even basic rights at the workplace. Lockdown forces them to return to their home. The consequence is that this reverse migration has altered the labour market's demand and supply dynamics significantly.

In India, this section of people has been the hardest hit and their vulnerabilities have been compounded during the COVID-19 crisis. The pandemic COVID-19 is a novel cri-

sis. The world economy has been facing a slowdown in economic activity. No exception to the Indian economy. The economy faces a sharp decline in GDP growth. The majority of migrant workers lost their jobs. Attempts are thus being made by the government to ensure inclusivity during economic growth through redistributive social policies (Sumner, 2019). The COVID-19 further widens the severe social divide. Loss of jobs, low wages and lack of basic amenities of education, healthcare, food and safe water became the harsh reality for the marginalised migrant worker population. They are exposed to the greatest risk during the COVID-19 lockdown in India with total unpreparedness of the government systems.

While livelihoods were disrupted during the pandemic, extreme impoverishment was seen among the migrant workers. Inter-state migrants had no access to public social services of basic protection and health care as they could not show permanent residence proof. Similarly, those who were able to return to their native places after the relaxation of lockdown were not able to find suitable employment. Failing to feed their families, migrant workers fell into a deep depression. They were forced to return to the cities to take up work without minimal wages and other protection. Most of them relied on NGOs for relief or financial aid as they had difficulties getting a meal, potable water, as well as access to sanitation facilities and healthcare. Studies show that the Public Distribution System (PDS) did manage to reach many economically deprived families but there were large exclusions and wrong inclusions in the process (A. Srivastava, 2016). Government support for migrant workers is inadequate. Uncertainty has become a daily saga for these vulnerable groups. Unfortunately, there is no structured or official data of migrant workers in India.

IV. MGNREGA and Migrant Workers – Contemporary Statistics

Migrant workers are indeed the most vulnerable during the COVID crisis. The majority of them lost their jobs and returns to their native places due to lockdown. The reverse migration of workers is widely feared to lead to an increase in poverty, inequity, exploitation and discrimination. Under these circumstances, job opportunity for migrant workers is necessary. Here, MGNREGS has played a pivotal role. The government of India has taken the necessary steps to increases the budgetary allocation in MGNREGA. Formulation of strategies, therefore, for providing basic necessities is significant. In order to develop meaningful policy options and strategies to provide employment opportunities for migrant workers, there is a need for the collection, compilation and analysis of data on migrant workers and MGNREGA. However, the collection of data on migrant workers is a huge challenge.

Here, the analysis of the contemporary status of MGNREGA and migrant workers is based on census data, MGNREGA MIS report, CIME, and the discussions are made on

state wise distribution of migrant workers, percentage share of the migrant workforce among the total workforce in the major sectors, employment trend during the lockdown period, state wise percentage share of Job Cards under MGNREGA, unmet demand of jobs under MGNREGA, days of employment under MGNREGA, funds availability under MGNREGA.

The data indicates states like Maharashtra, Uttar Pradesh, West Bengal, and Bihar share the bulk of the migrant workers among the total migrant workers and also indicates that in all the sectors, the percentage share of women workforce among the total workforce is higher compared to the male workforce.

The data point out the total job cards (JC) demanding work this year is 7.5 crore and the total active job cards are 9.02 crore. 83.09 percent of all active job cards demanded work, and yet only 19 lakh households have finished 100 days of work as compared to 40.61 lakh last year. This means that there was a surge in NREGA work demand due to the pandemic and the government failed to meet the rising demand, especially for returnee migrants. 45.6 lakh households that applied for a JC have not been issued a JC this year.

Over 97 lakh households had their demand unmet at some point or the other during the year. Almost 1/4th of the households in Uttar Pradesh that demanded NREGA work didn't receive a single day's work this year. Odisha, Bihar, and Madhya Pradesh which were among the states with the highest number of return of migrants during the lockdown, still show an unmet demand of 19 percent, 17 percent and 17 percent respectively. Rajasthan and West Bengal have done well to keep the unmet demand lower than the national average.

17 lakh households have completed 100 days of employment this year. A further 64 lakh households have finished above 80 days of employment. 3.5 lakh households in Andhra Pradesh, 2.7 lakh households in West Bengal, and 2.1 lakh households in Rajasthan have completed 100 days of employment. Here, over 252 crore persondays were generated till November this year. There is an increase of 43 percent compared to the previous year.

Over 71 percent of the total allocated funds for NREGA have been utilized till now and 9.1 percent set aside for pending payments. With a little more than 100 days still left in the financial year and the previous year's trends showing a high persondays generation in the last 4 months, NREGA will require another financial boost.

The Centre for Monitoring Indian Economy (CIME) data indicates degrowth and decline in employment. The figure shows the higher percentage of unemployment rate up to April, 2020.

Table –1: Distribution of Migrant Worker (state wise)

State/Area	Persons	% of Total Migrant Workers	Males	Females
India	455787621		146145967	309641654
Jammu & Kashmir	2809629	0.62	832333	1977296
Himachal Pradesh	2647067	0.58	667133	1979934
Punjab	13735616	3.01	5080819	8654797
Chandigarh	678188	0.15	362318	315870
Uttarakhand	4317454	0.95	1481307	2836147
Haryana	10585460	2.32	3195530	7389930
Delhi	7224514	1.58	3751348	3473166
Rajasthan	22071482	4.84	4602922	17468560
Uttar Pradesh	56452083	12.38	11191861	45260222
Bihar	27244869	5.98	3837402	23407467
Sikkim	247049	0.05	109073	137976
Arunachal Pradesh	630831	0.14	300829	330002
Nagaland	549618	0.12	281119	268499
Manipur	686935	0.15	241237	445698
Mizoram	387370	0.08	193388	193982
Tripura	1299623	0.28	484406	815217
Meghalaya	759554	0.17	405387	354167
Assam	10644234	2.33	3672018	6972216
West Bengal	33448472	7.34	10240751	23207721
Jharkhand	9659702	2.12	2000459	7659243
Odisha	15421793	3.38	4226426	11195367
Chhattisgarh	8888075	1.95	2317498	6570577
Madhya Pradesh	24735119	5.43	6413774	18321345
Gujarat	26898286	5.90	9994352	16903934

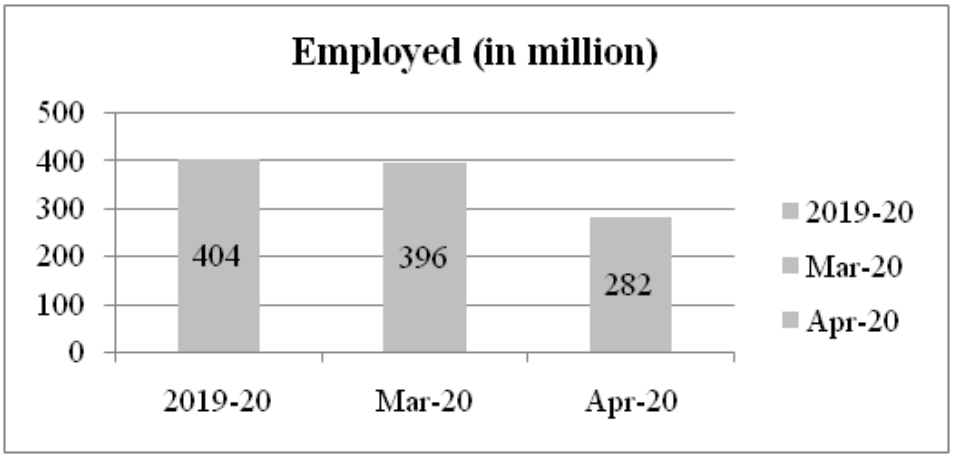
Daman & Diu	148592	0.03	98535	50057
Dadra & Nagar Haveli	188057	0.04	103241	84816
Maharashtra	57376776	12.59	24185603	33191173
Andhra Pradesh	38360644	8.42	14594644	23766000
Karnataka	26463170	5.81	10204423	16258747
Goa	1140690	0.25	537256	603434
Lakshadweep	20401	0.004	11897	8504
Kerala	17863419	3.91	7312435	10550984
Tamil Nadu	31274107	6.86	12784326	18489781
Puducherry	712401	0.16	319663	392738
Andaman & Nicobar Island	216341	0.05	110254	106087

Source: Census, 2011

Table -2: Share of Migrant Workforce among the total Workforce in the major Sectors (in percentage)

Sector	Rural		Urban	
	Male	Female	Male	Female
Primary	4	75	20	65
Manufacturing	13	59	38	51
Public Services	16	69	40	56
Construction	8	73	32	67
Traditional Services	10	65	29	55
Modern Services	16	66	40	52
Total	6	73	33	56

Source: Report of the Working Group on Migration (2017, January), Ministry of Housing and Urban Poverty, GOI



Decline in Employment during the Lockdown

Source: CIME

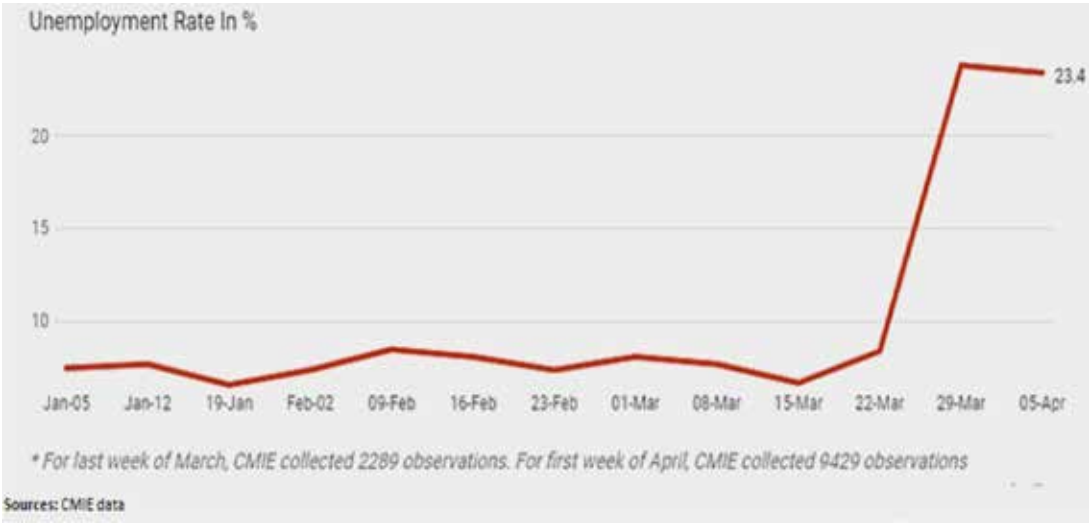


Table-3: Percentage Share of Job Cards under MGNREGA (state wise)

States	Active JCs Per Total Registered Job Cards (%)	JCs Demanded Work This Year/Active Job Cards (%)	JCs Issued This Year/ JCs Demanded Work This Year (%)
Andhra Pradesh	29.13	91.28	8.72
Assam	33.9	56.1	17.29
Bihar	24.71	70.54	29.53
Chhattisgarh	36.04	88.53	9.92
Jharkhand	29.51	86.84	34.25
Karnataka	24.18	75.2	18.08
Madhya Pradesh	33.15	89.39	21.93
Maharashtra	13.61	46.65	15.49
Odisha	24.94	80.52	18.81
Rajasthan	32.04	89.7	10.82
Tamil Nadu	56.81	88.71	6.22
Telangana	29.06	98.23	7.7
Uttar Pradesh	37.56	98.16	31.4
West Bengal	31.92	78.25	12.22
All India	30.75	83.09	17.01

Source: MIS Reports R1.1, R5.1.1 accessed on 30 November, 2020

Table-4: Unmet Demand of Jobs under MGNREGA (state wise)

Select States	Unmet Demand (in lakh)	Unmet Demand (in percentage)
Bihar	8.32	17
Chhattisgarh	3.86	12
Jharkhand	6.42	25
Madhya Pradesh	8.92	17
Odisha	6.85	19
Rajasthan	6	8

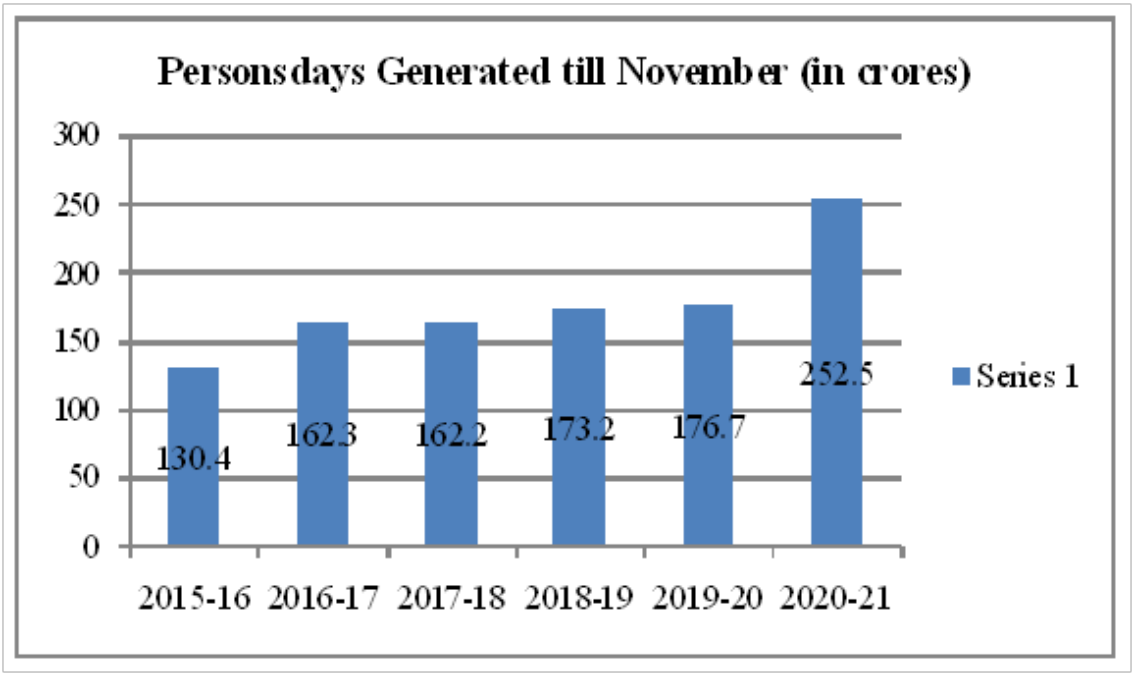
Uttar Pradesh	25.93	23
West Bengal	5.61	7
All India	97.32	13

Source: MGNREGA MIS Report R5.1.1 accessed on 30 November, 2020

Table –5: Days of Employment under MGNREGA (state wise)

Select States	71-80 Days (in lakh)	81-99 Days (in lakh)	100 Days and Above (in lakh)	Households that have completed at least 100 days of Employment (percentage)
Andhra Pradesh	2.7	4.8	3.5	7.5
Bihar	2.0	2.3	0.1	0.2
Chhattisgarh	1.1	1.3	1.3	4.7
Jharkhand	1.1	2.1	0.2	1.2
Madhya Pradesh	3.2	10.3	1.2	2.6
Odisha	1.7	4.2	1.6	5.4
Rajasthan	4.8	8.0	2.1	3
Tamil Nadu	2.6	4.4	0.3	0.4
Uttar Pradesh	3.1	7.1	1.3	1.5
West Bengal	3.2	7.3	2.7	3.8
All India	33.1	64.3	17.1	2.6

Source: MGNREGA MIS Report R5.1.3 and Andhra MIS Report accessed on 30 November, 2020



Source: MGNREGA MIS Report

Table –6: Funds Availability under MGNREGA(state wise)

Select States	Total Availability (in rs. crore)	Total Actual Expenditure (in rs. crore)	Pending liabilities (in rs. crore)	Net balance (in rs. crore)
Andhra Pradesh	7402.62	8009.10	476.61	-1083.09
Bihar	5268.34	4583.23	1434.36	-749.26
Chhattisgarh	3128.83	2679.55	282.76	166.51
Jharkhand	2430.11	1736.20	38.88	655.02
Madhya Pradesh	6228.60	5779.99	616.07	-167.46
Odisha	3890.60	3770.73	184.80	-64.93
Rajasthan	7474.43	6777.90	364.10	332.42
Tamil Nadu	6218.86	5772.27	934.19	-487.60
Telangana	2929.06	2993.76	551.38	-616.07
Uttar Pradesh	8599.53	8439.06	731.06	570.59

West Bengal	9147.36	7730.16	1261.42	155.76
All India	82214.30	74563.74	9590.18	-1939.62

Source: MGNREGA MIS Report R7.1 accessed on 30 November, 2020

V. Moving Forward – Some Relevant Policies

The data analyses signify the gloomy picture of migrant workers, especially in the context of employment opportunity under MGNREGS. However, employment opportunity is urgent for migrant workers during post Covid circumstances. The government of India has taken the necessary steps to increases the budgetary allocation in MGNREGA. Various state governments have also formulated various strategies to provide basic necessities to migrant workers. In order to develop meaningful policy options and strategies to provide employment opportunities for the migrant workers under MGNREGA, the following reforms can effectively strengthen the role of MGNREGA for migrant workers in responding to the COVID-19-induced crisis.

- Adequate budgetary allocations

  The central government's budgetary allocation of INR 61,500 crore to MGNREGA for FY 2020-21 is inadequate. It is even lower than the previous year's revised estimates of INR 71,000 crore. The thousands of migrant workers who are returning to their villages will soon begin searching for employment in their local areas. This will undoubtedly result in an increase in the demand for MGNREGA work and the current budget allocations to the scheme will not be sufficient to meet this increased demand. Echoing the recommendation from eminent activists and economists, an additional INR 1 lakh crore needs to be allocated so that MGNREGA can act as a safety net and help rural households cope with the devastating impact of the lockdown.

- Enhance wages

When the PM Garib Kalyan Yojana was announced, it included a relief measure for MGNREGA workers - the daily-wage rate would be increased from INR 182 per day to INR 202 per day, effective April 1st, 2020. However, Jean Drèze points out that the central government has not actually allocated any additional resources to MGNREGA. If MGNREGA wages are to effectively support rural households as they cope with this crisis, they must, at a minimum, be at par with states' agricultural wages. For example, the Government of Odisha has increased the daily-wage rate for unskilled manual work under MGNREGA to INR 298 per day in 20 migration-prone blocks of four districts (Balangir, Bargarh, Nuapada, Kalahandi). This amounts to an additional amount of INR 91

over and above the notified minimum MGNREGA wages in the state, which is INR 207 per day. Other states must follow Odisha's lead, especially in vulnerable districts.

- Boost in guaranteed days of work

  In light of the limited income-generating activities available in rural India, the number of days of work per job card should be increased from 100 person days per year to 200 person days per year. This move will be especially valuable in blocks that have a high percentage of marginal and landless farmers, Adivasi households, and where migration is high—particularly in the tribal belt of central India. Here too, the Government of Odisha has set an example, by announcing that it will provide an additional 100 days of work, over and above the stipulated 100 days work mandated under MGNREGA in 20 vulnerable blocks.

- Issue more job cards

  Job cards should be issued to all those who demand NREGA work, within 24-48 hours of receiving an application for the same. In cases where job cards are in the custody of middlemen, these should be reissued immediately.

- Pay workers straight away

  Rural households urgently need cash-in-hand, and so the emerging demand is for immediate payment to workers. MGNREGA payments are frequently delayed by weeks or months. Given the circumstances, such delays will be entirely counterproductive. It is recommended that in remote areas, wage payments should be made in cash, and paid on the same day. In other areas, they must be ensured within a week of submission of muster rolls. To facilitate this, panchayats—who are the implementing agencies for MGNREGA —can be advanced a revolving fund of INR 20 lakh which can be used to pay workers.

- Strengthen delivery mechanisms

  For MGNREGA to function effectively, government departments must be adequately staffed to support the demand for work, oversee work sites, and make timely payments. This means that people who are staffed to MGNREGA departments—engineers, supervisors, and others—need to be available for NREGA-related work. Since the announcement of the lockdown, the focus of the government machinery has shifted to providing relief. While this is critical, it should not be at the cost of implementing MGNREGA.

- Engage civil society

  Civil society organisations (CSOs) have played a significant role in creating awareness within communities and building the capacity of frontline functionaries on

natural resource management (NRM) under MGNREGA. Therefore, experienced and capable CSOs should be engaged to create mass awareness and build the capabilities of frontline functionaries. In 2019, the Ministry of Rural Development (MoRD) launched the Cluster Facilitation Project (CFP) in aspirational districts and other backward areas, with a view to leveraging MGNREGA and other livelihood schemes to reduce poverty. However, the CFP's focus on the use of GIS and remote sensing technologies for NRM planning greatly reduces the scope to generate demand for employment. MGNREGA is a demand-driven programme and the government must not turn a blind eye to creating awareness about entitlements and participatory NRM planning processes. It can draw on the learnings from the Cluster Facilitation Team project in Jharkhand—in which CSOs partnered with the MoRD to streamline NREGA—to redesign the newly launched CFP.

VI. Conclusion

To sum up, the present study referred to above unambiguously makes it clear that migrant workers have suffered more due to transmission of Covid-19 as compare to others, especially in the context of job opportunities. Fortunately, MGNREGA has been providing livelihood sources to them. Among all, the drop in employment was high among migrant workers due to the low level of human capital. Their income has also fallen due to unemployment. The loss of income and livelihood forced India's migrant workers to back to their native houses. Here, MGNREGA has played a significant role. But it was not adequate. However, few innovative reforms can effectively strengthen the role of MGNREGA for migrant workers in responding to the COVID-19-induced crisis.

The world needs to see migrants from a more humanitarian lens rather than a utilitarian one. Given the huge contributions that migrant workers have made to economies, infrastructure, urban life and ease of life, they deserve a lot more respect than what society has given them this far.

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Fiscal Policy Under Demand Depression

Surajit Das[1]

Abstract

Demand depression has happened all over the world following the Covid-19 induced lockdowns. Keynesian fiscal stimulus has become essential for faster recovery. Expansion of government expenditure by temporary monetisation and frontloading of planned expenditures is the need of the hour. The Indian Central Bank (RBI) has more than 22% of GDP amount of idle assets in terms of the foreign exchange reserves. This is not the time for fiscal conservatism – overcoming the ongoing humanitarian crisis must be prioritised.

Key Words: Covid-19 Pandemic, Demand Depression, Unemployment, Fiscal Deficit, Big-push,Fiscal Stimulus, Monetisation, Economic Recovery, Indian Economy

JEL Classification Codes : E62,H39. H 51.

I. Introduction

The world economy is currently facing an acute shortage in demand due to the lockdown imposed to contain the spread of COVID-19. Most of the economies are projected to register a negative growth rate and unemployment rates are set to skyrocket. This would further reduce the aggregate demand, pushing economies into a vicious trap of decline in demand leading to lower profits and investment, which in turn would further curtail growth and aggravate unemployment. Rising unemployment and falling wages would further depress the levels of demand in the economy. To get out of this vicious cycle, economies require a big push aimed at reviving aggregate demand. With little hope for export-led growth, given the global nature of the pandemic, governments have to boost their economies by reviving domestic demand through large fiscal stimulus.

Most governments, however, are clueless about how to finance such a big push in the face of falling revenue receipts. One way out of the problem is to frontload government expenditures financed by temporary monetization at the discounted interest rate. The government exchequer should not be compared with the financing of household expenditures as the government owns the central bank that can print (create) money. Monetized deficit would not lead to an inflationary situation under a depression caused by lack of aggregate demand.

It is important to note that there is another vicious cycle of public finance. Lower purchasing power and consumption demand would mean lower indirect tax collections.

1. CESP, Jawaharlal Nehru University, New Delhi.

The direct tax collections, too, would be lower given falling income and profit levels as a result of the COVID-19 lockdown. There would be a sizable decline, therefore, in the revenue receipts of the government. Expenditure needs, however, would have increased given mounting healthcare requirements and the need to compensate the poor and vulnerable for their income loss. Lower revenue and increased expenditure would mean a larger fiscal deficit. Given low growth rates, fiscal deficit as a proportion of GDP would rise as well. If the economy takes a long time to revive, the future stream of revenue receipts would also be lower, thereby further curtailing the fiscal space to boost aggregate demand. As a result, the fiscal deficit and public debt to GDP ratio would continue to spiral downward.

II. Challenges to Public Fiance

The way out is for governments of independent nation-states to borrow for the time being from their own central banks and spend liberally. This would revive aggregate demand, reduce the unemployment rate, protect wage and profit rates, and boost the future stream of government revenue receipts. Hopes and future expectations, the driving force of capitalism, would reach normal levels again. There is a dire need, therefore, to frontload the entire planned expenditure of the next 4-5 years and incur those expenditures now within a year or two to give the economy a big demand side push. The governments may reduce the degree of monetization gradually as the aggregate demand revives and the future revenue receipts pick up. If the growth rate revives, the fiscal deficit as a proportion of GDP would come down automatically.

If governments follow this strategy, the fiscal deficit would go up temporarily, but the future would be more promising and there would be less economic distress for the people. If they do not give the big demand push now, the humanitarian crisis would worsen and the fiscal space would shrink even further in the days to come. In fact, many governments have responded to the crisis in a fiscally conservative manner and have made expenditure cuts into other sectors in order to spend some more money on health and to compensate for the falling revenue receipts. However, this is not the time for fiscal conservatism. It may lead to unprecedented misery in certain parts of the world because of the sudden rise in unemployment. Therefore, it is better to boost the economy now through well-designed fiscal stimulus packages by taking short-term loans from the central banks (at discounted rates) of the respective independent nation-states. Otherwise, we shall fall into the obvious vicious traps.

Many countries have announced various stimulus packages. While such steps are welcome, most of them are indirect monetary and financial measures rather than fiscal stimulus which can enhance the purchasing power of people more directly. For example, while lowering interest rates to encourage investors to take credit on easier terms and

lowering the reserve ratios to inject liquidity into the banking system may potentially boost investment to some extent, aggregate investment would depend on the expected rate of net profit, which is primarily demand determined. If business sentiments are low and the market is down, aggregate credit offtake would remain low and it would not have any stimulating effect on the economy as a whole. Some compensations have been given to the poor through direct benefit transfers, and free food and medical facilities, but that is very small as compared to the income loss of people in the entire economy. Therefore, there would be a net loss of purchasing power at the aggregate level.

Some are of the opinion that the recovery will be automatic – the government does not have to play any proactive role in boosting the economy. There would definitely be some recovery as compared to the lockdown period, but the level of activity cannot become higher than the same period last year, following the lockdown and huge loss of purchasing power of people, automatically, without any fiscal stimulus. Increase in fiscal deficit to GDP ratio, in general, and the tax concessions, in particular may play the role of an expansionary demand management policy, to some extent. However, the tax expenditure multiplier would be relatively much weaker than the expenditure multipliers. The fiscal stimulus in the form of tax-cuts would be far less effective than expenditure expansion that can enhance the purchasing power of the common people and the poor. The multiplier impact of the same amount of fiscal stimulus on the aggregate demand would be much higher for pro-poor government expenditure because of the higher consumption propensity of the poor as compared to the rich, on an average. Tax reliefs cater to the richer section more than the poorer section as the rich is supposed to pay more taxes, given any degree of progressivity in the tax structure. Therefore, an increase in the social sector expenditure (on health, education, employment generation, food distribution, poverty reduction etc.) would be more effective in reviving the aggregate demand than the tax concessions. Governments need to take some bold measures such as last resort employment programs at minimum wages, quality universal healthcare facilities at affordable rates, universal food security programs and free education for all in the current situation. Larger public spending on social sectors would reduce peoples' out of pocket expenditure and enhance their purchasing power which, in turn, would help solve the aggregate demand problem. If the aggregate private investment is insufficient for absorbing the existing labour-force in the country, public sector investment has to fill the gap to ensure a near full-employment situation in the near future.

As and when the fiscal deficit to GDP ratio reduces after revival, the central banks can sell the government bonds to commercial banks, other financial institutions, and the public, provided there is demand for them, to reduce the monetized deficit as a proportion of GDP. As the GDP grows, fiscal deficit and public debt as a proportion of GDP would automatically come down. Interest payment on the increased government borrow-

ing would not put additional pressure on future generations because the future level of activity would be higher and the future unemployment rate lower. Short-run profit driven policy direction in the current juncture may cause great harm to humanity – in the absence of a big push, the world economy would take a long time to come back to the business as usual level of activity. Incumbent governments would lose popularity and billions of people would suffer across the globe. Pursuing fiscal conservatism in today's situation would be a historic blunder. A big demand boost by frontloading the government spending is absolutely essential to ensure at least the 'business as usual' scenario. There must be proper planning of the revival policy – demand-side economists must be given a patient hearing.

III.Indian Case

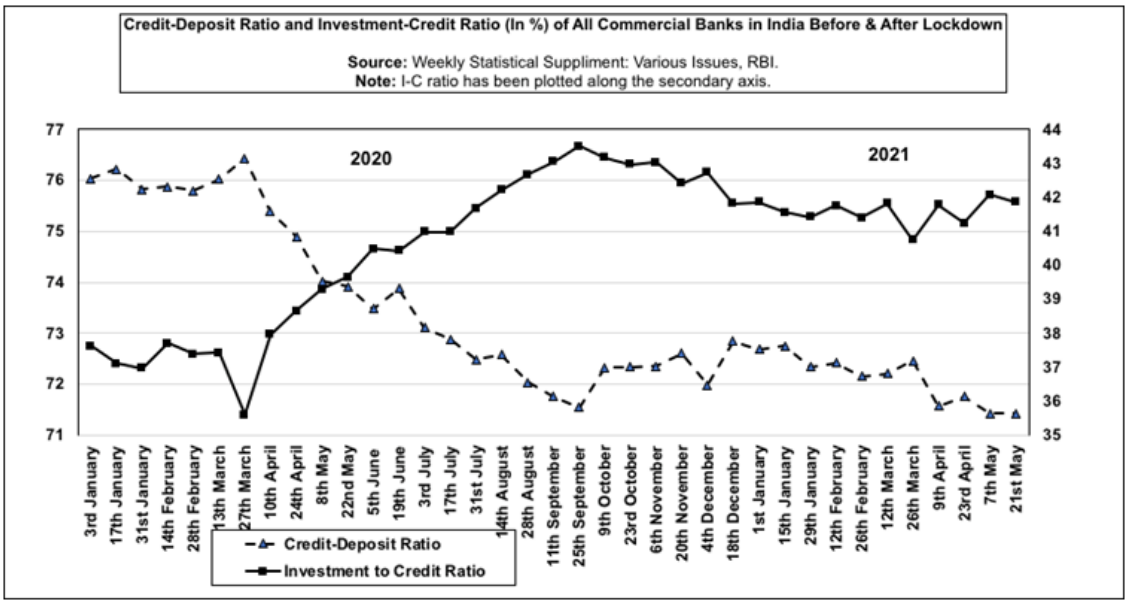
As far as the Indian situation is concerned, the fiscal deficit of both central and the state governments have increased significantly as a proportion of GDP mainly because of the huge revenue shortfall due to the lockdown and also because of the fall in GDP. As a result of this the government (combined) has become sceptical about expenditure expansioneven under the severe demand depression with 7.3% reduction in GDP (provisional estimates) in 2020-21 in India. The union budget for 2021-22 reports that the expected fiscal deficit (revised estimates) of union government alone would be more than 9% of GDP in 2020-21. The state governments' fiscal deficit for the last year is also likely to be around 4% of GDP. Therefore, the combined fiscal deficit to GDP ratio in India is likely to be more than 13% of GDP in 2020-21. However, this has primarily happened because of the revenue shortfall (and GDP reduction), rather than increase in expenditure.

In order to reduce the fiscal deficit as a proportion of GDP, the union government has planned massive disinvestment of the public sector units in the tune of Rs. 1 lakh 75 thousand crore or around 1% of GDP in 2021-22.Disinvestment is similar to the negative capital expenditure of the government. There is a plan of direct expenditure compression (as percentage of GDP) as well. The state governments are also operating under the Fiscal Responsibility and Budget Management (FRBM) Act. They are also facing huge revenue shortfall due to the Covid-19 induced lockdown and depression. Most of the social sector expenditures come under the jurisdiction of the state governments in India according to our constitutional arrangements. The centre is not even in a position to compensate the states for their revenue loss on account of the implementation of the GST (Goods and Services Tax), as per the understanding. In this situation, the states have to be allowed to borrow more money and spend liberally according to the need. Otherwise, the required fiscal stimulus cannot be injected into the economy in the desired form.

Interestingly, the foreign exchange reserve of the Reserve Bank of India (RBI) has become almost 600 Billion US Dollar or more than Rs.43 lakh crores (as on 26th May 2021), which is an idle asset. This huge foreign exchange reserve has been accumulated in order

to manage the real effective exchange rate in the country for maintaining the international competitiveness of our exportable. This foreign exchange reserve is equivalent to 22% of our GDP and more than the country's total import bill of entire one year.Therefore, the RBI is absolutely in comfortable position to give loans to the Government under this crisis situation. This monetised deficit would not cause demand-pull inflation under a severe demand depression. The state governments should be allowed to borrow more from the RBI to incur the social sector expenditures as per the requirements. Also, since the rate of return on the foreign exchange reserve of the RBI is very small, the RBI should lend the government at a discounted interest rate under the ongoing crisis.

In this context, it is important to mention that the credit-deposit ratio of all the commercial banks taken togetherhas come down from more than 76% in end of March 2020 to less than 72% by September 2020.Since then it has never crossed the 73% mark (see the graph below) and it has come down again below 72% since April 2021. The commercial banks' investment in government and other approved securities as proportion of total credit offtake has gone up from less than 36% in end of March 2020 to more than 43% by



Mid-September and it is still above 42% in May 2021.

This shows the that the credit offtake as compared to the deposit in commercial banks operating in India is remaining much lower than its level in the pre-lockdown period because of lower investment demand in the country. As far as the business of the commercial banks are concerned, they are investing more into government and other securi-

ties as compared to the loans to private sector because of the lack of demand for credit. It is not difficult to understand that the market is down and this is probably not the right time to make investment. Despite the Atmanirbhar Bharat Abhiyan package full of encouragements to take credit in easier terms and the potential liquidity infusion into the banking system, the credit-deposit ratio is not picking up. This shows the state of business confidence in India. Until and unless there is demand for the commodities and services, the investment environment would not change. Again, the demand would not be generated at the aggregate level unless there is purchasing power and income in the hands of the vast majority of masses. So, the government needs to intervene with a large enough fiscal stimulus (expenditure-side) to break the vicious cycle. Once, the cycle is broken, growth rate would be higher, employment would be generated and the government revenue would also be buoyant.

As far as the expenditure needs are concerned, our combined government expenditure on health is one of the lowest in the whole world (less than 1% of GDP). As a result of that the proportion of out of pocket expenditures on health is exceptionally high in India. Clearly, the government health infrastructure needs to be expanded in the country and the government needs to spend at least around 3% of GDP every year on health. Out of pocket expenditure on education is also rising at a fast pace and the government expenditure as a proportion of GDP in India is also in the lower side (around 3% of GDP). Most of the countries in the world spend 5% of GDP or more on education. In the midst of sudden rise in unemployment at a gigantic scale, the employment of last resort programme must be expanded to the urban areas as well. It should be made a demand driven programme in true sense. The average wage rates in the MGNREGS programme should be enhanced from Rs 202 at least to the minimum wage norm of agricultural workers in the rural areas and to that of the industrial workers in the urban areas. Also, the 100 days' cap per family in a year should be removed for the time being unless the employment scenario improves. The free food-grain distribution among the poorer section of population is important, particularly during the lockdown. Also, some monetary compensation should be given to the non-income tax payee workers for their income loss due to the lockdown and so on. These are some of the concrete policy recommendations.

On the face of lower tax and non-tax revenues, the government is clearly sceptical in meeting the above-mentioned expenditure needs. The fear is that the fiscal deficit may rise as a percentage of GDP and there could be problems. The first problem is vis-à-vis financing and the government is not even thinking of using part of the foreign currency assets for that. In fact, since March 2020, there has been a rise of these idle assets by 3.5% of GDP, within the lockdown period, for the purpose of exchange rate stabilisation. The government must explore the possibility of using part of this huge reserve for financing the much needed expenditures in combating this unprecedented crisis. The second fear is

of inflation but, there is no question of demand-pull inflation under a demand deflation. There could be supply side or structural inflation because of higher fuel price and so on but that does not happen because of higher fiscal deficit or monetisation. The third concern is of crowding-out of private investment due to higher fiscal deficit to GDP ratio. But, that is not possible under a demand constrained situation. Moreover, the commercial banks are voluntarily investing in the government and other approved securities (30% of deposit) way above the statutory liquidity ratio (SLR 18%) due to lack of demand for credit in the market. The rate of return on government securities is much less than the rate of return on even the perfectly secured market lending. So, there is no possibility of crowding-out now. Moreover, the government may borrow from the commercial banks as long as they want to lend and the rest of the fiscal deficit may be financed by borrowing from the RBI.In fact, when the private investment is not taking place adequately, the expansionary fiscal policy may enhance the purchasing power of people and revive aggregate demand to bring back the business confidence. The Keynesian demand management policy may actually crowed-in private investment instead of crowding-out in today's situation.

The fourth concern is that of the sustainability of the public debt. Even if the public debt increases due to the larger fiscal deficit, if the nominal GDP rises, the debt-GDP ratio may not become unsustainable in the long-run. Even if it rises temporarily from its current level, nothing would happen. If the economy recovers fast and the growth rate revives, things would automatically fall in place.The fifth concern is related to the larger interest payment component in government expenditure due to larger borrowing. However, the central bank may always lend to the government at a discounted rate. The sixth concern is of the rating of India as an investment destination from the point of view of the foreign financial investors. But, that rating would also come down for lower growth and higher unemployment and not only because of the higher fiscal deficit to GDP ratio.

IV.Conclusion

It is important to save the country first from this twin-crisis of health and livelihood rather than making the international investors happy.Therefore, the governments around the world including that in India may consider to undertake an expenditure expansionary fiscal policy to give the economy the required demand boost rather than behaving in a conservative manner under the current situation. Hope, we shall overcome sooner rather than later.

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Travel and Tourism Jobs: Options for Revival

Dr. Rivu Sanyal[1] & Dr. Susmita Banerjee[2]

Abstract

Tourism, which is based on travel, hotel and restaurant (THR), is one of the sectors that witnessed a big blow in terms of revenue and employment in the post-COVID-19 era. India is not an exception, and due to both demand and supply shocks, this industry is facing the twin problems of revenue loss and lay off employees. In the current situation, demand is revamping sluggishly, but not the employment scenario. According to the existing literature, a fall in both output and employment is sharper in downturns than their rise in upturns. Moreover, the decline in production decreases employment more than the job created by a similar output surge. Therefore, although limited operations have started, one can expect that it will take some time for the industry to bounce back (in terms of employment generation) to reach the pre-COVID-19 situation. This paper aims to analyse the damaging impact of the pandemic on the tourism industry and tried to churn out a future road map to fight against similar adverse situations in the future. We have done a comparative study of the post covid situation in India's tourism sector, graphically, to understand the damaging impact of the pandemic. The study attempts to determine the different factors that have the highest labour absorption capacity in the tourism sector. Considering 25-yearsdata, anordinary least square regression has been done. The result shows that 'domestic spending' and 'government expenditure' have the highest significant positive impact on employment generation. The study concludes that a revival package by the Government will work as a booster for the industry in the current situation. The less explored domestic tourism utilising the local resources can be a prominent ray of hope and be provided with its due weightage.

Key Words-*Employment, GDP, Linkage Effect, Financial Crisis, Revenue, Domestic Tourism, Sustainability.*

JEL Classification Codes :Z32, C21, R 23, J22.

I. Introduction

The global economy has never encountered a debacle having an equally damaging im-

1. Rivu Sanyal, Assistant Professor, Department of Economics, Charuchandra College, Kolkata; rivu_ulu@rediffmail.com
2. Susmita Banerjee, Associate Professor, Department of Economics, Charuchandra College, Kolkata; bsusmita@rediffmail.com

pact as has been done by COVID-19 in the recent past. India is not an exception. All most all the sectors of this country have encountered severe blow, whichcontributed heavily to the steep decline in the economic scenario. Due to both demand and supply shocks, various industries face the twin problems of revenue loss and sack of employees. Tourism which is based on travel and communication is one of the sectors with a big blow in the revenue. Indian economy, which also has a percentage coming from tourism, tested the bitterness of this global challenge.Tourism is a sector that encapsulates domains providing services to the globe trotters, both internal and external. In today's world, tourism has widened its boundaries; now, it has added new dimensions like professional tourisms (business tours, conferences), educational tourism, medical tourism, cultural tourism, and traditional tourist attractions like sight-seeing and religious tourism. The tourism industry is now at a crossroads in its development. Being one of the world's leading industries in the service sector, it faces a severe crisis about its sustainability in the aftermath of the COVID-19 crisis.For the first time, the world coined a new term called lockdown in the fight against CORONA. Following World Health Organisation's (WHO) guideline, several steps were taken by the Government of India, which includes-practising social distancing norms, imposing countrywide lockdown, banning domestic and international air transport, closing means of interstate and intercity train and bus transport, limiting public activities through the closing of shopping malls, restaurants, hotels, religious places, entertainment centres. Life along the trade and commerce has come to a standstill situation that severely impacts the economy. From the middle of March, the travel industry's grim future became inevitable when the Government of India announced the closure of domestic and international flights, and the popular tourist attractions in India were started to close down.

Tourism and hospitality are also called the industry of industries. The economic impact of these industries is usually assessed at the macroeconomic level. The most general measurement focuses on tourism revenue and the contribution of tourism to a country's GDP. This industry is a significant source of tax revenue as well as foreign exchange earnings. In 2019-2020, the travel and tourism industry contributed 284.7 billion US dollars to India's GDP (source: www.wttc.org, WTTC), which is 9.3% of its total GDP. According to WTTC, foreign exchange earnings during January 2019 was 2.55 billion US dollar. India ranked 10th in the world in terms of the nation's travel and tourism sector contributing to the GDP (Source: WTTC)

Besides that, the tourism industry is highly labour intensive with massive backward and forward linkages and has immense potential for job creation. As of 2019-20, 44,772,600 jobs were created, which amounts to 8% of India's total employment. India's travel and tourism sector's contribution to generating employment ranked second after China. Indian economy, which also has a percentage from tourism, tested the bitterness of this

pandemic. The industry expects a revenue loss of Rs 5 lakh crore while 4-5 crore people are expected to become unemployed. The organised sector, including reputed hotels, operators, and travel agencies, may have been the worst sufferer and the loss amounted to Rs 1.58 lakh crore. The total loss of tour operators has been predicted as 25 thousand crores. This paper aims to analyse the current economic scenario of the tourism industry and tried to churn out the future road map to fight against similar adverse events in the future. The modern theory of employment determination assumes a close positive relationship between production and employment. It is imperative to believe that more employment is required to produce more output.

Nevertheless, empirical evidence shows that (Singh and Mitra (2016)) fall in both output and employment is sharper in downturns than their rise in upturns. Moreover, the production decline decreases employment more than the job created by a similar increase in output. Therefore, the pertinent question is, which factors should prioritise the current scenario to generate employment in this sector? What are the determinants of employment potential in India's tourism sector?To what extent this sector is capable of absorbing the pool of unemployed labour? The present paper attempted to identify those factors which played a crucial role in creating employment in the pre-COVID era.Using the data from 1995-96 to 2019-2020 and applying the ordinary least square method, this paper tries to understand the employment dynamics of the tourism sector.We have considered various macro-economic variables like contribution in employment generation, % share of GDP, foreign tourist arrivals, domestic spending, foreign spending, capital investment and foreign exchange earnings for the analysis. The present paper has been structured in the following way. After an introduction, section 2 will state the objective of the paper. In section 3, we will go through the available pieces of literature. Section 4 will state the data source and methodology adopted in the paper. Section 5 presents a graphical study. Section 6 empirically estimates the role of different macro-economic variables in determining the tourism sector's employment potential. Section 7 will conclude the study by highlighting the necessary steps required to revive the sector.

II. Objective

The purpose of our study is twofold-

1. to analyse the damaging impact of the pandemic on the tourism industry
2. to find out the macro-economic variables which play a significant role in employment generation.

III. Literature Survey

There are a few pieces of literature available on this subject. Andrews (2020) clearly stated that there would be an 18-20% reduction in the national occupancy rate, and there

would be a 12-14% drop-in daily average rate due to the imposition of lockdown after the breaking of the COVID-19 pandemic. So, the hotel industry has suffered a lot.

Goswami and Soundarajan (2020) highlighted the ongoing pandemic's impact on the tourism industry in an article. According to them, the tourism sector has forward and backward linkages to other sectors such as FMCG, horticulture, transport, handloom, agriculture. Thus, any disruption in the tourism sector would render many people jobless. Simultaneously, there will be a drastic fall in foreign exchange earnings. Nevertheless, unfortunately, the Indian Government has not addressed the concern about the tourism industry properly.

Moolya foundation (2020), in a paper, stated that nearly 3.8 crores of people associated with the tourism industry faced unemployment due to pandemic and lockdown. The pandemic has resulted in a considerable reduction in the occupancy rate in the hotel. It requires an immediate joint measure of the Ministry of Tourism and the Ministry of finance.

Batra (2020) stated the enormous contribution of the tourism industry to the GDP in India. According to him, the pandemic has a severe impact on the tourism industry. Thus, the Government of India must act immediately to revive the tourism industry.

Ghosh (2020) highlighted the revival strategy of the tourism sector. According to him, the coming 8-9 months are not for making colossal profit but an opportunity to survive the industry so that the thousands of people associated with the industry may overcome this unprecedented crisis. Furthermore, a comprehensive tourism recovery plan is required by involving all the stakeholders.

Mukherjee and Mukherjee (2020) stated the impact of lockdown on the tourism industry's different components. It is also necessary that the right policy action be formulated by engaging both the public and private players to revive the industry.

Kulshrestha and Seth (2020) stated that pandemic has a significant impact on the Indian tourism industry, especially on airlines and hotels.

IV. Data Source and Methodology

The entire analysis is based on secondary data, and the data are collected from different official sources like the Ministry of Tourism, CMIE and other official sources like WTTC. We have dealt with the time-series data. The period of the analysis is 1995-1996 to 2019-2020.

Model Specification and Methodology

To analyse the impact of lockdown on the tourism industry, we have considered the following variables-contribution of the tourism industry in GDP in pre lock down years,

the contribution of the tourism industry in employment generation in pre-lockdown years, foreign exchange earnings in the tourism industry, foreign tourist arrivals in India, government expenditure on the tourism sector, total spending by the domestic tourists and investment of capital in the tourism industry. We plot these variables graphically, compare them with the post lockdown situation, and show how these variables faced drastic fall during the lockdown phase.

In order to identify the macro economic variables with huge labour absorption capability, we have formulated a following theoretical framework.

$(lnEMPLY)_t = \beta_0 + \beta_1(lnpkinv)_t + \beta_2(lntgdp)_t + \beta_3(lnfta)_t + \beta_4(lnds)_t + \beta_5(lntgovexp) + \beta_6(lnfee) + \varepsilon_t$

where, t= 1995-96 to 2019-2020.

EMPLY= total contribution to employment (thousands of job)

pkinv= percentage of capital invested in the tourism sector

tgdp= total GDP which comes from the tourism industry (in US $ dollar)

fta= foreign tourist arrival (in a million)

ds= domestic spending (US billion $)

tgovexp= total government expenditure on tourism sector (US billion $)

fee= foreign exchange earning of the country from tourism (US billion $)

ε_t = error term

The Ordinary Least Square (OLS) method has been employed to examine the above equation. All variables have been taken in their natural logarithms to avoid the problem of non-linearity of parameters. STATA software has been used to carry out the econometric analysis.We have used the Augmented Dicky Fuller test to test the stationarity of the variables used in the regression. ADF tests the null hypothesis that a time series sample contains a unit root against the alternative hypothesis that a time series sample does not contain a unit root. In general, a p-value of less than 5% means we can reject the null hypothesis at a 5% significant level. We can also compare DF statistics with a tabulated critical value. If the DF statistic is more negative than the table value, we can reject the null hypothesis. It is found that all the variables, except'lntgovexp' and 'lntgdp', have the first-order difference to attain stationarity (see Appendix). Hence, the model becomes:

$(DlnEMPLY)_t = \beta_0 + \beta_1 D(lnpkinv)_t + \beta_2(lntgdp)_t + \beta_3 D(lnfta)_t + \beta_4 D(lnds)_t + \beta_5(lntgovexp)_t + \beta 6\, D(lnfee) + \varepsilon_t$

Classical assumption tests of regression have been done, including a test of linearity, normality, autocorrelation, multicollinearity and heteroscedasticity (See Appendix). We

have used the Shapiro-Wilk W test for normality. We have calculated the Variance Inflation Factor (VIF) to check the multicollinearity problem, and the test result shows no sign of multicollinearity. To test for heteroscedasticity, we have conducted the Breusch Pagan Test. **T**he test indicates that there is heteroscedasticity in the model (p-value is greater than 0.05). To test the presence of autocorrelation in the model, we have used the Breusch-Godfrey LM test, as this test is less sensitive to the assumption that residuals are normally distributed. The result indicates that chi2 is less than 0.05 or 5%, and hence we can conclude that the null hypothesis can be rejected. In other words, there is a serial correlation between the residuals in the model.

The hypothesis of the above panel regression model can be framed as-.

Null Hypothesis (H_0):*Capital investment (lnpkinv), total GDP which comes from tourism (lntgdp), foreign tourist arrival (lnfta), domestic spending by the local tourists (lnds), total government expenditure in the tourism sector (lntgovexp) and foreign exchange earnings from tourism (lnfee) have no significant impact on employment generation (lnEMPLY) in the tourism sector.*

Alternative Hypothesis (H_1):*lnpkinv, lntgdp, lnfta, lnds, lntgovexp, and lnfee have a significant impact on lnEMPLY.*

V. Graphical Study

The travel and Tourism sector has never encountered a debacle having an equally damaging impact as has been done by COVID 19. The travel ban imposed by most of the countries has created havoc in its revenue. The economic and social cost of such lockdown is immense on the Indian economy. We have taken the last six months of data

before lockdown (October 2019 to March 2020) to estimate the costs.

Fig-a: Impact on Foreign Tourists Arrival in India (January 2019 to March 2020)

Source- Ministry of Tourism, Government of India

It shows the arrival of foreign visitors in India for the last fourteen months. Despite the largescale arrival of foreign tourists in India from October to February, there is a considerable decline in March 2020. Because from March and onward, there was an imposition of lockdown across the country. As a consequence of that, no international flight was allowed to come to India. Thus, due to the lockdown, there was a significant decrease in the arrival of foreign tourist in India.

Fig-b: Impact on Foreign Exchange Earnings (Jan-2019 to March 2020)

Source- Ministry of Tourism, Government of India

It shows the foreign exchange earnings in the tourism industry for the last few months. It is visible from the graphical study that there are substantial foreign exchange earnings in the tourism industry from January 2019 to February 2020. Nevertheless, in March 2020, there is a massive decline in foreign exchange earnings. It is the month when the lockdown was imposed across the country.

Fig-c: Contribution of Tourism Industry in the Total Employment Generation in India (in %) (1995-2021)

Source-Ministry of Tourism, Government of India and WTTC

This figure represents the tourism industry's contribution to the total employment generation(both direct and indirect) in India from 1995 to 2020-2021. Nearly 87 million people were employed in the travel sector in 2018-19, according to the Ministry of Tourism report in 2019-20. It shows that from the year 2013 to 2019, there is a steady 7.9 to 8.1 % contribution to the tourism industry in total employment generation. It includes both the direct and indirect contribution of the tourism industry in total employment generation. Nevertheless, in the year 2020, there is a sharp decline in the tourism industry's contribution to total employment generation. There is almost a 70% decrease in the contribution of the tourism industry in total employment generation. Nearly 38 million people directly or indirectly attached to the tourism industry became unemployed due to the imposition of lockdown in March 2020 after detecting COVID-19 cases in India. The impact of COVID-19 can be sensed on both white and blue-collar job.

Fig-d: Contribution of Tourism Industry in Country's GDP (US billion $)

Source-WTTC

The figure shows that there has been a steady enhancement in the contribution of the tourism industry to the GDP of the country from 1995to 2019. However, from 2019 and onward, in the year 2020, there has been a significant reduction (almost 30%) in the tourism industry's contribution to the country's GDP.In Indian tourism, there can be a revenue loss of Rs 69,400 crore during April-June, denoting a year-on-year loss of 30%. Indian Association of Tour Operators estimates that by clubbing together, hotel, aviation and travel sectors may suffer a loss of 85 billion rupees, keeping in view foreign tourists' travel restriction. The decline is visible from the line diagram.

Another exciting feature is evident from the above figures, fig c and fig d. It reflects that there is disproportional growth between income share and employment share in the sector. Though the total contribution to GDP is increasing steadily, the total contribution to employment is almost stagnant during the same period.

VI.. Econometric Results

After correcting the problem of heteroscedasticity and autocorrelation, we get the following result.

(prais or Prais –Winsten and Cochrane –Orcutt regression uses the generalised least-squares method to estimate the parameters in a linear regression model in which the errors are serially correlated. Specifically, the errors are assumed to follow a first-order autoregressive process. Whereas, n. vce(robust) specifies to use the Huber/White/sandwich estimator)

```
prais DlnEMPLY Dlnpkinv Dlnfta lntgovexp lntgdp Dlnds Dlnfee, vce(robust)

Iteration 0:  rho = 0.0000
Iteration 1:  rho = 0.3850
Iteration 2:  rho = 0.5415
Iteration 3:  rho = 0.5845
Iteration 4:  rho = 0.5932
Iteration 5:  rho = 0.5948
Iteration 6:  rho = 0.5951
Iteration 7:  rho = 0.5952
Iteration 8:  rho = 0.5952
Iteration 9:  rho = 0.5952
Iteration 10:  rho = 0.5952

Prais-Winsten AR(1) regression -- iterated estimates

Linear regression                               Number of obs     =         24
                                                F(6, 17)          =      49.47
                                                Prob > F          =     0.0000
                                                R-squared         =     0.8796
                                                Root MSE          =     .03654

------------------------------------------------------------------------------
             |               Semirobust
    DlnEMPLY |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    Dlnpkinv |  -.1256071   .0352035    -3.57   0.002    -.1998799   -.0513342
      Dlnfta |   .0209367   .3698207     0.06   0.956    -.7593167    .8011901
   lntgovexp |   .0096039   .0047984     2.00   0.062    -.0005197    .0197276
      lntgdp |  -.0067541   .0032188    -2.10   0.051    -.0135451    .0000369
       Dlnds |   .6729165   .0916185     7.34   0.000     .4796185    .8662146
      Dlnfee |   .0829878   .1776021     0.47   0.646    -.2917198    .4576955
       _cons |   .0051986   .0288897     0.18   0.859    -.0557534    .0661506
-------------+----------------------------------------------------------------
         rho |   .5951818
------------------------------------------------------------------------------
Durbin-Watson statistic (original)    1.229888
Durbin-Watson statistic (transformed) 1.488993
```

From the result, we found that capital investment, total government expenditure on tourism, the total contribution of tourism in GDP and domestic spending by the domestic tourists have a significant impact on employment generation. Capital investment has a significant negative effect on labour absorption, with a coefficient of -0.125. This result means that an increase of 1 per cent capital investment in the tourism sector will decrease labour absorption by as much as 0.125 per cent if other variables remain constant. This indicates that the capital investment in the tourism sector is not labour absorbing in nature. Maybe, the private investment in the Tourism sector is too much capital intensive. Private business houses invest a bulk amount in tourism, but these investments are not conducive to job creation. Maybe they are creating few formal jobs in the industry. We get the same result from tourism's total contribution to GDP. The negative, significant coefficient indicates negative employment elasticity and concludes that the industry is experiencing'jobless growth. A high GDP growth rate has not been able to generate high employment growth and been accompanied by a slowdown in employment growth in India. This result substantiates our earlier findings of section six. However, the variables of government spending in the tourism sector and domestic spending by local tourists have shown a significant positive impact. Both variables have positive employment elasticity. If the government spending increases by 1%, then the labour absorption will increase by .009%, *ceteris paribus*.

Similarly, a 1% increase in domestic spending increases labour absorption by 67%, *ceteris paribus*. This result is fascinating, and we can conclude that these two areas can play a leading role in reviving the tourism sector in the current scenario. The Government should give immediate attention to these two critical variables while formulating revival policies. Private capital can attract a considerable number of tourists, including foreigners. However, they have minimal labour absorption capacity. The role of the Government is very crucial in this junction. The bulk amount of government spending in the tourism sector improves the infrastructure, which is conducive for the development of the sector and can solve the country's unemployment problem. The encouragement of domestic tourism is another field through which the industry's current disaster is expected to be dealt with.

VII. Summary and Policy Recommendation

It is clear that the tourism sector has been badly affected due to the imposition of countrywidelockdown. However, in most of the countries Government has declared a relief package for the tourism sector. Unfortunately, that is missing in India.The Government must declare an immediate recovery package and plan that focuses on the tourism sector.

From the available data, we can understand the gravity of lockdown's impact upon the tourism industry. Due to the cancellation of the domestic and international flight and the stopping of interstate train and bus transportation, there was complete pandemonium in the tourism sector. The cancellation of international flight had stopped foreigntourists' arrival, affecting the foreign exchange earnings. Simultaneously the contribution of the tourism industry in generating employment and in the GDP had been hugely affected. To revive the industry in the post COVID era, some feasible measures are needed, which will enable us to fight against the current disaster and provide a future road map to grow the industry sustainably. More specifically, some measurements should be found out so that the industry can combat any unforeseen disasters. Keeping in view the fact that the tourism industry is the prime source of employment and income in India, the involvement of both the private and public sector is required to revive this sector. Our results show the two main points that need to be looked into for employment growth in this sector. First, the demand-driven factor, such as government expenditure, can generate employment in the sector. Second, the government shout put more focus on domestic tourism through the utilisation of local resources. On the job training for local people can be a fruitful measure.

Along with that, cost optimisation at all levels is also necessary.Participation of local administration is also needed to expedite the recovery process. The less explored domestic tourism utilising the local resources can be act as a prominent ray of hope. Thus, we can conclude that India's tourism industry has substantial growth possibilities, which is not yet fully exploited. Righteous collaboration between policymakers and the other stakeholders is required to boost this industry. The right policies and relentless focus on quality, cost, and tourists interest are required to overcome the present crisis of the Indian tourism industry.

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Appendix

A.1.Results of ADF Statistics

Series	ADF Statistics	Critical values 5%	Probability	Decision
lnEMPLY	-1.876	-3.000	0.3435	Do not reject the null hypothesis
lnpkinv	-1.674	-3.000	0.4447	Do not reject the null hypothesis
lntgdp	-5.523	-3.000	0.000	Reject the null hypothesis
lnfta	0.353	-3.000	0.9796	Do not reject the null hypothesis
lnds	-0.363	-3.000	0.9162	Do not reject the null hypothesis
lntgovexp	-5.131	-3.000	0.000	Reject the null hypothesis
lnfee	-0.246	-3.000	0.9328	Do not reject the null hypothesis

A.2. regress DlnEMPLY Dlnpkinv Dlnfta lntgovexp lntgdp Dlnds Dlnfee

```
      Source |       SS       df       MS              Number of obs =      24
-------------+------------------------------           F(6, 17)      =    8.97
       Model |  .096087786     6  .016014631            Prob > F      =  0.0002
    Residual |  .030359997    17  .001785882            R-squared     =  0.7599
-------------+------------------------------           Adj R-squared =  0.6752
       Total |  .126447783    23   .00549773            Root MSE      =  0.04226
```

DlnEMPLY	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]
Dlnpkinv	-.1055081	.0327851	-3.22	0.005	-.1746786 -.0363376
Dlnfta	.2594578	.3271188	0.79	0.439	-.4307025 .949618
lntgovexp	.0116145	.0110164	1.05	0.307	-.011628 .034857
lntgdp	-.0044709	.0069804	-0.64	0.530	-.0191982 .0102565
Dlnds	.6340057	.1128286	5.62	0.000	.3959583 .8720532
Dlnfee	.0364189	.1938815	0.19	0.853	-.3726353 .4454731
_cons	-.0138124	.0383357	-0.36	0.723	-.0946936 .0670688

-

A.3. Multicollinearity Check

vif

Variable	VIF	1/VIF
Dlnfta	6.38	0.156807
Dlnfee	6.37	0.157009
lntgovexp	1.29	0.774751
Dlnds	1.27	0.787709
lntgdp	1.1	0.899662
Dlnpkinv	1.04	0.962698
Mean VIF	2.9	

Variable	VIF	1/VIF
Dlnpkinv	1.01	0.994418
Mean VIF	1.07	

A.4. Test for Heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of DlnEMPLY

chi2(1) = 6.73

Prob > chi2 = 0.0095

A.5. Test for Autocorrelation

. estat bgodfrey

Breusch-Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
1	5.044	1	0.0247

H0: no serial correlation

Since from the above table, chi2 is less than 0.05 or 5%, and the null hypothesis can be rejected. In otherwords, there is a serial correlation between the residuals in the model.

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