

Impact of Covid-19 on the Indian Economy: An Analysis of Fiscal Scenarios

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Abstract

Amidst the economic slowdown triggered by the outbreak of the COVID-19 pandemic in India there have been many demands for the government to announce a large fiscal stimulus to support the economy. Economic growth and tax revenues remain uncertain in 2020-21 making it challenging for the government to finance any addition to the fiscal deficit. In this paper we work out alternative scenarios of fiscal deficit for 2020-21. We find that in our baseline scenario, assuming a 5% contraction in real GDP and a 14.4% contraction in net tax revenue, fiscal deficit of the central government will be 6.2% of GDP.

JEL: E6, H2, H5, H6

Keywords: Fiscal deficit, Covid-19, Fiscal projections, Government borrowing, Tax revenue.

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We are grateful to Josh Felman for helpful discussions and comments. All errors are our own.

I. Introduction

The outbreak of the Covid-19 pandemic is an unprecedented shock to almost every economy in the world. In response to the spread of the virus, many governments announced lockdowns. India announced a nationwide lockdown on March 24. This continued for close to two months and is currently continuing in some form or the other throughout the country. While rural areas unlocked relatively quickly, urban India continues to see lower economic activity (Dev and Sengupta 2020).

Shocks to the economy during any crisis operate at two levels: supply-side disruptions and reductions in aggregate demand. Macroeconomic policy responses to an economic crisis are typically of two types: (i) Expansionary monetary policy which includes reduction in policy rates, reserve ratios and/or expansion of money supply, and (ii) Expansionary fiscal policy which involves an increase in government expenditure and/or a reduction in taxes.

In India most of the policy response so far has been to try and ease supply constraints and allow movement and production of goods, particularly essential goods (Dev and Sengupta 2020). There have also been some attempts at pushing up demand. The Reserve Bank of India has announced a slew of monetary measures (cut in repo rates, cut in Cash Reserve Ratio, freeing up liquidity in the banking sector etc) since the imposition of the lockdown (Sengupta and Felman 2020). The Finance Minister has announced a package (“Atmanirbhar Bharat Abhiyaan” package) of policy initiatives targeted at low income households and micro, small and medium enterprises which are likely to be most vulnerable in the broad-based economic slowdown. The total amount of the package has been announced to be Rs 20 trillion (or roughly 10% of GDP).

However, a careful analysis reveals that the actual amount of fiscal stimulus offered by the government has been around 2-3% of GDP (Sengupta and Vardhan 2020). As a result, demand for a larger fiscal stimulus has been emerging from various quarters (Sen et. al 2020). Several economists have argued that spending on welfare measures should be increased significantly, by 5% of GDP or more (Subramanian 2020).

As an economic revival strategy, India can either try to restart the economy along with stringent safety rules and tight containment zones, and reduce the damage for firms and households so that they require less economic support, or try to implement large fiscal packages with income support, unemployment benefits, subsidies to businesses, etc. Adopting either strategy requires that we first estimate the fiscal deficit that may likely materialise primarily because of the shortfall in revenues. In this paper we work out potential scenarios of fiscal deficit to GDP ratio of the Union government for 2020-21 assuming a status quo on fiscal stimulus.

The fiscal deficit of the Union government in 2019-20 was 4.6% of the GDP, highest since 2012-13. Reduction in revenues (tax, disinvestment etc) will increase this further in 2020-21 even without any additional spending. Starting from the revised estimates of the 2019-20 Union Budget, we apply our assumptions and project the revenues of the Union government for 2020-21 for our three scenarios.

Specifically, we do a baseline, a pessimistic case and an optimistic scenario. We find that in our baseline scenario, explained in Section 3, the fiscal deficit of the Union government in 2020-21 will increase to 6.2% of GDP. In our baseline projections, corporate taxes fall by 17.6%, income taxes fall by 7%, GST falls by 4%, customs duties and Union excise duties contract by 20% and 22.2% respectively. Net tax revenue declines by 14.4% after taking into account the States' share of tax revenues.

Keeping our assumption about real GDP growth and inflation constant for the sake of simplicity, in our optimistic scenario we assume that tax revenues fall by roughly 10% less than the baseline numbers whereas in the pessimistic scenario the revenues fall by 20% more than the baseline estimates. This gives us a fiscal deficit of 5.6% in the optimistic scenario and 8.1% in the pessimistic scenario.

Following the government's decision to increase its market borrowing program by Rs 4.2 lakh crore, to tackle the Covid-19 outbreak, analysts at Bank of America estimated the Union government's fiscal deficit to be 5.8% of the GDP in 2020-21 (PTIa 2020). According to analytics firms Fitch solutions, fiscal deficit may rise to 6.2% of GDP because of weaker revenue collections and increased expenditures on account of Covid-19 (PTIb 2020). Credit ratings agency India Ratings expects the fiscal deficit to reach 7.6% of GDP mostly due to shortfall of tax revenues (Singh 2020).

According to the Monetary Policy Report of the RBI published in April 2020, Professional Forecasters estimated the central government gross fiscal deficit for 2020-21 to be 3.6% of GDP and the combined centre and state deficit to be 6.5% of GDP (RBI 2020). World Bank in a report has projected the combined deficit to be 9% of GDP in 2020-21 whereas global rating agency Standard and Poor has projected the same to be 11% of GDP (Business Line 2020) (PTIc 2020). Moody's Investors Service has estimated that weaker revenue and disinvestment receipts will drive the central government fiscal deficit to 5.5% of GDP (PTId 2020). Thus broadly, the forecasts for the central government fiscal deficit for 2020-21 range from 3.6% to 7.6% of GDP and our baseline forecast falls within this range.

In a recent paper, Balajee et al. (2020) undertake a similar scenario analysis to work out possible fiscal deficits of the central government for 2020-21. They assume three GDP growth scenarios; no fall in GDP relative to the projected numbers in the Budget of 2020-21, a 10% fall and a 20% fall in GDP. They find that in the most optimistic case of no contraction in GDP, fiscal deficit will increase to 5.3% whereas in the worst case of 20% contraction in GDP and a high fiscal stimulus, fiscal deficit can be 8.4%.

Our range of fiscal deficit is consistent with their estimates. However, they do not adopt a disaggregated approach to work out the scenarios, assume multiple GDP growth rates and assume different stimulus amounts that increase government's expenditure in the different scenarios. We on the other hand assume that the nominal expenditure remains the same as budgeted and the real GDP contracts by 5% in all our scenarios. This implies that our scenarios are relatively more conservative than theirs.

Over the last few years, on multiple occasions the normal government expenditure has been substituted by loans in the books of various public sector enterprises to avoid fiscal slippages (Financial Express 2019). This has been highlighted by the Comptroller and Auditor General of India who in its report (CAG 2018) described a few case studies where such off-budget borrowing has been steadily taking place thereby distorting the government's fiscal math.

For instance, the accumulated liabilities on account of food subsidy payments have steadily gone up from around Rs 23,000 crore in 2011-12 to more than Rs 80,000 crore in 2016-17. Ordinarily these should have been covered by budgetary allocations. However, to cover its financial requirements the Food Corporation of India (FCI) has been issuing bonds as well as borrowing from the National Small Savings Fund (NSSF). These borrowings do not get reflected in the central government's official fiscal deficit numbers.

In 2018-19 the FCI borrowed close to 1% of GDP from off-budget sources (Chinoy and Jain 2019). It is estimated that in 2020-21, the liabilities of the FCI alone may go up from Rs. 2.5 lakh crore to Rs 3.5 lakh crore. To get a sense of the overall fiscal deficit for 2020-21, one therefore needs to add such off-budget items to the projected deficit numbers.

We also need to add State deficit levels to the projected central government fiscal deficit. In view of the unprecedented situation due to Covid-19 outbreak, as part of its overarching “Atmanirbhar Bharat Abhiyaan” relief package, the central government on May 17 announced that the borrowing limit of the states would be increased from 3% to 5% of Gross State Domestic Product (GSDP) (PIBa 2020). This would give States extra resources worth Rs 4.28 lakh crore. Part of this additional borrowing is linked to specific reform actions to be undertaken by the states. The scheme will be implemented in the following pattern.

1. Unconditional increase of 0.50%,
2. 1% in four tranches of 0.25%, with each tranche linked to clearly specified, measurable and feasible reform actions,
3. Further 0.50% if milestones are achieved in at least three out of four reform areas.

The reforms are to be implemented by the states in the broad areas of universalisation of ‘One Nation One Ration card’, Ease of Doing Business, Power distribution and Urban Local Body revenues. If we assume that most states would succeed in satisfying the first two conditions, then they would be able to borrow an additional 1.5% and accordingly the state deficit would be around 4.5% GDP. Thus, the overall government deficit becomes 10.5% in our baseline scenario, without taking into account the off-budget borrowings that may take place.

II. Macroeconomic environment and Policy options

Unlike the governments of advanced economies that have significantly stepped up spending amidst the pandemic, India has been more cautious. Amid uncertain economic growth and tax revenues this year, financing the budgeted expenditure of Rs 30 lakh crore estimated in the Union Budget, 2020-21, as well as the announced Covid-19 fiscal package, will prove to be a challenge.

Borrowing beyond Rs 12 lakh crore that is on the budget (initially Rs 8 lakh crore and subsequently increased by Rs 4.2 lakh crore) and the off-budget borrowing that was already in the works will be more difficult if domestic savings decline this year. Households are the net supplier of funds to the economy. Household savings has been falling over the last few years. The savings rate has gone down from 23.6% in 2011-12 to 18.2% in 2018-19. The year on year growth rate of household savings fell from 17.6% in 2017-18 to 5.2% in 2018-19. In 2020-21, household savings may go down further as many households may need to dip into their savings to stabilise consumption amidst income uncertainties.

The government normally borrows from households and firms through various financial intermediaries such as banks, life insurance, small savings schemes, provident funds, and the bond market. The hit to incomes may mean that people may save less. They may borrow or may dip into existing savings. The household sector consists of not only households but also household enterprises, or small firms. With lower production and sales, domestic household savings may decline.

At the same time, domestic corporate savings will be used up to pay wages and salaries and maintain higher inventories in absence of a steady stream of revenue. This would result in lower corporate savings as well. This would mean less domestic savings are likely to be available for the government to borrow from.

There is an argument that the decline in discretionary expenditures such as on weddings, cinemas, restaurant meals, holidays, etc. will push up total household savings. But even if discretionary expenditures

decline, the overall effect on the level of household savings will depend on how people's jobs and incomes fare in 2020-21.

Even though the lockdown in India started on March 25, 2020, Goods and Services tax (GST) revenue had already fallen sharply in the month. Collections in March 2020 were 4% less than in March 2019. Revenue from import of goods was 23% less, and the total GST revenue was 8% less than March 2019 (PIB 2020). GST data for the first month of the fiscal year 2020-21 has been worse as April was a month of full lockdown. Collections crashed 72% in the month of April 2020 (The Hindu 2020).

Budget estimates of tax revenue for 2020-21 of Rs 16.3 lakh crore were already an ambitious target over the previous year's revised estimates of Rs 15 lakh crore. It was based on a nominal GDP growth projection of 10% made before Covid-19 hit India. With the outbreak of the pandemic and the subsequent nationwide lockdown, nominal GDP growth and tax collections are expected to be lower.

Although there has been a gradual relaxation in the lockdown from June 2020 onwards, the economy has been limping back to normalcy in June and July. There will continue to be a decline in the production, trade and consumption of goods and services given the persistent supply chain bottlenecks and demand compression. This means that there will be a fall in tax collection, both direct and indirect taxes such as GST, custom duties, excise duties, personal income taxes and corporate taxes as well as in disinvestment proceeds.

Given India's inflation targeting regime, there is not much room for the Reserve Bank of India to print money to finance the budget deficit, a move that is akin to imposing an inflation tax. Hence as a last resort the government may have to borrow from abroad if domestic savings fall, with falling incomes. To be able to do this without incurring high costs, India's public debt must be on a sustainable path. India's macroeconomic stability will be of primary importance. Inflation must remain low, interest rates must stay low, and growth outlook must be positive for public debt to be on a sustainable path. Strong fundamentals will boost confidence in the rupee thereby enabling foreign borrowings.

This is a period of high uncertainty. Global pools of liquidity can be highly volatile in such periods. They may go into a "risk-on, risk off" mode i.e. start moving to US bonds and exit emerging economies like India when the risk perception in international money markets is high. Any emerging economy seen as riskier is likely to see more capital flight when a shock hits global markets. We saw this in May 2013 with Ben Bernanke's Taper Talk (Basu et. al 2014).

High fiscal deficit results in an unsustainable rise in debt and weakens the macroeconomic fundamentals thereby triggering the possibility of a fiscal crisis morphing into a currency crisis. As discussed in Rao (2017), India's public debt of more than 70% of GDP is significantly higher than its middle-income peer countries. The ongoing pandemic and the associated economic slowdown will significantly worsen the situation.

Fiscal consolidation has always been a problem in India which has had to deal with persistent fiscal imbalance (Singh and Srinivasan 2004). In recent times the combined fiscal deficit of central and state governments has been more than 6% of GDP. There is evidence in the literature that high and persistent fiscal deficit in India can be detrimental to economic growth (Rangarajan and Srivastav 2011). The high fiscal deficit of 2020-21 will push up the debt even further unless the government finds suitable ways to finance the deficit and growth revives soon.

III. Baseline scenario

We follow a disaggregated approach to project the fiscal deficit/GDP ratio of the Union government for 2020-21. We start with the individual components of Gross Tax Revenue (i.e. corporation tax, income tax, goods and services tax or GST, customs duties, and Union excise duties). We use the long term averages of the ratios of these components to the relevant aggregates. We would have liked to work out the elasticities of these components with respect to GDP and other aggregates such as imports and corporate profits, but we do not have consistent time series data on GDP going back from 2011-12.

In particular, we calculate the following ratios for the period 2011-12 and 2019-20:

1. Corporate tax/corporate profit before tax,
2. Income tax/GDP,
3. GST/GDP,
4. Customs duties/non-oil imports,
5. Excise duties/oil imports

We calculate the averages of these ratios over the 9-year period. For GST, we get the ratio from 2017-18 since that is when this new tax was rolled out.

We did not have the data for corporate profit before tax (PBT), oil imports and non-oil imports for 2019-20. We took the 2018-19 PBT and increased it by the percentage change in nominal GDP during 2019-20, implicitly assuming that the profit/GDP ratio was unchanged. This is a conservative assumption because the ratio has been falling over the past decade. For the oil imports, we used the 2018-19 value and multiplied it by the percentage change in oil prices (international prices, converted to rupees). We subtracted this from total imports to get the non-oil imports for 2019-20.

Assumptions

In our baseline scenario we make certain assumptions regarding the aggregates for 2020-21. We assume a real GDP growth rate of -5%. This is in line with several recent forecasts by analysts (PTIe 2020) (PTIf 2020) (Mishra 2020) (Scott 2020). We assume consumer prices index (CPI) inflation to be 5%. The pandemic and the subsequent lockdown have caused disruptions to both demand and supply side factors.

On one hand there has been demand reduction owing to postponement of non-essential expenditures and maybe even curtailment of essential expenditures given the overall macroeconomic uncertainty. On the other hand, supply chains have also been disrupted, there has been large scale exodus of migrant labour from urban areas to villages, and availability of credit has become constrained. Given the circumstances, it is difficult to predict which way inflation would go. Even if demand gets revived once the lockdown restrictions are further relaxed it is possible that supply will continue to be hampered. We therefore assume an inflation which is within the target range of the RBI under India's inflation targeting framework.

A -5% real GDP growth and 5% inflation assumption gives a nominal GDP growth rate of 0. In other words, we assume that for 2020-21, nominal GDP will remain the same as in 2019-20. We further assume corporate profit will fall by 20%. Profits of the NIFTY50 companies listed on the National Stock Exchange fell by 15% in the Jan-March quarter. The situation is likely to worsen significantly in the April-June quarter owing to the lockdown. Even if sales and profits improve towards the later part of the year, overall, we expect a 15% decline in corporate profits for this year.

In March non-oil imports fell 21% and in April, by 41%. Accordingly, in our baseline scenario we assume non-oil imports will fall by 20%. Finally, we assume that oil imports will fall by 30% owing to the drastic reduction in oil prices (IANS 2020).

To obtain the component-wise Gross Tax Revenues (GTR) for 2020-21, we multiply the long-term average of the corresponding ratios mentioned above with the projected percentage change in the relevant aggregates. For customs duty/non-oil imports, we take the ratio of 2019-20 and multiply that with the projected non-oil imports for 2020-21. This is because we find that the ratio of customs duties to non-oil imports has been going down in the past few years. The assumption underlying the use of a long-term average ratio is that there is no trend, so averaging just gets rid of some random noise. But if there is a trend, then using a long-term average is not correct and hence we use the last year's ratio.

The average income tax/GDP ratio of the last 9 years (0.22) is much less than the ratio for 2019-20 (0.27). Hence if we use the long-term average, we get a much bigger contraction in income tax revenue for 2020-21 (17%) compared to the contraction in nominal GDP. Instead we have taken a ratio that is closer to the 2019-20 one i.e. 0.25. This gives us the projected GTR for 2020-21. The projected growth in the tax revenues are shown in table 1.

Table 1: Projected growth in tax revenues, 2020-21

Taxes	Baseline Scenario (%)
1. Corporation tax	-17.6
2. Income Tax	-7
3. Goods and Services Tax	-4.1
4. Customs Duties	-20
5. Union Excise Duties	-22.2
6. Gross tax revenue (1+2+3+4+5)	-12.5
Net tax revenue (6 - States' share)	-7.8

Note: The table shows the projected growth rates of the components of gross tax revenue, as well as growth rates of gross and net tax revenues between 2019-20 and 2020-21.

Net tax revenue (NTR) is calculated by subtracting the States' share of revenues from GTR. States share is likely to fall as well owing to the overall reduction in GTR in 2020-21. To calculate this, we first work out the divisible pool of revenues based on the 2020-21 BE (budget estimates). This is obtained by subtracting cess charges, surcharges and the cost of collection of taxes from the GTR. This is because revenues collected from cess and surcharges are not distributed among the states.

We then calculate the ratio: devolved revenues/divisible Pool, as per the 2020-21 BE numbers, where devolved revenues denote the amount that is supposed to be given to the states. We call this the 'budget ratio'. We apply this ratio to the divisible pool estimated based on our projected GTR i.e. devolved resources = the budget ratio * our estimate of the divisible pool. We find that our projected NTR for 2020-21 will grow at -14.4%.

International oil prices have fallen to a two-decade low. In order to benefit from this price decline, given that India is a major importer of crude oil, the government has imposed additional excise duties on petroleum products. Hence some additional revenue is likely to accrue to the central government from

this levy which will not be shared with the states. In a normal situation this additional revenue would have been roughly Rs 1.6 lakh crore. However the prolonged lockdown and related mobility restrictions have dampened the demand for petrol and diesel. We assume that the government will get around Rs 1 lakh crore from this source and accordingly add this amount to the net tax revenue. This gives us a projected NTR growth of -7.8% for 2020-21.

To calculate the Union fiscal deficit, we also need to project the non-tax revenue receipts (interest, profit and dividend) and capital receipts. For non-tax revenue receipts, we adopt the same approach as the components of GTR i.e. we calculate the ratio to GDP for the last 9 years, take the average and then multiply this average with the projected GDP for 2020-21.

We get a contraction in non-tax revenue receipts by 9.8%. For capital (debt) receipts, we assume the same recovery of loans as in 2020-21 BE. For disinvestment (non-debt capital) receipts, we assume the same amount as in 2019-20. Disinvestment proceeds are likely to be low this year given the overall macroeconomic uncertainty and general economic slowdown. We assume a carry forward from last year.

Table 2: Projected fiscal deficit, 2020-21 (Rs Million) in a scenario of 5% inflation and -5% Real GDP growth

Revenue Source	Projections
1. Net tax revenue	1,38,76,482
2. Non-tax revenue	31,18,025
3. Capital receipts	1,49,670
4. Non-debt receipts	6,50,000
Total expenditure	3,04,22,300
Fiscal Deficit (5-(1+2+3+4))	1,26,28,123
Nominal GDP	20,33,98,490
Fiscal deficit/GDP	6.2%

Note: This table shows the projected components of revenue and capital receipts of the Union government and the projected fiscal deficit for 2020-21. All amounts are in Rs. million. The sum of net tax revenue and non-tax revenue receipts is Total Revenue Receipts. Capital receipts include recovery of loans and Non debt capital receipts primarily include disinvestment receipts. Fiscal deficit= Total Expenditure - (Total Revenue Receipts + Total Capital Receipts).

Finally, we assume that the nominal Total Expenditure remains the same as in 2020-21 BE. We assume whatever amount was announced as part of the “Atmanirbhar Bharat Abhiyaan” package will be adjusted by reducing other expense items in the budget such as capital expenditure etc. The projected fiscal deficit for 2020-21 under the baseline scenario is shown in table 2. We get a baseline fiscal deficit to GDP ratio of 6.2%.

IV. Alternate Scenarios

In our baseline scenario we assume a -5% growth in real GDP. However, we cannot assess the exact implications for tax revenues. Hence, we create two alternative scenarios: a worse case and an optimistic case, starting from the baseline and keeping our assumption of real GDP growth and inflation the same.

Table 3: Alternate scenarios of growth rates of tax revenues and fiscal deficit, 2020-21

Taxes	Pessimistic case	Optimistic case
1. Corporation Tax	-34.1	-9.4
2. Income Tax	-25.6	-2.4
3. Goods and Services Tax	-23.3	0.7
4. Customs Duties	-36	-12
5. Union Excise Duties	-37.8	-14.4
Gross tax revenue (1+2+3+4+5)	-30	-6.3
Net tax revenue (6-States' share)	-39.6	-5.5
Non-tax revenue receipts	-9.8	-9.8
Fiscal deficit/GDP	8.1%	5.6%

Note: This table shows the growth rates of gross tax revenue components (in %) under two alternate scenarios: worse case and optimistic case where worse case assumes a 20% contraction in tax revenues compared to baseline and a 10% rise in tax revenues (5% for income tax and GST) in the optimistic scenario.

The worst-case scenario assumes a greater contraction in tax revenues compared to baseline, whereas the optimistic case scenario assumes a rise in tax revenues compared to baseline. We assume a 20% contraction in tax revenues (i.e. components of GTR) in the worst-case scenario.

For the optimistic scenario we assume a 10% increase in revenues from corporate taxes, customs duties and Union excise duties compared to the baseline scenario. Since in the baseline income tax and GST had contracted by less than 10% from 2019-20 values, for these two components of GTR we assume a 5% increase in revenues in the optimistic scenario. Both these scenarios are shown in table 3. We get a fiscal deficit of 5.6% in the optimistic scenario and 8.1% in the worst-case scenario.

V. Conclusion

Our analysis shows that based on an assumption of 5% contraction in real GDP in 2020-21, and the same nominal expenditure of the Union government as stated in the 2020-21 budget estimates, we get a baseline fiscal deficit of 6.2% of the Union government. If we consider the alternate scenarios, then we get a range of fiscal deficit/GDP ratio from 5.6% to 8.1%, depending on the extent of tax revenue contraction.

Increase in government spending beyond the levels already announced would then mean an increase in the fiscal deficit beyond the levels discussed above. This may be financed either if disinvestment revenue turns out to be higher this year due to additional efforts made to sell off Public Sector Enterprises. It may also be that the government receives a higher dividend from the RBI. Government's domestic borrowing has increased and the interest that the government pays to RBI on the bonds it holds will be higher resulting in higher profits of the RBI.

In this paper we have not discussed the Fiscal Responsibility and Budget Management Act (FRBM) and how the present fiscal scenario will put the government off track on meeting its FRBM requirements. That now looks like a certainty and given the pandemic will likely be an acceptable stance. However, if the fiscal deficit is even higher and puts the government's debt trajectory on an unsustainable path, longer term considerations will come into play.

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