

# Fiscal situation of India in the time of COVID-19\*

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## Abstract

COVID-19 pandemic, a health crisis, has rattled the global economy. In this situation, the Indian government has announced its fiscal package worth INR 1.7 trillion, but there are arguments for more spending. Using data from a cross-section of countries, we first estimate the relationship between fiscal spending and COVID-19 spread, economic stringency, and macroeconomic factors. Our estimates suggest that India can spend 2.2-4.8 percent of its Gross Domestic Product (GDP), based on the global benchmark. Accounting for tax and output shortfall due to the pandemic, we project the fiscal deficit of the central government can be as high as 8.4 percent, in the most pessimistic case, while 3.7 percent in a relatively optimistic case. We finally argue that subsidy rationalization is the way forward to fund the much-needed health expenditures and transfers while maintaining the fiscal discipline.

**JEL Codes:** E62, O23

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# 1 Introduction

The global economy has come to a near standstill because of the COVID-19 pandemic. The enforced economic shutdowns, implemented around the world, are unprecedented and will entail large economic costs.<sup>1</sup> Under this scenario, fiscal policy can provide temporary relief to those most impacted by the shutdown. With the widespread disruption in economic activity, carefully designed government expenditure could help ease the pain as well as nourish the economy back to its full potential. However, the policy action has to be guided by the available fiscal space and cannot operate in a vacuum. In this context, our paper looks at the current fiscal situation in India and how it will be affected by the pandemic.

India's fiscal spending can be described as fiscal populism (see [Alesina et al. \[1997\]](#), [Brender and Drazen \[2005\]](#) and [Nandy et al. \[2020\]](#)). The government undertakes spending on social security through cash transfer or food programs, boosting employment, maintain airlines, and engage in many other activities. The cumulative result of all this expenditure is the high fiscal deficit. Many studies (see [ShankarAcharya \[2016\]](#)) have pointed out that the fiscal situation in India over the last few decades has been one of profligacy when compared to similar economies around the world. In the last two years, the combined deficit of the centre and state governments has been around 6.5 percent.

It is expected that the contraction in foreign demand and domestic consumption will lead to significant job losses in both the formal and informal sectors in India. Even if the health crisis is averted, there are concerns regarding the longer-term impact on the economy. For example- whether there will be a long-term fall in the consumption, what will be the impact on the firm and bank balance sheet, whether the migrant labour will return to work soon, are questions that cannot be answered at this point. In these uncertain times, the fiscal push thus seems to be the natural policy lever. However, the current spending should be managed in a way that the fiscal health remains good, and India does not suffer from credit flight due

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<sup>1</sup>For instance, [US unemployment claims](#) are already at a historic peak (nearly 7 million) in a matter of weeks, far exceeding the numbers in the aftermath of the 2008 recession.

to a credit rating downgrade.<sup>2</sup> This is a real concern since another rating downgrade will put India's sovereign rating in the non-investment grade.

In this backdrop, we first estimate the optimal level of fiscal spending needed by India. To do this, we construct a cross-sectional dataset of countries with information on the spread of COVID-19, economic stringency<sup>3</sup>, and macroeconomic factors like sovereign credit rating. Using regression analysis, we find that economic stringency and credit rating are the most significant factors that determine a country's fiscal response to COVID-19. Based on our estimates and current information, India can spend between 2.2 to 4.8 percent of its GDP in fighting the pandemic.<sup>4</sup>

We then quantify the effects of COVID-19 pandemic on the fiscal deficit of India for the financial year 2020-21. In particular, we estimate the deficit as a percentage of gross domestic product (GDP), taking the recently announced INR 1.7 trillion as the additional fiscal outlay. We find that in the absence of any fall in GDP (the most optimal scenario), the fiscal deficit would rise to 4.3 percent of GDP against a budgeted target of 3.5 percent.<sup>5</sup>

The most optimal scenario is, however, not realistic. Even if everything returns to normal after May 3, 2020 (the end of the lockdown period), there will be lingering effects, as we noted above. Not all of the output lost during the lockdown will be compensated for. Moreover, many large cities such as Mumbai may remain under at least partial lockdown for longer. So, the GDP is likely to fall further. But by how much? In the most pessimistic scenario, where GDP falls by 20 percent, we expect that the fiscal deficit for the central government can climb to 8.4 percent of GDP and for the states to 3.6 percent of GDP. Under the minimum and maximum fiscal support bounds estimated using global benchmarks (2.2% and 4.8%),

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<sup>2</sup>A post COVID-19 credit rating downgrade is a possibility. A recent example is South Africa, whose external liabilities were downgraded to junk by Moody's on March 27, 2020. On March 31, four banks were also downgraded. In its notes, Moody's noted increase in this year's fiscal deficit possibly hitting 8.5% of South Africa's GDP, along with "structurally very weak GDP growth" and debt overhang concerns.

<sup>3</sup>This data comes from Oxford COVID-19 Government Response Tracker(OxCGRT)

<sup>4</sup>These estimates can change depending on the spread of pandemic and length of shutdown imposed by India.

<sup>5</sup>We assume that the addition funding is supported by borrowing domestically with five year bonds at 6% per annum interest.

we expect the central government deficits to reach 7.7% and 8.4% of GDP, respectively. The real impact on the GDP is still uncertain; however, if India's containment strategy works like China and the economy returns to normal, 10 percent GDP shortfall is the most likely scenario. In the latter case, the fiscal deficit of the central government will be 5.3 percent, with the current 0.8% of GDP stimulus. We estimate the deficits to reach 5.7% and 6.3% under the alternative fiscal packages of 2.2% and 4.8% of GDP, respectively. The aggregate sub-national, i.e., state-level fiscal deficit will also jump to 3.2-3.6 percent of aggregate GDP.

Finally, we argue that the additional fiscal spending is the need of the hour; however, India should also take the current crisis as an opportunity for preparing a roadmap for fiscal prudence. Globally as well as in the Indian context, it has been argued that the fiscal deficit has an impact on economic growth (see [Rangarajan and Srivastava \[2005\]](#)). The current crisis is an opportunity for implementing subsidy rationalization, and a careful 360 degree look at the expenditure profile. If the government can prune one-third of the current fertilizer, food, and petroleum subsidy, it will immediately release INR 0.75 trillion (around 0.35 percent of the GDP). Not only will this substitution allow India to raise health and social security spending immediately, but also allow us to solve long-standing issues of market distortion due to these subsidies.

In the next section, we discuss the current fiscal situation in India, both at the central and state level. We derive the benchmark fiscal stimulus for India in section 3. In section 4, we provide the impact on fiscal deficit of India due to COVID-19. Finally, section 5 gives a discussion on subsidy rationalization, and section 5 concludes.

## 2 The Current Fiscal Situation

India adopted the Fiscal Responsibility and Budget Management (FRBM) Act in 2003 in order to improve fiscal discipline and bring down the fiscal deficit under pre-defined limits (see [Buiter and Patel \[2010\]](#)). There has been some progress on this front; however, the

target has eluded the central government till now. Given this background, we look at the fiscal deficit situation in India for both the central and state governments.

The time series of fiscal deficit for the central government of India is shown in Figure 1. Under the latest revision to the target under FRBM, the central government was aiming to achieve a 3.0 percent deficit latest by FY 2020-21. The fiscal deficit in the most recent FY 2019-20, stood at 3.7 percent, significantly above the 3 percent target. Thus, the targeted fiscal deficit for the current financial year was revised to 3.5 percent in the recent budget.

As a benchmark for the current scenario, we can look at the fiscal deficit of India in the period immediately following the Global Financial Crisis (GFC). As can be seen from Figure 1, there was a sharp deterioration in the fiscal deficit after the GFC (represented by the rectangular box) in 2008 for a few years. The fiscal deficit peaked at 6.6 percent during this period. Then it almost took a decade to bring down the fiscal deficit. However, the trend of a sharp improvement in the fiscal deficit numbers slowed down in the last few years due to the additional funds that the central government had to allocate to the banking sector to improve liquidity and tide over the NPA condition. This slow improvement can also be partially attributed to the less than expected disinvestment receipts.

But the focus on the fiscal deficit of central government masks the overall level of deficit in India. To complete the discussion, we present the state-level deficit below.

Table 1 shows the fiscal deficit in FY 2018-19 for all states and unions territories (UTs) in India.<sup>6</sup> The combined state level fiscal deficit stood at 2.9 percent of GDP in in FY 2018-19. It is argued that such levels of deficits at the sub-national level are very high and shown to be unsustainable as in Roy and Kotia [2018]. We can notice that a lower fiscal deficit (column 6) is mostly associated with states having a relatively higher Gross State Domestic Product (GSDP) (column 2) and vice-versa. Ideally, fiscal deficit should be reduced in each successive year until the revenue deficit and government dis-savings have been eliminated (Rangarajan and Srivastava [2005]). Given these high deficit numbers at the state level,

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<sup>6</sup>These numbers are compiled from RBI report.

it is not surprising that most states have not come out with their stimulus package in the aftermath of COVID-19 induced lockdowns.

To summarize, the current collective fiscal deficit for both the centre and state governments in India stands above 6.5 percent of GDP. Given this baseline scenario, we can now discuss the evolution of the fiscal deficit in the near future. However, before we do that, we look at the level of fiscal stimulus package declared by countries around the world and compare it to India.

### **3 Bench-marking stimulus package of India**

So how much fiscal support is needed to support the economy in such a situation? This support should be a function of the severity of the crisis and the fiscal space of the government. To understand this relationship, we do a cross-sectional study about the fiscal response to COVID-19 by countries around the world based on the severity of the crisis, the health response, and the economic situation of the economy. This section is similar to the analysis presented in ?. However, we also provide optimal stimulus numbers for India in this paper.

*Data:* We put together a cross-sectional database on 95 countries based on the information available until April 9, 2020. We use crisis-related data from the Oxford COVID-19 Government Response Tracker (OxCGRT)<sup>7</sup> and merge it on the most recent sovereign bond ratings from S&P, Moody's, and Fitch rating agencies. The Oxford data provides a key 0-100 crisis stringency index based on the lockdown measures imposed. India, for example, received an index of March 19, 2020, when it shut down international borders. The index stands at 100, the maximum value possible, from March 24 when a country-wide shut-down was imposed. An index of 0 corresponds to a business-as-usual scenario without any coronavirus related disruptions. We further supplement this data with other country-level indicators such as GDP and GDP per capita from the World Bank.

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<sup>7</sup>We are using from Hale, Thomas, Sam Webster, Anna Petherick, Toby Phillips, and Beatriz Kira (2020). Oxford COVID-19 Government Response Tracker.

*Methodology:* We regress the government response - measured as government spending as a share of GDP - against a set of relevant variables. First is the severity of the crisis. We average daily stringency index for each country between January 1 - April 9, 2020. The average measure, therefore, takes into account the loss in economic output in the last three months. We substitute for fiscal health by the distance of sovereign bond ratings from the junk category. India has a Baa2 rating from Fitch, which is two categories above junk (non-investment grade), so India receives a distance score of two. The minimum distance from the junk rating is 0, and the maximum is 10. We also include other exogenous variables in the regression, such as the number of confirmed COVID-19 cases, GDP per capita, and GDP. The estimating equation is:

$$\text{Stimulus}_i = \beta_0 + \beta_1 * \overline{\text{Stringency}}_i + \beta_2 * \log(\text{COVID cases})_i + \beta_3 * \overline{\text{Rating}}_i + \text{Controls}_i + \epsilon_i \quad (1)$$

where  $\text{Stimulus}_i$  is the ratio of fiscal spending to GDP for country  $i$ . Fiscal spending refers to all stimulus packages announced by country  $i$  till April 9, 2020. The independent variables include  $\overline{\text{Stringency}}_i$  (the mean stringency) and  $\log(\text{COVID cases})_i$  (the number of confirmed cases in country  $i$  till April 9, 2020). These two variables can be correlated because the severity of COVID-19 spread influenced the level of economic shutdown measures announced by the government. Nevertheless, there is significant heterogeneity in the timing of economic shutdown as announced by various countries. For example- the US waited significantly longer than India to announce such measures. However, the coefficients  $\beta_1$  and  $\beta_2$  should both be positive, reflecting higher spending due to the impact of the pandemic. Finally, the variable  $\overline{\text{Rating}}_i$  corresponds to the mean of the distance from junk status, based on the latest credit rating for country  $i$  given by the three rating agencies. We expect the coefficient for  $\beta_3$  in the above equation to be positive. A country with a better credit rating is better placed to issue higher debt and with less risk, thus allowing for higher spending if

needed.

Before we discuss the results, it is essential to mention that the variable  $\overline{\text{Stringency}}_i$  is better defined relative to the total number of confirmed COVID cases. The total number of COVID cases has been influenced by country-specific health policies and the availability of testing kits. Hence, it is not uniformly measured across countries and suffers from measurement error issues. In comparison, once announced, the economic stringency index is more uniformly measured across countries.

*Results:* We present the raw correlation between  $\overline{\text{Stringency}}_i$  and  $\text{Stimulus}_i$  in Figure 2. It shows that for every 10 percent increase in stringency, the stimulus goes up by 2 percent of GDP. As can be seen from the figure, India is an outlier in the bottom right corner (high stringency, low stimulus). The fiscal stimulus of India seems to be much lower relative to the level of economic stringency.

We report the results from estimating the equation 1 in table 2. In column (1), when we regress stimulus only on mean stringency, we find that the coefficient  $\beta_1 = 0.22$ . It shows that the correlation between stimulus and repression stringency is positive and significant. And a 10 percent increase in mean stringency (roughly equal to one standard deviation) increases the fiscal stimulus by 2.2 percent of GDP. In column (2), we report the results when the stimulus is regressed only on  $\overline{\text{Rating}}_i$ . Here again, we find that countries with higher rating have a higher stimulus. We find that a 10 percent increase in a credit rating is also associated with a 0.47 percent increase in the stimulus. Similarly, in column (3), we find that stimulus is also higher in countries with a high number of COVID-19 cases.

In columns (4), (5), and (6), we report results based on using two of the independent variables together. When we include mean stringency and mean ratings as in column (4), we find both have a positive and significant correlation with stimulus. Similarly, both mean stringency and log of COVID cases are positive and significant in column (5). However, when we include the log of COVID-19 cases and mean ratings, only the latter is significant. In column (7), when we include all three of these variables, only the coefficients on mean



stringency and mean ratings stay positive and significant. Finally, in column (8), we also include other country-specific controls like GDP and GDP per capita in our regression. Even in this case, we find that the coefficient on mean stringency stays positive and significant while that on the mean credit rating becomes insignificant. In this case, a 10 percent increase in mean stringency increases the fiscal stimulus by 1.3 percent of GDP. Overall, it shows that the mean stringency is one of the most significant factors that determine the fiscal stimulus of a country. The stimulus also seems to be correlated with the credit rating of the country in most cases.

Since the stimulus is correlated with sovereign ratings, it probably explains low expenditure by India until now. Much of the fiscal stimulus must be funded by borrowing, whether domestically or from foreign multilateral institutions, financial firms, and NRIs. However, doing so involves rating downgrade risk because the sovereign bond rating for India is just above the investment-grade.<sup>8</sup> If India borrows excessively and that creates a fear of crowding out private investments or consumption, the ratings may face a downgrade.

To further understand the Indian situation, we look at other countries with a similar credit rating as India. These countries and their rating-relevant indicators, including mean stringency, fiscal spending, and growth rates, are reported in Table 3. In the top row, we mention India's outcomes in terms of the stringency measure (as of April 9, 2020), stimulus, GDP per capita, debt to GDP, inflation, and real GDP growth rates. Two features stand out. First, compared to the benchmark numbers presented above, India has spent much lower (column (2)). This shows that the current discussions about the further fiscal stimulus are justified. Second, among these set of countries, only Italy has had high stimulus. To compensate for its losses, it has spent over 20% of GDP, a massive number that is way off our benchmark estimates. However, Italy could depend on Euro bonds, and so the fear of credit rating loss is less severe for it. We can also draw a close comparison with Hungary and Indonesia, which have had a lower economic impact. Both of these countries have spent

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<sup>8</sup>Moody's rating for Indian sovereign bonds is Baa2 (two levels above junk grade); Fitch and Standard & Poor ratings are BBB- (one level above junk grade).

over 2 percent of their GDP.

It can, however, be argued that India has less borrowing space compared to its peers. For instance, compared to Hungary and Indonesia, India's macroeconomic indicators are weaker. It has higher inflation (column (8)) and higher debt to GDP ratio (column (7)). Its GDP per capita is also lower than in the other two countries. Furthermore, India has recently struggled with a low GDP growth rate. These factors increase the downgrade risk for India. It is, therefore, vital to create fiscal space by reallocating existing expenditures from the budget.

So how much fiscal spending should India commit to fighting COVID-19? If India follows the international pattern, it would have to spend around 3.5 percent of GDP - the "predicted" fiscal stimulus based on the full specification in column (8) of table 2. The estimated 95 percent confidence interval puts it within 2.2-4.8% of GDP. We also provide the mean and confidence interval of the predicted spending by India for each of the regression specification in the last two rows of Table 2. The higher side of our range is closer to the stimulus suggested in the media and public discourse.

## 4 Fiscal Deficit situation post COVID-19

The spread of the pandemic will impact the fiscal deficit situation in India through two channels. First, the governments have to allocate a sizable portion of their budget to fight the pandemic. This includes expenditure on health as well as social security and other payments needed to control the economic fallout due to this event. Second, the enforced lock-down and containment measures will lead to a fall in economic activity. It will lead to a fall in the GDP as well as tax collections. So not only will the expenditure go up, but the tax receipts will also go down. However, the question is by how much.

Given the nature of the pandemic and the general uncertainty right now, it is a challenging exercise to forecast the exact impact on the GDP. We thus take the current level of

expenditure commitment by the central government and calculate the impact on the fiscal deficit under various GDP realizations.

The baseline case corresponds to the fiscal deficit numbers projected in the budget for the FY 2020-21. The budget projected a fiscal deficit of 3.5 percent for the current financial year. Given COVID-19, the central government then announced a slew of measures to contain the economic fallout due to the pandemic in mid-March. The fiscal package announced by the government amounted to Rs. 1.7 lakh crores or 0.8 percent of the GDP. Throughout our calculations, we also assume that domestic five-year sovereign bonds at 6% interest per annum are used to fund the entire additional expenditures.

We look at three counterfactual scenarios for the central government fiscal deficit, given this additional fiscal commitment. We also assume that the rest of the budget allocations remain the same. If the government reduces other allocations under the budget, it can keep the overall expenditure lower, leading to a lower deficit. However, the overall revenues may also fall due to difficulty in disinvestment during such periods. So, we assume all other expenditures and revenue stay at the level announced in the budget, except the additional fiscal expenditure declared under the stimulus package.

We consider three main scenarios for FY 2020-21 GDP, 1) no fall in GDP, 2) 10 percent fall in GDP, and 3) 20 percent fall in GDP. Under each of these, the government can provide an extra stimulus of 0.8 (low), 2.2 (medium), or 4.8 (high) percent of GDP. We also assume that the deficit is funded by issuing 5-year G-Sec bonds, which increases the interest burden for FY 2020-21. We report the estimated fiscal deficit in table 4.

Scenario 1 corresponds to the case where we see no fall in the GDP relative to the projected numbers in the budget. It is the most optimistic scenario, under which the expense goes up in line with the stimulus package, but there is no impact on the GDP. Also, the fiscal boost successfully counteracts the fall in economic activity, both during and after the lockdown. It assumes that the effects on the household, firm, and bank balance sheets are minimal. If this turns out to be the case, the deficit should rise by an amount equal to the

INR 0.38 trillion for the current stimulus. The estimated fiscal deficit under Scenario 1 and 0.8 percent stimulus is then 3.7 percent (column (1)).

Scenarios 2 and 3 paint a grimmer picture for both the economy and the fiscal balance sheet. We consider, under scenario 2, a case where GDP shortfall is 10 percent compared to the estimates in the budget. This drop is in line with what one observed in China, a country with a large population like India and a similar healthcare infrastructure. Under a case with zero feedback into tax revenues, we expect the deficit to rise to 5.3 percent of GDP (column (2)) under the low fiscal stimulus case. Of course, tax revenues will also fall when households' and businesses' earnings fall. As per our estimates, the elasticity between GDP and tax revenues (direct + indirect) is 1.05.<sup>9</sup> So a 10 percent fall in GDP is associated with a 10.5 percent reduction in tax revenues. For the medium and high stimulus cases, the fiscal deficit will climb to 5.7 and 6.3 percent, respectively (columns (3) and (4), respectively).

Finally, we consider the scenario of a 20 percent fall in GDP for India. The numbers from China that motivated Scenario 2 may be optimistic from a democratic country's perspective. China implemented extreme lockdown measures and used invasive tracking methods to control the pandemic. Probably, India will not be able to implement measures as strict as China, and the economic lockdown can last longer. In a worse scenario, the aggregate GDP shortfall can be 20 percent compared to the budget estimate. If so, under the low stimulus case, the fiscal deficit would jump by 2.0 percentage points compared to budget estimates to 7.3 (column (5)) percent of GDP. Similarly, for high stimulus case, it can reach up to 8.4 (column (7)) percent.

As briefly mentioned above, the actual shortfall in GDP will depend on how the crisis evolves, but our numbers give a sense of the likely future outcomes. One crucial point that we glossed over in the above calculations relates to the discussion on the fiscal multiplier. The current fiscal stimulus package announced by the central government is 0.8 percent of GDP, and they will probably announce another package soon. It can directly add another

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<sup>9</sup>We use tax revenues and nominal GDP for India between 1991-2019 to compute this elasticity. The actual change in tax relative to GDP could be much higher in crisis periods.

1-2 percentage points to the stimulus. Based on the past studies (see [Dave et al. \[2018\]](#)) the fiscal multiplier for India is low. So, the fiscal stimulus will, at best, lead to a one-to-one increase in the GDP, i.e., 1-2 percent. It is thus unlikely to cover for the entire loss in economic activity. Furthermore, we think that the boost to consumer spending under this stimulus package can be much lower than what is suggested by the estimates based on past data. The fiscal stimulus might not work in the standard fashion if the markets are closed and consumers are confined to their homes.

To complete the discussion, we also perform a similar analysis with state-level fiscal deficits, using the FY 2018-19 information.<sup>10</sup> Since the states have not announced any massive stimulus package like the central government, we calculate the increase in aggregate state-level fiscal deficit only on account of a reduction in GDP. Under Scenario 2, the state-level fiscal deficit will climb to 3.2 percent, and under Scenario 3, i.e., 20 percent GDP shortfall, it will increase to 3.6 percent.

## 5 Discussion

This paper is motivated by the belief that while the COVID-19 pandemic remains a health crisis primarily, its effects on the economy must be closely monitored. Also prompt corrective actions are necessary to ensure that both the effects and after-effects of the crisis are minimized.

In this line, several commentators and experts have argued for massive fiscal boosts. When the uncertainty is high, private markets break down, and fiscal boosts are essential to ensure financial stability. We agree with these observations. However, we argue that even the existing fiscal boost of INR 1.7 trillion, which at 0.8 percent of the estimated GDP is small, can have significant effects on the fiscal deficit.

We have shown that unlike the GFC, the fiscal deficit under COVID-19 crisis might end

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<sup>10</sup>The state-level budget information comes out with a lag and is not available for all states in the public domain.

up much larger if not carefully monitored. The higher the fiscal deficit now, the slower will be the recovery path to FRBM mandated target. It will not only lead to crowding out of private investments in the current fiscal year, but also in the foreseeable future. Additionally, as seen under GFC, emerging market economies also face a larger risk of credit rating downgrade ([Amstad and Packer \[2015\]](#)). If that happens, the borrowing by Indian firms will suffer even in the international market. The events of rating downgrade are associated not only with an increase in credit spread ([Cantor and Packer \[1996\]](#)), but also a flight of capital as many institutional investors are not allowed to invest in non-investment grade securities ([Becker and Milbourn \[2011\]](#)).

Notwithstanding these issues, fighting COVID-19 requires a massive mobilization of resources. While monetary policy can provide liquidity support, the role of fiscal policy cannot be ignored. It goes without saying that if the slowdown persists for a while, disinvestment will not be a very lucrative option to compensate for lower tax receipts. An immediate subsidy rationalization and higher disinvestment once the economic conditions improve, will help to bring down the fiscal deficit at a much faster rate. This will prevent a recurrence of the fiscal deficit overhang, as seen in the period after the GFC.

So, where should the government find the much-needed funds? By our estimates, another Rs. 4.5-10 trillion (i.e., up to 4.4 percent of GDP in expenditures above the budget estimates) may be needed depending on how long the harsh social distancing measures persist. There are three main ways to do it. First, borrow domestically or abroad (including from the Indian diaspora), print money, or cut expenditure, i.e., rationalize subsidy or postpone non-essential expenditure. We exclude the option of raising taxes at the current juncture because it will undermine domestic demand which is essential for a quick rebound. [Dave et al. \[2018\]](#) show that consolidating fiscal balance sheet with additional taxation is associated with a negative fiscal multiplier. While the first two options are viable, we think there is a good reason to consider the third carefully.

## 5.1 A case for subsidy rationalization

The periods of extreme crises are also opportunities to conduct deeper reforms. The current subsidies towards food, fertilizer, and petroleum add up to nearly Rs. 2.28 trillion, part of which can be re-directed towards direct benefit transfer schemes and healthcare expenditures. [Kapur and Subramanian \[2020\]](#) estimate Rs. 1-1.5 trillion can be redirected away from subsidies. In the most recent budget, fertilizer and petroleum subsidies account for INR 1.1 trillion. Food subsidies account for another 1.1 trillion. We present this breakdown in [table 5](#) below.

Of the total Rs. 2.28 trillion budgeted for subsidies, over 0.71 trillion is towards fertilizer subsidies. There have been arguments about the unintended long-term consequences of fertilizer subsidies ([Gulati and Banerjee \[2016\]](#)). While it has raised the consumption of fertilizers and raised farm yields, it has not increased production to match the consumption increase. A longer-term concern is that the subsidy has resulted in an imbalance in the use of nutrients in agriculture, which again has long term implications. A rationalization of fertilizer subsidy can, therefore, improve agriculture input markets in India.

The most recent economic survey (Economic Survey of India, 2019-20) also points to food subsidies as an inefficient outlet for public money. This component of subsidies has a large budget allocation of 1.15 trillion Rupees in the current financial year. A significant portion of this subsidy is used for funding the food corporation of India (FCI), which has a vast infrastructure of agricultural output procurement and distribution. A big part of this subsidy funds the difference between procurement and selling prices of agricultural output. The economic survey argues that it has distorted market mechanisms in the agricultural output market and has led to large buffer stocks with the FCI. Deviating part of the 1.15 trillion-rupee subsidy towards direct transfers ensures that the benefits reach the farmers without distorting market incentives in the process. Also, this expenditure leads to excessive borrowing by the government, which in turn puts extra pressure on the lending institutions as well as leads to crowding out of private investment. Overall, this rationalization is essential

not only from the perspective of keeping fiscal deficit lower today but also to reduce market distortion.

If the government can prune even 1/3rd of this basket of subsidies, it will immediately release some Rs 0.75 trillion of funds. Once matched with delaying some of the planned expenditure, it can free up another trillion rupees for expenditure. The remaining can be borrowed from the domestic market and through the NRI deposits. Another option is for states to directly borrow long term from multilateral institutions if possible.

The amount thus saved can be directly funnelled into providing relief measures against COVID-19. It can be used to upgrade the health infrastructure as well as provide social security to those in need. The JAM (Jan Dhan-Aadhaar-Mobile) infrastructure that has been developed in the last few years can be leveraged to provide direct transfers.

## 6 Conclusion

Our paper provides calculations of potential fiscal deficit for India in the FY 2020-21 to support expenditure related to fighting COVID-19 pandemic. We show that India can spend 2.2-4.8% of its GDP based on a global benchmark. However, the risk of a rating downgrade and fiscal deficit spike will make it harder to borrow and spend in the future. The government can, therefore, use this crisis as an opportunity to rationalize existing subsidies to mitigate the economic fallout due to COVID-19 as well as prevent debt overhang in the future.

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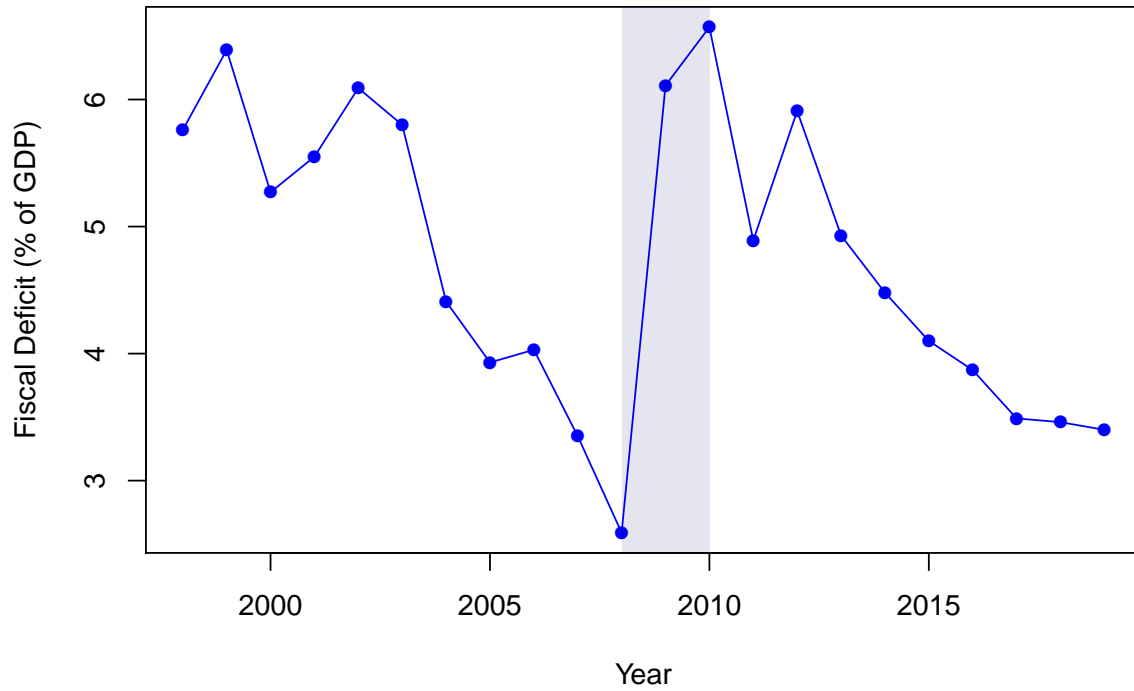
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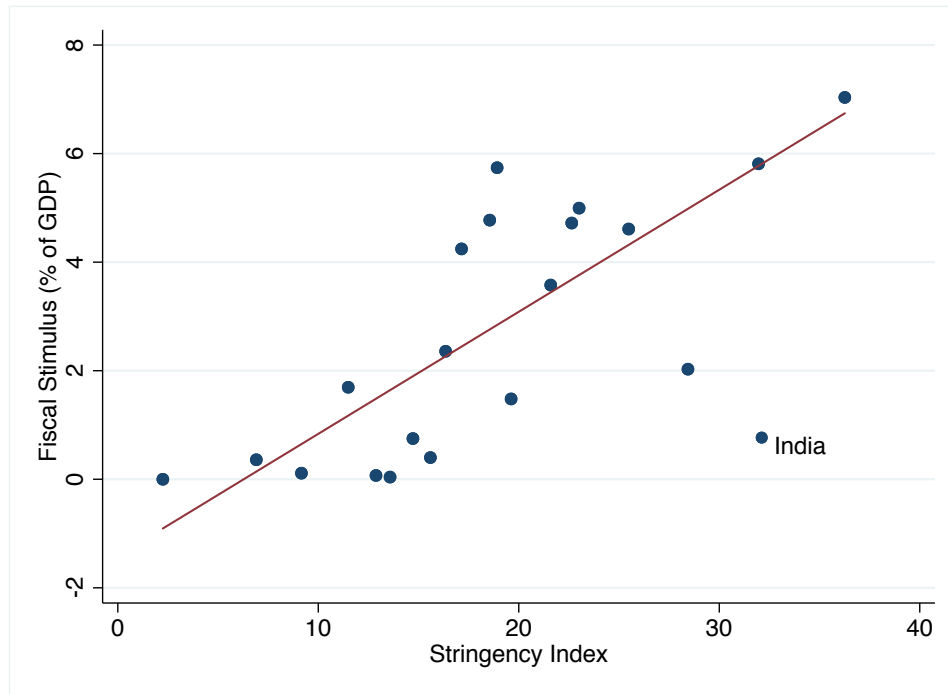
# Figures

Figure 1: India's Fiscal Deficit (% of GDP).



Notes: The above figure shows the time series of fiscal deficit for India as percentage of GDP. The grey box represents the 2008 recession.

Figure 2: Fiscal Stimulus vs Mean Stringency Index



Notes: The bin-scatter plot gives correlation between Fiscal Stimulus and Mean Stringency Index (as on April 9, 2020).

# Tables

Table 1: Fiscal Deficit

States	GSDP (2018-19)	Gross Fiscal Deficit (2018-19)	Revenue Deficit (2018-19)	Debt (% of GSDP) 2018-19	Fiscal Deficit (% of GSDP) (2018-19)
Manipur	26	3	0	40.3	11.7
Jammu and Kashmir	154	17	-8	48.1	11.3
Mizoram	22	2	-1	34.7	7.6
Chhattisgarh	312	19	-1	21.9	6.0
Goa	77	4	0	26.5	5.3
Himachal Pradesh	153	8	-2	35.2	5.1
Nagaland	27	1	-1	38.8	4.9
Bihar	557	25	-7	31.0	4.5
Arunachal Pradesh	25	1	-6	33.9	4.1
Andhra Pradesh	863	34	12	32.8	3.9
Madhya Pradesh	809	29	0	24.7	3.5
Punjab	527	18	13	40.7	3.4
Sikkim	27	1	-1	25.4	3.4
Meghalaya	34	1	0	32.7	3.3
Rajasthan	943	31	29	33.0	3.3
Telangana	861	29	-4	16.7	3.3
Assam	324	10	-7	17.8	3.0
Kerala	782	24	17	30.6	3.0
Haryana	734	21	11	26.0	2.8
Odisha	496	14	-14	22.9	2.8
West Bengal	1,178	32	8	34.0	2.8
Tamil Nadu	1,664	46	23	21.7	2.7
Karnataka	1,535	40	-1	19.8	2.6
Uttar Pradesh	1,668	44	-28	38.1	2.6
Jharkhand	308	7	-6	27.2	2.4
Tripura	50	1	-2	25.4	2.4
Uttarakhand	246	5	1	24.4	2.2
Gujarat	1,502	32	-3	19.8	2.1
Maharashtra	2,633	56	12	16.6	2.1
Puducherry	37	0	0	20.8	1.1
Delhi	780	1	-5	0.7	0.1
All States/UTs	19,354	556	13	24.8	2.9

*Notes:* The figures for GSDP, Fiscal Deficit and Revenue Deficit are expressed in Rupees '000 crores. Positive number represents a deficit while negative represents surplus. Furthermore, the figures for All States/UTs are obtained by summing the columns in the table (except for the last two columns). Source: RBI.

Table 2: Fiscal Stimulus in Response to Economic Stringency

	Stimulus (percent of GDP)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Stringency	0.225*** (0.045)			0.166** (0.052)	0.123* (0.061)		0.133* (0.066)	0.134* (0.066)
Rating		0.470*** (0.114)		0.350** (0.115)		0.266 (0.137)	0.294* (0.135)	0.195 (0.197)
log(COVID-19 Cases)			0.610*** (0.126)		0.434* (0.181)	0.467* (0.184)	0.184 (0.229)	0.237 (0.319)
log(GDP)								-0.221 (0.401)
log(GDP per capita)								0.458 (0.554)
Observations	95	85	94	85	95	85	85	85
R-squared	0.20	0.16	0.20	0.26	0.25	0.23	0.27	0.28
	Estimated fiscal expenditure for India (% of GDP)							
Mean	5.9	2.2	3.6	4.7	5.2	3.2	4.6	3.5
Range	(5.1-6.6)	(1.8-2.7)	(3.2-4.0)	(3.8-5.5)	(4.4-6.0)	(2.7-3.8)	(3.7-5.6)	(2.2-4.8)

Notes: The table is based on regression equation 2. All variables are based on the information released until April 9, 2020. The stimulus is the percentage of aggregate fiscal stimulus to GDP declared by country  $i$  to fight COVID-19. The Mean Stringency is the cumulative level of economic repression in country  $i$  as measured until April 9, while COVID cases are the number of reported cases till April 9. The variables GDP and GDP per capita are based on 2019 numbers from World Bank Development Indicators. The last two rows give the estimated mean and 95 percent confidence interval of the fiscal stimulus for India under each specification. \*\*\*-  $p < 0.001$ , \*\*-  $p < 0.01$  and \*-  $p < 0.05$

Table 3: Fiscal Stimulus in response to economic stringency

Country	Stringency (average)	Stimulus (% of GDP)	Moody's	S&P	Fitch	GDP Per Capita (PPP)	Debt to GDP (%)	Inflation (%)	Growth (Q4 2019) (YoY %)	Growth 2020-21 (P) (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>India</b>	32	0.86	Baa2	BBB-	BBB-	6,134	69	5.80	4.71	7.00
<b>Indonesia</b>	28	2.22	Baa2	BBB	BBB	11,063	29.30	2.70	4.97	5.10
<b>Thailand</b>	14	0.67	Baa1	BBB+	BBB+	19,051	41.50	0.40	1.55	3.00
<b>Mexico</b>	10	0	A3	BBB+	BBB	19,845	54.10	2.90	-0.49	1.30
<b>Russia</b>	16	0.24	Baa3	BBB-	BBB	27,588	13.80	3.50	2.11	1.90
<b>Hungary</b>	26	2.35	Baa3	BBB	BBB	31,102	66.60	3.40	4.50	3.30
<b>Italy</b>	45	23.53	Baa3	BBB	BBB	41,830	133.40	0.30	0.11	0.50
<b>Bulgaria</b>	17	8.22	Baa2	BBB	BBB	21,960	19.30	3.10	2.90	3.20
<b>Portugal</b>	21	4.41	Baa3	BBB	BBB	33,415	119.50	0.30	2.30	1.60

Notes: This table provides performance and fiscal stimulus by countries in the Baa2 rating category. The Mean Stringency is the cumulative level of economic repression as measured until April 9 rounded off to nearest integer. CPI inflation as of December 2019. GDP per capita (PPP adjusted current international Dollars) are based on 2018 numbers from World Bank Development Indicators. Real GDP growth rates are as of December 2018.

Table 4: Scenario Analysis: Fiscal Deficit vs Spending for India

	Fall in GDP						
	Scenario 1 (0 %)		Scenario 2 (10 %)			Scenario 3 (20 %)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Stimulus (% of GDP)	0.8	0.8	2.2	4.8	0.8	2.2	4.8
Stimulus (INR Tn)	1.70	1.70	4.95	10.8	1.70	4.95	10.8
Current FY burden (INR Tn)	0.38	0.38	1.14	2.48	0.38	1.14	2.48
Fiscal Deficit (% of GDP)	3.7	5.3	5.7	6.3	7.3	7.7	8.4

Notes: This baseline projected fiscal deficit for FY 2020-21 is 3.5 percent. The stimulus numbers are based on the projected GDP in FY 2020-21. The current FY burden corresponds to the interest payments by the government on a 5-year G-Sec bond.

Table 5: Subsidies Over the Years

Year	Food		Fertilizer		Petroleum	
	INR Tn	Sh. GDP	INR Tn	Sh. GDP	INR Tn	Sh. GDP
	(1)	(2)	(3)	(4)	(5)	(6)
2016-17	1.10	0.72	0.66	0.43	0.28	0.18
2017-18	1.00	0.66	0.66	0.43	0.25	0.16
2018-19	1.01	0.67	0.71	0.47	0.25	0.16
2019-20	1.09	0.72	0.80	0.53	0.39	0.26
2020-21	1.16	0.76	0.71	0.47	0.41	0.27

Notes: The table is based on the India budget for financial years 2019-20 and 2020-21; the actuals for financial years 2015-19.