COVID – 19
A Macroeconomic Management Plan

Recommendations to the Government of Karnataka

Centre for Open Data Research (CODR)
(Analytics Arm of Public Affairs Centre)

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Preface

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PAC was one of the first civil society-led institutional initiatives to mobilise demand for good governance in India. Dr. Samuel Paul (Founder Chairman) was instrumental in establishing PAC with a select group of friends. PAC is registered under Karnataka Societies Registration Act 1960 as a Society.

Designing and Editing by: PEC

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Introduction and Objectives

This report has been developed by the Public Affairs Centre (PAC) and the Centre for Open Data Research (CODR), the analytics arm of the PAC, for the Government of Karnataka to provide broad data-based predictive analysis of the economic fiscal stress that the COVID-19 pandemic and its after effects will exert on the state. It is not intended as a full and comprehensive report but rather act as a guide that points to broad trends to enable evidence-based decision making.

The COVID-19 pandemic has inflicted a health shock and an economic shock. The extended country-wide lockdown has driven down productivity and disrupted most economic activities. Karnataka, despite being a relatively better-performing state, will also need to prepare for a protracted economic slowdown, and its consequences. The quick and coordinated response of the state government, has however, enabled Karnataka to mitigate the impact from COVID-19, relative to other states. The lower numbers of positive cases, the slowing of the spread of the virus, and the fewer containment zones at the time of the lockdown 3.0, provide an opportunity to operationalise a Macroeconomic Management Plan (MMP) to optimise budget execution and intervene, within a resource constrained framework.

The primary objective of this report is to provide an evidence-based framework to help the state formulate and operationalise an MMP for the year 2020-2021, in response to the COVID-19 challenge. The findings and recommendations set out in this report should help the state optimise resource management, ensure priority spending is met substantively, the interventions for social protection are fully funded, and the exit strategy for a calibrated return to normal economic activity in the state implemented effectively, despite resource constraints.

Executive Summary

The findings from and recommendations of the data analysis presented in this report in brief are:

Findings

Using the economic shock of the 2008-2010 subprime crisis as proxy for the COVID-19 shock in 2019-21, this report provides the estimates of the key budget variables in 2020-21. The major findings of the report are as follows:

1. For FY 2020-21, the total Revenue Receipts are predicted at Rs. 1,60,597 crores which is 12.03% lower than the budget estimate of Rs. 1,79,920 crore, and 9.39% lower than the revised estimate in 2019-20 (Rs. 1,77,255 crore)
2. The estimated total Revenue Expenditure in FY 2020-2021 is predicted to be Rs. 1,74,191 crore which is 3.2% lower than the budget estimates of total Revenue Expenditure of Rs. 1,79,776 crore, and 1.5% lower than the revised estimate in 2019-20 (Rs. 1,76,970 crore)
3. The Revenue Deficit is predicted at Rs. 13,594 crores against the budget estimate of a Revenue Surplus of Rs. 143 crores in 2020-21
4. The estimated total State Own Tax Revenue is predicted at Rs. 1,15,073 crore which is 11.32% lower than the budget estimates of total State Own Tax Revenue in 2020-21 of Rs. 1,28,107 crore, and 3.29% lower than the revised estimate in 2019-20 (Rs. 1,18,989 crore)
5. As a result, the gap between total State Own Tax Revenue and Revenue Expenditure increases to Rs. 591,18 crores in 2020-21 from Rs. 579,81 crores in 2019-20.

Recommendations

The Recommendations made seek to address the four key elements of macroeconomic management in times of crisis: public finance management needs, the calibration of the exit strategy and the macroeconomic interventions required to bring economic activity to near normalcy. In brief these include four types of recommendations:

1. Expenditure Reprioritisation
2. Additional revenue generation
3. Exit strategy action
4. Labour and Employment measures.
Macro-economics in the Time of COVID-19

The COVID-19 pandemic has infected 3.85 million people worldwide with 1.28 million recoveries so far and 270 thousand deaths. Respiratory tract viruses are more difficult to contain as the main route of their transmissibility is a basic to life: Respiration. While the search for prophylactics and vaccines are on, the current R naught (R0) indicates future expenditure ballooning, with over 60% of the population requiring either herd immunity or artificial immunity through vaccine.

The Spanish Flu is the only precedent of a global pandemic that compares with COVID-19. The influenza pandemic of 1918 killed 675,000 people in the United States and 40 million people worldwide in 1918-1919. Infectivity was assumed to be times ten. The economic effects of the 1918 influenza pandemic were however short-term. While the world economy was not nearly as macro-integrated and micro-specialised or public health conscious in 1918, these very factors while reducing the mortality from the corona virus, may perhaps contribute to the domino effect of economic shock. Empirically, it has been seen that the negative economic shock caused by natural disasters permeate to regions and sectors, not directly hit by disasters through inter-firm supply chains and cross-sector labour, capital, trade, services and technology networks. The economic shock of a disaster propagates downstream to customers through lack of supplies and upstream to suppliers through lack of demand. This is similar to the impacts of lockdowns. It has been thus estimated that countries that are expected to face the largest contraction are the US (-6.4%), Italy (-7.2%) and the UK (-6.8%). Indications suggest that India may face a 0 percent growth.

If the lockdowns are successful in containing the virus, recovery in Q3 2020 is a possibility. If not, global lockdowns would be extended by three months and a contraction by 8.9% in 2020 is possible. Although this scenario may rebound in 2021, global GDP may still end up 6% below its pre-corona virus trend. Large emerging economies such as China and India are expected to grow by a little over 1% in 2020. However, the longer the lockdowns will last, the more likely it will become that economies are scarred structurally and the lower the expected rebound after 2020. Essentially this is because the demand shock that follows the supply shock would be even bigger.

Manufacturing

All manufacturing has taken up to 30% hit as demand shock is high. Particularly affected are assembly line products and core sectors which have continuous chemical processes (e.g. Steel).

Trade

With simultaneous supply and demand shock multipliers to the economy, trade has collapsed. This will affect open economies such as Singapore, Belgium and the Netherlands and partially open economies like India. International trade will also be affected by higher transaction costs. Due to travel restrictions and factory shut-downs certain inputs will not be available (forcing firms to look for alternative suppliers) and for those that are available to deliver, the time to market will be longer. Trade will witness resurgence in protectionist actions like hoarding of key medical supplies or stimulating domestic production to external reliance.

Food

Food production depends on how labor intensive and difficult it is to store food. The food sector is facing logistics and supply chain uncertainties, border closures, port lockdowns, flight cancellations and disruptions of goods transport. Exporting countries have imposed restrictions on some of their key food products like rice and wheat. Major importing countries are ramping up purchases to stock up on inventories and ensure food security. For emerging economies like India, besides the above, perishability of many agricultural and horticultural products and the current uncertainty will impact the rural economy through to production cuts which often cannot be reversed quickly. For example, fresh vegetables are labour intensive and difficult to store and farmers need to decide at the time of planting if sufficient labour is available to harvest. Moreover, these farmers have to assess whether there will be sufficient demand for their products at harvest time (30% of the fruits...
and veggies go to hospitality, canned food and street food sectors), as storing is costly and entails quality losses. In the current uncertain environment, this can result in production cuts and, given the growing seasons, such changes can only be reversed in the next planting season a year later. Grain farming might be more resilient, as it involves limited manual labor and grains can be easily stored and for a long period of time.

**Labour & Employment**

Global unemployment levels are expected to increase sharply as firms around the world are forced to lay off workers to save on fixed costs. Workers with flexible contracts will bear the initial brunt of these lay-offs, and there may be a sharp rise of unemployment in countries with flexible labour markets, such as the US and the UK. If India proceeds towards flexible labour markets as envisaged in the proposed labour reforms, it will also suffer. What might aggravate the labor market recovery even more is that demand could be subdued for some time to come, as a feeling of uncertainty will linger among consumers and companies. This is without considering the psycho-social effects of lockdown which some behavioral economists claim may be akin to war-ravaged societies.

Damage to economic growth potential is more likely if spells of unemployment are longer, as these can result in 'scarring'- long periods of unemployment resulting in a loss of skill sets, which leads to low-level job traps in the future. People who cannot find a job can also become discouraged and withdraw from the labor market entirely, which will hurt structural labor supply going forward.

**Hospitality, Tourism & Entertainment Sectors**

These sectors which depend on social proximity are the worst hit with up to 40% reduction in business (as spring and summer are the event horizons they look at).

**Household Demands**

Households cannot spend freely partly because they are in lockdown, partly due to price rise of in-essentials and largely because looming unemployment particularly of the induced structural kind has a demand dampening effect and is pulling down business activity in tandem.

**Little Trouble in Big China**

China is showing that even with the virus apparently under control the economy does not quickly rebound in the next quarter. Movement in large cities in China is still far below normal levels, especially during weekends and after work hours. Meanwhile, China has been forced to close its cinemas after re-opening; social distancing measures remain in place; unemployment remains elevated; confidence has been hit; its international borders are largely closed; and, importantly, its exporters have nobody to sell to. The relatively strict lockdown in Q1 and Q2 followed by a ‘smart’ lockdown with restrictions relaxed may not make the economy normal in Q3 and Q4. This lesson needs to be learnt from the Chinese experience.

**Total Factor Productivity and the Pygmalion Effect**

Lowered expectations and depressed trade will lead to reduced knowledge shares and fewer competitive pressures. Investment in innovation will be scaled down by firms, as their operating costs and fixed costs are expected to rise. The Pygmalion effect will lead to lower productivity and firms will rely on government support. Only public R&D spending will increase due to global efforts to find a vaccine for COVID-19. This in turn may have a crowding out effect on other ancillary research for other pathological agents - another Pygmalion effect.

**Behavioural Perspective: Lockdown Syndrome**
Psycho-social impact of COVID-19 paranoia is also a dampener for economic activity. Lockdown has been like a Stockholm syndrome for many people (excluding the extremely poor and the migrant labour, who have more severe material outcomes to fear). Stockholm syndrome is a trauma response and if lockdown has been a shared trauma of experiencing totalitarianism under a benign dictatorship, there is a deep reluctance to emerge from it fully. Thus, as long as the virus is ‘out there’, lifting of lockdowns will not automatically translate to full activity. Many like women or elders who indulge in conditional employment will prefer to pass.

**Dashed Capital**

Capital markets world over have taken a plunge. Risk pessimism, depressed aggregate demand and the need for marginal workers to dip into savings will effectively dash any hopes of a quick recovery in savings and capital formation.

**Social Net-worth**

Gender Impact: Women disproportionately occupy jobs in sectors most affected by physical distancing measures, and will be overwhelmingly impacted by closures of hospitality, travel and educational institutions which may not be compensated in the medium to short term by employment in the health care sector.

**Human Capital Impact**

It has been demonstrated that children growing up through war/disaster related disruptions of education acquire various learning and attitudinal disorders. A great deal of care is required to cushion the educational and social dislocation of COVID-19 on the performance of students.

**Social Harmony**

Much public media ignominy has been heaped upon certain communities for alleged communal acts of deliberate transmission of the virus, which are not only misplaced but contrary to facts that demonstrate that the great proportion (90%) of the transmission has taken place due to the compulsions of a globalised economy and international travel. The social net worth needs to be protected in a post COVID-19 world with appropriate measures.

**The Dispossessed**

Migrant labour has become a pawn in the entire process. Initially, they have been imbued with suspicion of being carriers and quarantined. Now they are not being allowed to go home for fear of economic impact. The physical misery, economic dislocation and psychological trauma they have faced are untold. Many will also face structural unemployment issues and loss of ancillary skills. Measures to mitigate these must be imagined.
Economy Coronary: India & Karnataka

The first case of COVID-19 in India was reported on January 30, 2020. As of May 8, confirmed cases of COVID-19 stand at 56342, recovered 16540 and 1886 have died. In Karnataka, 705 have tested positive, 30 deaths have occurred and 366 persons have recovered. Most of the cases in India are from local transmission, where people either travelled to COVID-19 infected countries, or came in contact with people who had travel history to these countries.

The Karnataka etiology is slightly different with large number of unknown source cases.

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The ‘statistical rate of growth-based analysis’ by the Indian Council of Medical Research (ICMR): 'Without a lockdown and containment measures, COVID-19 cases could have spiraled to 200,000 by April 11, and 820,000 by April 15. Without a lockdown but with containment measures, COVID-19 cases could have spiraled to 44,000 by April 11 and to 120,000 by April 15’.

Challenges for Government:

1. Strengthening the public medical care facilities, to meet the rising number of COVID-19 cases in the event of an uncontrolled outbreak;
2. Ensuring that the lockdown is implemented successfully and smartly;
3. Maintaining the supply chains of essential commodities; and
4. Ensuring that the lakhs of migrant workers rendered jobless by the lockdown return to their villages.
5. Cushioning the economic impact
6. Ensuring the public finance fall-out is staggered and fiscal stress is minimised.
Economic Impact

The Indian economy was going through a sluggish phase over the last year. GDP forecast for 2019-20 was revised downwards to 5.4 percent. However, COVID-19 has dashed hopes of a revival in the near term. Amidst nationwide lockdown, the country's growth is estimated to have dipped below 5 percent for FY 2019-20. Around 400 million workers employed in the informal economy are at risk of falling deeper into poverty, as per a report by International Labor Organization. According to the estimates by Centre for Monitoring Indian Economy (CMIE), unemployment has risen from 8.4 percent in the week that ended on March 22 to 23.4 percent as of the week that ended on April 5 and likely to increase. Bombay Stock Exchange Sensex fell from 40,363 points on February 24 to 25,981 points on March 23; it has now recovered to 31,876.90 as on May 8th.

Figure 1: GSDP on a Ventilator
Sector-wise Coronaries

Agriculture – The nationwide lockdown has left farmers across the country bereft of agricultural labour just before the crucial harvesting season. Farmers also worry about government procurement and their ability to sell crops, given that many agricultural markets are still closed. Unless the government acts soon, farmers will face a bleak future leading to bankruptcies and suicides. This will severely dent India’s ability to revive its economy since there will be a sharp decline in consumption in the rural sectors leading to impairment of industrial activity.

Textile – Production halts in China and lockdown in India have had an impact mainly because of dependence on China for textile raw materials including synthetic yarn, synthetic fabric, buttons, zippers, and hangers. India also exports cotton yarn to China in bulk quantity, and poor demand in China has caused cotton prices to come down in India.

Apparel – Payment of at least US$2 billion is stuck with foreign buyers because of deferment or cancellation of orders. Closure of retail stores across the country is also adding to losses.

Automotive – The sector has witnessed sluggish demand over the last one year. The present situation has further aggravated the problem due to an acute liquidity crunch. China accounts for 27 percent of India’s automotive part imports. With Wuhan being a major auto hub, the supply chain of the automotive sector has been disrupted.

Aviation – With global travel suspended, airlines are staring at bankruptcy. Physical distancing norms do not bode well for a recovery unless airfares are substantially enhanced.

Hospitality Industry – Demand has declined substantially with owners struggling to recover the fixed costs. Pre-lockdown hotel occupancy rates of 70 percent declined to 20 percent with restaurants losing 30 to 35 percent of their business.

Chemicals – Dependence on China for active ingredients and shortage of essential chemicals amidst the lockdown has resulted in reduced production.

Consumer durables – Electronic appliances are experiencing a slowdown due to lack of demand, reduced economic activity, and supply chain dependencies with China and other impacted countries. India imports around 50 percent of its completely built units of consumer durables from China.

Entertainment and sports – Places of gathering like cinema halls and malls have been closed. Promotional and sport events have also called off.
FMCG – After the lockdown announcement, demand for essential FMCG products spiked up due to panic buying. Grocery items, milk, and hygiene products have seen a surge in demand while supply chain constraints have limited the manufacturing capacities, leading to rise in prices.

E-commerce – Several e-commerce players are unable to service existing orders and are not accepting new orders, even when there is a surge in demand for home delivery.

IT and ITeS – Slowdown in markets have reduced the influx of IT projects from international markets. Remote working has given rise in demand for communication tools, conference platforms, and cyber security apps, among others. These software tools are being used across sectors such as education, finance, and HR to ensure business continuity.

Potential Recovery

The Economist Intelligence Unit has forecast the GDP growth rate for 2020-21 for India at 2.1 percent when compared with China at 1 percent and the US at -2.8 percent. It is likely that post-COVID-19 the banks and NBFCs will face the brunt of a surge in NPAs owing to business failures and defaults by individual borrowers due to job losses. The government will have to adopt a strategy to deal with this situation to ensure that the banking system does not collapse.

Consumer Durables – This sector is likely to pick-up since consumers are likely to restart spending with smaller doses of expenditure on white and brown goods.

FMCG – FMCG is already facing supply chain constraints due to the lockdown. Once things are normalized, it is expected that this sector will be the first to expand capacities.

Pharmaceuticals – Supply chain management and price control are the challenges faced by this sector. R&D is likely to receive a boost due to reduction in dependence on China.

E-Commerce – Government should encourage and facilitate e-commerce operations to minimize the risk of COVID-19. This could essentially mean employment opportunities in logistics sector with improvisations in distribution mechanisms avoiding crowded markets. Individual retailers could be enabled by Government to resort to home deliveries through appropriate applications.

IT and ITeS – If Indian IT and ITeS companies are able to provide uninterrupted services to clients in the US and Europe during this time, then in the post-COVID-19 situation they will be secure and continue to flourish. However, if there is a breakdown in delivery of service at this time, then the overseas clients are likely to set up their own infrastructure to meet their demand for these services. IT companies providing software and ITeS to severely impacted sectors such as hospitality, aviation, and automotive sector are likely to see a cut in their existing business.
Approach to a Macroeconomic Management Plan

While it is axiomatic that the fiscal and revenue deficit will be higher than estimated in the FY 2020-21 budget, the magnitude of these deficits will depend on several factors - the duration and severity of the pandemic, the extent of the lockdown and the exit strategy, the social protection and intervention costs, and the pace and direction of the return to normal economic activity. Like in many other Indian states, following a phase-wise exit strategy, the state of the economy in the next few months will remain fragile in Karnataka too, with limited scope for reduction in the revenue deficit through a revenue mobilisation led recovery strategy.

The results of the data analysis indicate that the outbreak of COVID-19 and its spill-over effects will exert considerable stress on state finances in the FY 2020-2021 mainly from:

- Significant decline in estimated revenues (both SOTR and devolution)
- Ensuring availability of funds to meet essential expenditure of service delivery units
- Expenditure on interventions (including social protection) necessary to ensure a return to normal livelihoods for those in the informal sector and wage-dependent populations

An outline of the approach to operationalise an MMP to tide over the economic repercussions of the prolonged lockdown, and to cope with the fiscal stress that they will generate, follows.

Locksmithing: Policy Response Paradigms

Fiscal and Monetary Policy

A lockdown is a supply shock and can trigger a demand shock in a multi-sector economy with incomplete markets. The effects of fiscal policy are muted because a large fraction of the economy is shut down. Monetary policy, however, can have magnified effects as long as it can prevent the spread of business shutdowns. Also in an incomplete market context with credit market imperfections, partial lockdown shock can ripple into persistent aggregate effects, through a large rise in the rate of unemployment and a protracted decline in Total Factor Productivity (TFP). Poor households typically work in informal sectors, thus direct transfers are likely better targeted and more effective than unemployment benefits. In addition, relatively larger expenditures on public health may be justified, to cover not only COVID-19 responses but also provide boosts to primary care and disease monitoring. In addition, tax cuts to reduce supply-side externalities and encourage resumption of business confidence may be a new deal. Expanding social protection programs to provide cash and in-kind support to vulnerable households to mitigate shock should continue. Higher spending on MGNREGA with a temporary return to food for additional work would be a welcome relief and would act as a cash substitute while effectively utilizing the food stocks without burdening the agriculture sector. Public spending on infrastructure and housing, to stimulate demand would be desirable.

Exit Policy

In developing countries, the benefits of lockdowns may be lower (flattening the curve may not help in countries where health systems cannot cope with status quo demand), while the costs of lockdowns may be higher (where majority livelihoods depend on daily wages presents a public policy conundrum of its own). As an alternative, we propose low cost interventions that limit the spread of disease without halting necessary livelihoods, such as universal cloth masks, hand sanitisation, shorter (high noon) working hours, home delivery, online applications for services etc.

It is suggested that the lockdown exit be gradual with following measures:

1. Essential sectors with physical distancing and working hours restricted to 4 hours a day during daytime only: Wholesale, Retail, Transport, Construction, Infrastructure, IT & ITeS, Manufacture: 30 days (40% staff strength restricted to ages 25 years to 50 years only, non-morbid non-pregnant persons)

2. Essential sectors with physical distancing and full working hours during daytime only: Wholesale, Retail, Transport, Construction, Infrastructure, IT & ITeS, Manufacture.
Hospitality sectors and markets and malls with physical distancing and working hours restricted to 4 hours a day at daytime only. Next 30 days (40% staff strength restricted to ages 20 years to 50 years only, non-morbid, non-pregnant persons)

3. All sectors with physical distancing and full working hours during daytime only: Next 30 days (Full staff strength restricted to ages 20 years to 60 years only, non-morbid non-pregnant persons).

The following additional measures to be adopted by every firm:

1. Weekly check and reporting on health, symptoms, travel and contacts of employees to ESI and local administration
2. Safe practices (use of face masks and sanitiser)
3. Physical distancing of work space and transaction space.

Labouring to Recover

“This is the greatest test for international cooperation in more than 75 years. If one country fails, then we all fail. We must find solutions that help all segments of our global society, particularly those that are most vulnerable or least able to help themselves.” Guy Ryder, DG ILO

1. The Unorganized Workers Welfare Board should be galvanised into action to register all unorganised workers and create contributory funds for health and welfare, suitable funded by government
2. The Construction Workers Welfare Board should step in with bailout packages for workers' health and food security, including waiving the days of days of lockdown from the period required for registration.
3. Minimum wages should be revised across the board to a living wage.
4. The Shops and Establishment Act should be suitably amended to ensure owners fund the costs of and implement physical distancing at workplace.
5. The ESI budget should make special provision for vaccines, prophylactics and medications as well as sanitization and epidemic wards in ESI Hospitals and Clinics
6. Amendments to the Factories Act and Boilers Act should be proposed to improve safe distancing and health monitoring norms for all factories and Boilers

MGNREGA

1. Introduce Labour Security, Safety and Occupational Health norms in MGNREGA: Maximum Age for hard labour to be 60 years, Medical & Health benefits to workers, Training to Workers, Hours of Work to be restricted to 4 hours
2. Minimum Wage as per law for 4-hour period
3. Register those MGNREGA workers who have worked for 90 days as Construction Workers and provide Welfare, Health, Housing and Education benefits to them and their children by utilizing Construction Workers labour cess funds
4. Provide nonphysical work (maintaining records and overseeing) to MGNREGA workers above 60 years of age
5. Introduce urban employment guarantee scheme and unemployment benefit for municipal areas. Urban Employment Guarantee Act (UEGA)

Re-skilling Fund

1. 20% of the PF amount of Employer should go into a Re-skilling fund so that it can be used for training & skillling and on retrenchment, for transitions and market failure in skill financing
2. The Re-skilling fund should be linked to Aadhaar, employment exchange registration and apprenticeship schemes to increase its effectiveness and be
available to all workers (Permanent, Fixed Term and Contractual). The state should contribute funds for re-skilling.

**Labour Reforms**

a. While the ongoing reform measures attempt to enhance security of workers to some extent, efforts seem to be more towards facilitating the use of flexible labour may not be appropriate in the context of economic slowdown and unemployment

b. Hence the measures to introduce flexible labour laws and fixed term contracts should be put on hold.

**Social Measures**

a. Ashraya Housing rates should be increased by Rs 1 lakh to allow for an additional room and increased floor space

b. Hostels and school rooms should be increased in public institutions to avoid overcrowding and spaced seating norms should be enforced for all institutions in addition to compulsory health worker availability and regular health monitoring of all students

c. Enhance the Widow, Old Age and Physically Challenged pension by 100% and provide Rs 100 every quarter for a general health and vitals certificate from a MBBS Doctor every quarter which would be entered in a database

d. Suitable “Health Passport” for Recovered & Quarantines to foreclose stigma.

**A Basket of Fiscal Instruments**

Considering the scale and intensity of the crisis, the Government must consider a mix of fiscal policy options, some of which are recommended as follows:

1. **Leveraging existing funding channels to meet emergency expenditure:**

The COVID-19 response must be funded by drawing from the State/National Disaster Relief Fund (S/NDRF). The combined S/NDRF is estimated at Rs 40,000 crores, which the Government of India (GoI) can enhance to Rs 200,000 crores. The state should, if necessary, seek an additional allocation from the Centre for this purpose. The nature and type of expenditure that can be covered under these funds will also need revision to meet the extraordinary challenge COVID-19 poses. The state should also seek from the GoI, a constructive interpretation of disaster relief, to cover some of the unprecedented expenditure demands that COVID-19 has necessitated.

Expenditure on food security for the poor, the disadvantaged, and the vulnerable sections of the population will constitute priority spending that may be necessary for at least the next six months. It will entail expenditure on beneficiaries who may be outside the PDS network extant. Therefore, it will be wise for the state to draw down additional requirements from the humungous (estimated 80 million metric tons) food grain stocks that the Food Corporation of India holds, with the costs met by the Government of India from the NDRF.

Following the reduction in the state’s share of devolution, the 15th Finance Commission has recommended to the Centre that the state be released an ex-gratia compensation of about Rs 5700 crores. Release of these funds should also be pursued since never has a revenue shortfall been as severe for the state in recent times, as in the time of COVID-19.

Finally, providing work for daily wage earners and migrant workers will pose a challenge. The state must consider recommending to the Government of India, changes in the nature and scale of work offered under the MNREGA, to expand work opportunities for at least the next three months, in rural and urban areas alike, as an interim disaster relief measure. The emphasis must be on
generating employment for daily wage earners and migrant workers in the informal sectors. *A case may be made for reverting back temporarily to Food for Work programs in MGNREGA to supplement the cash based program, so as to cushion the burden on agriculture sector, while ensuring food security and food prices remain stable.*

*It is recommended that all four issues listed above should be represented to the Government of India through a memorandum seeking support.*

2. **Expenditure Prioritisation:**

Reprioritisation of budgeted expenditure between essential and non-essential categories should help reorient and implement ex-ante expenditure controls. A negative list should dictate expenditure cuts. Line departments should also be given targets to achieve savings in budgets allocated. To ensure timely budget releases for priority expenditure, it would be useful to establish a separate stream to clear high priority demands.

i. **Suggested Negative List**

a. Scholarships  
b. Bus Passes  
c. Grant-in-Aid to educational institutions  
d. Diesel Subsidies  
e. Power Subsidies  
f. PSU grants

ii. **Suggested High Priority Expenditure with employment potential**

a. Health (Special provision for disease monitoring, Inoculation program, improvement in epidemic control and vaccine/prophylactic procurement, Public Health Data Tracking)  
b. Social Welfare with attention to improving social spacing in Hostel Infrastructure and tracking inmate health  
c. Agriculture & Horticulture with special provision for direct / online marketing of perishables  
d. Education with attention to improving social spacing in Infrastructure and tracking student health  
e. Infrastructure (excluding Irrigation), particularly Urban & Rural Road, Sewage and Water Supply  
f. Housing with emphasis on increasing the floor area for Urban & Rural Housing and re-settlement of slums.

From a practical point of view, it should be best to defer expenditure on all new announcements made in the Budget 2020-2021, since they would have the least impact on service delivery in addition to considering the recommendations made in the section on expenditure rationalisation in this report.

3. **Revenue Generation:**

A finely tuned public finance toolset should be used to increase revenue generation through enhanced economic activity. At the same time non-tax revenue sources should be tapped thoroughly.

**Tax Revenues:**

a. Excise Duties to be doubled  
b. GST rates for Health & Medical Items, Automobiles, FMCG, Garments, Hospitality, and Construction & Placement Services to be halved  
c. Motor Vehicles Tax to be enhanced by 30%
d. Shifting of House Tax and Property Tax Collection to a Central Authority along with the attached Cesses and enhancing the rates.

**Non-Tax Revenue Enhancement**

a. Hospital User Fees  
b. Public Transport Fees   
c. Royalty on Minor Minerals  
d. Traffic Fines to be enhanced  
e. All license, registration and regulatory penalties to be enhanced by 50%

4. **Efficient Cash Management:**

Ensuring liquidity will be central to the state's financial management and to ensure that high priority expenditure, including that to support the vulnerable and to meet essential expenditure, such as debt servicing, is not adversely affected. With Khajane, it should be possible to monitor cash availability and ensure liquidity.

While deferring liabilities, especially by way of non-payment of bills is not a preferred option in public finance management, the extraordinary circumstances that the state faces might compel such an approach at least in the interim. A pre-defined standard and process should help prioritise payment of bills in a transparent manner, providing liquidity room, necessary to meet priority expenditure.

A daily monitoring of revenue inflows with checks should be installed to avoid slippage into Ways and Means Advances.

5. **Strong Accountability Processes:**

Transparency in procurement, release of social protection support, and for the resources used in emergency expenditure, must be ensured through high quality financial reporting. The emphasis must be on ex-ante checks and balances rather than ex-post. Reordering the reporting systems to generate useful financial management information system reports, in the context of the pandemic, must be established.

This will be necessary especially for the lower field formations at the district offices and below, where systemic oversight tends to be weak, but considerable expenditure occurs.
Analytics Model

In this document an attempt has been made to provide data analyses and scenarios that, we hope, helps the Government assess the strategy that might best mitigate the fiscal stress and provide the rationale for reprioritising expenditure decision-making. This will include a combination of expenditure cuts on non-essential items and/or deferring expenditure in certain categories. Expenditure cut/deferment in non-essential items, in PAC’s opinion, will be a crucial step towards balancing revenue and expenditure amidst the various uncertainties of COVID-19.

The first section of this document describes the data sources used for developing the RMP and the methodology used for the analysis. The second section provides an explanation of the data analytics model and presents the results through appropriate data visualisation. This is followed by the section that describes the major findings and recommendations, and the final section develops a plan of action for expenditure rationalisation setting out actionable steps.

Data and Methodology:

In Karnataka, fiscal reforms and consolidation were brought to the forefront with the State Government developing the first Medium Term Fiscal Plan (MTFP) in 2000-05. For this analysis, relevant data from the MTFP and Annual financial statements (AFS) of the Government of Karnataka for the period from 2006 to 2019 have been used.

Using a combination of exploratory analysis and econometric techniques the analytical model provides:

1. First, using an exploratory analysis, a brief description of the government’s financial plan for 2020-21.
2. Second, the analysis has attempted to incorporate the impact of COVID-19 shock on the economy and predict likely revenue and expenditure for the FY 2020-2021, as a result.
3. Since the impact of COVID-19 has been recent and there is not enough data to capture the exact magnitude of its impact, the effect of the economic shock during 2008-2010 that Karnataka experienced due to the effects of the subprime crisis, is used as a proxy. As known, the subprime crisis was purely an economic crisis, while the COVID-19 pandemic presents health consequences besides the economic consequences. The adverse impact of COVID-19 will likely be more severe than the subprime crisis.

Nonetheless, using the sub-prime crisis as a proxy, and carrying out an econometric analysis, we show that the impact of COVID-19 on revenue receipts and expenditure, manifesting as revenue deficit, will be much higher than estimated in the AFS 2020-2021. The analysis supports the argument that actual impact would be even sharper, calling for a serious RMP by the government.

1. The last section of the analysis uses data of the past fourteen years from the above mentioned sources to conduct a time series analysis to understand the impact of COVID-19 on the state budget in terms of revenue expenditure, revenue receipts, and the state’s own tax revenue that constitutes the most significant part of the total revenue receipts.

Data Analysis

Exploratory Analysis

At the outset, the definitions of terms used need to be clarified for further understanding of the analysis.

Revenue expenditure includes subsidies, and payment of salaries, pensions, and interest.

Revenue receipts includes state own tax revenues, non-tax revenues, and resources from the center in the form of devolutions and grants.
Revenue deficit is the excess of revenue expenditure over revenue receipts. A revenue surplus, on the other hand, implies that revenue receipts are expected to be higher than revenue expenditure. It provides surplus funds to the state which can be used for capital investments or repayment of loans.

An exploratory analysis of the MTFP 2020-21 highlights the following on revenue receipts and revenue expenditure.

Table 1 show the key figures from the FY 2020-21 budget which have been extracted from the MTFP 2020-21. It shows that revenue expenditure for 2020-21 is estimated at Rs 1,79,776 crore, which is 1.6% higher than the revised estimate of 2019-20. The total revenue receipts for 2020-21 are estimated to be Rs 1,79,920 crore, an increase of 1.5% over the revised estimate of 2019-20. The budget estimates a revenue surplus of Rs 143 crore in 2020-21 (or 0.01% of GSDP). This is lower than the revised estimate of 2019-20 at Rs 285 crore (or 0.02% of GSDP).

<table>
<thead>
<tr>
<th>Items</th>
<th>2018-19 (Actuals)</th>
<th>2019-20 (Budgeted)</th>
<th>2019-20 (Revised)</th>
<th>% change from BE 2019-20 to RE 2019-20</th>
<th>2020-21 (Budgeted)</th>
<th>% change from RE 2019-20 to BE 2020-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue Expenditure</td>
<td>1,64,300</td>
<td>1,81,605</td>
<td>1,76,970</td>
<td>-2.60%</td>
<td>1,79,776</td>
<td>1.60%</td>
</tr>
<tr>
<td>Revenue Receipts</td>
<td>1,64,979</td>
<td>1,81,863</td>
<td>1,77,255</td>
<td>-2.50%</td>
<td>1,79,920</td>
<td>1.50%</td>
</tr>
<tr>
<td>Revenue Surplus</td>
<td>679</td>
<td>258</td>
<td>285</td>
<td></td>
<td>143</td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated from MTFP 2020-21

It is useful to note that in the revenue receipts, Rs 1,19,758 crore (67% of the revenue receipts) is estimated to be raised through state’s own resource mobilisation efforts, and Rs 60,162 crore (33% of the revenue receipts) will be in the form of central transfers, in the form of central taxes and grants. Around 45% of the total revenue receipt i.e. Rs 81,718 crore will be spent on committed expenditure, i.e. payment of salaries, pension, and interest. This implies that the state has 55% of its revenue receipts remaining for all other kinds of expenditure.

**Juxtaposing Effects of Subprime Crisis on COVID-19 Shocks**

As shown in Table 1, the change in total revenue expenditure and revenue receipt is estimated to be 1.6% and 1.5% respectively indicating a rise in both-receipt and expenditure. However, the exact magnitude of change would depend on the nature and magnitude of the COVID-19 shock which at this moment due to scarcity of time series data is difficult to estimate.

We have therefore incorporated the impact of the 2008 global subprime crisis in the model and superimposed those effects on to the 2020 budget to predict the COVID-19 effects. Though this will be an underestimation, as the effects of COVID-19 are likely to be much higher than that of the subprime crisis, the broad pattern of the fiscal stress can be discerned and will help analysis.
1. For the purpose of predictive analysis, Compound Annual Growth Rates (CAGR)\(^1\) for 2008-2010 have been calculated for revenue receipt, expenditure and total state own tax revenue. Using these growth rate figures we find that there will be a decrease both in revenue receipts and revenue expenditure, and an increase in deficit in 2020-21, that is higher than in 2019-20. However, this deficit arises primarily because the decrease in revenue in 2020-21 is greater than the decrease in expenditure causing a revenue deficit, in terms of total revenue and just tax revenue (row 1 in Table 2).

2. Also, revenue deficit in terms of the gap between total revenue receipt and expenditure and gap between SOTR and revenue expenditure is likely to inflate such that the revenue deficit is going to widen more than what has been estimated in the budget of 2020-21.

<table>
<thead>
<tr>
<th>Table 2: Predictions of Key Variables in the Budget in 2020-21 (in Rs crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue receipt</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>CAGR prediction for 2020-21</td>
</tr>
<tr>
<td>BE2020-21</td>
</tr>
<tr>
<td>RE2019-20</td>
</tr>
<tr>
<td>(CAGR-BE)2020-21</td>
</tr>
<tr>
<td>RE2019-CAGR2020</td>
</tr>
</tbody>
</table>

Source: Calculated from MTFP 2020-21

Impact of COVID-19 on Government Revenue, Expenditure and Deficit

Using the fourteen-year time series from 2006-2019 and a comprehensive framework an estimation of the key budget variables is presented in Table 3. Using a multivariate time series analysis, the determinants of total revenue receipt, revenue expenditure and SOTR are estimated. The determinants used in the estimated models are as follows:

1. Tax buoyancy in the corresponding year: Tax buoyancy explains the relationship between the changes in government’s tax revenue growth and the changes in GDP. It refers to the responsiveness of tax revenue growth to changes in GDP. When a tax is buoyant, its revenue increases without increasing the tax rate.
2. Dummy for COVID-19 years: The dummy takes the value 1 for the years 2018 and 2019; 0 otherwise
3. Dummy for subprime crisis years: The dummy takes the value 1 for the year 2008, 2009 and 2010; 0 otherwise

These two dummies would simulate the impact of the COVID-19 shock and the subprime crisis

4. Debt GSDP ratio in the corresponding year: Total government debt and liabilities expressed as a percentage of Gross state domestic product in the corresponding year
5. Revenue receipt\((t-1)\): revenue receipt in the previous year
6. Revenue expenditure\((t-1)\): revenue expenditure in the previous year
7. SOTR\((t-1)\): State own tax revenue on the previous year

\(^1\) Formula use for CAGR is CAGR = \((\text{end value/start value})^{1/3} - 1\) \times 100
8. Revenue deficit (t-1): Revenue expenditure in the previous year
9. Log deficit-GSDP: Logarithm of revenue deficit as a percentage of GSDP in the last year

Table 3 produces multivariate time series analysis of the determinants of the total revenue receipt in model 1 (m1); total expenditure in model 2 (m2), and total SOTR in model 3 (m3)

Table 3: Multivariate Regressions of the Key Budget Variables

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m1</td>
<td>m2</td>
<td>m4</td>
</tr>
<tr>
<td>Total revenue receipt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax buoyancy</td>
<td>4,837.60</td>
<td>-3,608.21*</td>
<td>-1,888.45</td>
</tr>
<tr>
<td></td>
<td>(2,524.379)</td>
<td>(1,793.377)</td>
<td>(4,625.331)</td>
</tr>
<tr>
<td>Covid19 dummy</td>
<td>-8,001.28**</td>
<td>-29.32</td>
<td>1,560.97</td>
</tr>
<tr>
<td></td>
<td>(2,753.969)</td>
<td>(2,080.692)</td>
<td>(4,139.059)</td>
</tr>
<tr>
<td>Subprime Dummy</td>
<td>-1,370.72</td>
<td>-5,538.40</td>
<td>3,206.50</td>
</tr>
<tr>
<td></td>
<td>(1,679.421)</td>
<td>(2,890.742)</td>
<td>(3,657.817)</td>
</tr>
<tr>
<td>Debt-GSDP ratio</td>
<td>503.61</td>
<td>-4,080.67*</td>
<td>-3,856.71</td>
</tr>
<tr>
<td></td>
<td>(1,176.646)</td>
<td>(1,750.159)</td>
<td>(3,300.469)</td>
</tr>
<tr>
<td>Revenue receipt(t-1)</td>
<td>1.10***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.040</td>
<td></td>
</tr>
<tr>
<td>Revenue expenditure(t-1)</td>
<td></td>
<td>1.14***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.069)</td>
</tr>
<tr>
<td>Revenue deficit (t-1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOTR(t-1)</td>
<td></td>
<td></td>
<td>1.26***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.158)</td>
</tr>
<tr>
<td>Log deficit-GSDP</td>
<td>0.001</td>
<td>0.001***</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Constant</td>
<td>-13,207.82</td>
<td>99,715.16**</td>
<td>84,427.13</td>
</tr>
<tr>
<td></td>
<td>(27,124.785)</td>
<td>(36,071.995)</td>
<td>(72,000.379)</td>
</tr>
<tr>
<td>Observations</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

Note: Standard errors are in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 3 shows as expected; the COVID-19 dummy has a significantly negative impact on total revenue receipt, indicating that the pandemic along with health hazards would also bring a significant economic burden on Karnataka's economy. On the other hand, the debt-GSDP ratio is likely to have a significantly negative impact on the volume of expenditure indicating that burden of debt might result in higher interest payments increasing the expenditure incurred by the government. Furthermore, SOTR seems to be unresponsive in almost all of these explanatory variables except its previous year's value, that shows that if the previous year’s tax collection increases by one unit (in crore), the current year SOTR will increase by 1.26 crore. Similar relations are also found for the total revenue receipts and expenditure with their previous year's values. Finally, Log deficit-GSDP in the previous year, capturing lagged revenue deficit as percentage of lagged GSDP, is found to impact revenue expenditure in the current year positively. Therefore, higher revenue deficit in the previous year might require the government to increase its borrowing, leading to higher interest payment and thus higher expenditure in the current year.
Findings and Recommendations on Revenue and Expenditure

This section summarises the major findings from the data analysis.

**AFS 2020-2021:**
- Revenue expenditure for 2020-21 is proposed to be Rs 1,79,776 crore, which is 1.6% higher than the revised estimate of 2019-20.
- Total revenue receipts for 2020-21 are estimated to be Rs 1,79,920 crore, an increase of 1.5% over the revised estimate of 2019-20.
- The budget estimates a revenue surplus of Rs 143 crore in 2020-21.

**The juxtaposition of subprime crisis effect:**
- Estimating the Compound Annual Growth Rate (CAGR) in revenue receipt, revenue expenditure, and SOTR for the period 2008-2010, and using these to predict the values of the same variables in 2020, we find that both revenue receipts and expenditure would fall in 2020-21. However, a fall in the receipt will be much higher than the expenditure resulting in a higher deficit in 2020-21.
- **This magnitude of the deficit will be much larger than what has been proposed in the BE of 2020-21 in the Budget, 2020-21**

**Multivariate time-series analysis**
- **COVID-19 has a significantly negative impact of the revenue receipts, which will result in higher revenue deficit**

The above analysis points to the increase in revenue deficit exerting fiscal stress on state finances in FY 2020-21. While at first glance there seems to be no immediate way to recover the revenue fall due to COVID-19, especially with the continuation of a partial lockdown, the effective way to deal with the widening deficit will be to reduce government spending on non-essential items.

To analyse the feasibility of this proposition, an elasticity analysis has been carried out for the period 2016-2019. Elasticities are defined as:

a. Percentage change in expenditure with respect to the percentage change in total revenue receipt (Table 4).
b. The percentage change in expenditure with respect to a percentage change in GSDP (Table 5)

Table 4 shows expenditure elasticities for the years 2017, 2018, and 2019. Looking at the average year-wise elasticities it is observed that interest, salary, pension, and subsidies are the four expenditure categories (elasticity>1) that are elastic to total revenue receipt.
Table 4: Expenditure category wise elasticity with respect to total revenue receipt

<table>
<thead>
<tr>
<th>Year</th>
<th>Interest</th>
<th>Salaries</th>
<th>Pensions</th>
<th>Subsidies</th>
<th>Devolution of ULBs</th>
<th>O &amp;M</th>
<th>Administrative</th>
<th>Other revenue expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1.11</td>
<td>0.44</td>
<td>0.24</td>
<td>1.41</td>
<td>1.00</td>
<td>0.00</td>
<td>1.45</td>
<td>0.65</td>
</tr>
<tr>
<td>2018</td>
<td>1.07</td>
<td>2.68</td>
<td>2.91</td>
<td>0.61</td>
<td>-1.63</td>
<td>0.74</td>
<td>-0.98</td>
<td>2.61</td>
</tr>
<tr>
<td>2019</td>
<td>3.17</td>
<td>1.86</td>
<td>3.67</td>
<td>1.18</td>
<td>3.54</td>
<td>1.54</td>
<td>2.10</td>
<td>-0.76</td>
</tr>
<tr>
<td>Average</td>
<td>1.78</td>
<td>1.66</td>
<td>2.27</td>
<td>1.06</td>
<td>0.97</td>
<td>0.76</td>
<td>0.56</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Source: Calculated from MTFP 2020-21

Interestingly the elastic categories are all known as the committed expenditure of the state government. Committed expenditure of a state typically includes expenditure towards payment of salaries, pension, and interest. A larger proportion of the budget allocated for committed expenditure items limits the state's flexibility to decide on its other expenditure priorities such as capital investment.

To substantiate that salaries, pensions, interest, and subsidy are elastic to the better economic performance of the state, we again calculate the same elasticities with respect to GSDP and observe that interest payment, pension and salary are positively elastic to GSDP.

Table 5: Expenditure category elasticities with respect to GSDP

<table>
<thead>
<tr>
<th></th>
<th>Interest</th>
<th>Salaries</th>
<th>Pensions</th>
<th>Subsidies</th>
<th>Devolution of ULBs</th>
<th>O &amp;M</th>
<th>Administrative</th>
<th>Other revenue expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0.9</td>
<td>0.4</td>
<td>0.2</td>
<td>1.2</td>
<td>0.8</td>
<td>0.0</td>
<td>1.2</td>
<td>0.5</td>
</tr>
<tr>
<td>2018</td>
<td>0.6</td>
<td>1.6</td>
<td>1.7</td>
<td>0.4</td>
<td>-1.0</td>
<td>0.4</td>
<td>-0.6</td>
<td>1.5</td>
</tr>
<tr>
<td>2019</td>
<td>1.4</td>
<td>0.8</td>
<td>1.6</td>
<td>0.5</td>
<td>1.5</td>
<td>0.7</td>
<td>0.9</td>
<td>-0.3</td>
</tr>
<tr>
<td>Average</td>
<td>1.0</td>
<td>0.9</td>
<td>1.2</td>
<td>0.7</td>
<td>0.5</td>
<td>0.4</td>
<td>0.5</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Source: Calculated from MTFP 2020-21

Since Table 1 shows that compared to 2019, in 2020 both revenue receipt and expenditure will decline, but fall in revenue will be much higher than that of expenditure creating a large deficit, the government must target those expenditure variables that are positively elastic to revenue, so that the gap between revenue and expenditure can be narrowed down. Combining the results from Tables 1, 4 and 5 we can estimate that if Karnataka's revenue decreases there might be a need for expenditure cuts in salaries, pensions, and subsidies.

\[\text{In 2020-21, Karnataka is estimated to spend Rs 81,718 crore on committed expenditure (payment of salaries, pension, and interest) which is equivalent to 45\% of the state's revenue receipts. Therefore, 55\% of its revenue receipts remain for other expenditure.}\]
Plan of Action for Expenditure Rationalisation

The challenge that Karnataka faces now is to rationalise the category-wise revenue expenditure in a manner that at least the gap between revenue receipt and expenditure can be reduced by a substantial amount. This can also be supported by an increase in revenue receipts through an increase in state excise as indicated in the above analysis.

Table 6 below estimates the reduced expenditure in salaries, pensions, and subsidies. Reduction in expenditure in these categories might arise for two reasons. First these categories are positively elastic to revenue receipt. Since the advent of COVID-19 will result in a reduction in revenue receipt, government spending on salaries, pensions, subsidies will also fall.

These estimates are calculated based on average elasticities of expenditure in these categories with respect to revenue receipt calculated in Table 4. The cut in expenditure that is required to achieve these elasticities is calculated in the last column of Table 6. For example, to achieve an elasticity of 1.66 in salaries with a reduction in revenue receipt to Rs, 1,60,597 is calculated to be Rs 8935 crore. Similar explanations hold for the estimates of pensions and subsidies. It is observed that expenditure cut in salaries, pension and subsidies would result in an accumulation of savings by Rs. 162, 92 crores.

Table 6: Reduction in Salaries Pensions and Subsidies on the basis of Respective Elasticities with respect to Total Revenue (in Rs crore)

<table>
<thead>
<tr>
<th></th>
<th>2019-20 RE</th>
<th>2020-21 BE</th>
<th>Estimated elasticities</th>
<th>Estimated expenditure</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>33598</td>
<td>37291</td>
<td>1.66</td>
<td>28355</td>
<td>8935</td>
</tr>
<tr>
<td>Pensions</td>
<td>19555</td>
<td>22211</td>
<td>2.27</td>
<td>15382</td>
<td>6828</td>
</tr>
<tr>
<td>Subsidies</td>
<td>21562</td>
<td>19942</td>
<td>1.06</td>
<td>19413</td>
<td>528</td>
</tr>
<tr>
<td>Total savings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16292</td>
</tr>
</tbody>
</table>

Source: Calculated from MTFP 2020-21

At the outset, it must be clarified that though salary cut or pension cut might appear to be the best solution to reduce government spending, it has other connotations in terms of reducing aggregate demand in the economy which might generate long term economic consequences for Karnataka. Therefore, even if the government is adopting a policy of wage cut and/or pension cut a cautious decision on the lower limits of the cuts should be decided a priori. The recent decision of the state to withhold the release of additional dearness allowance to all government staff and pensioners is a good starting point for generating savings. However, further wage cuts must not be ruled out.

Additionally, subsidy cut or deferment might be a crucial step onwards revenue management by the state government especially in the non-essential items at this time. At this juncture it must also be noted that the COVID-19 pandemic will drive up expenditure in the health sector, beyond the budget estimates for the current year. While this increase cannot be predicted at this point due to the unavailability of data, its effect on further widening the gap between revenue and expenditure must not be ignored.

Finally, a detailed look at the Karnataka Budget Documents 2020-21 (Annual Financial Statement, Detailed Demands for Grants, Budget Speech) shows that state government has made provisions for certain expenditure in 2020-21, which at this time of crisis could either be deferred or cancelled.

Some of these are listed below:

- Rs 2,600 crore has been allocated towards providing direct assistance in addition to Pradhan Mantri Kisan Samman Yojana
• Rs 830 crore has been allocated towards providing loan for constructing ring road around Bangalore city
• Rs 9,115 crore has been allocated towards subsidies to the Karnataka electricity board.
• Rs 519 crore has been allocated towards state highways and Rs 849 crore towards district and other roads.
• Rs 3,027 crore has been allocated to welfare of SCs, Rs 1,242 crore to welfare of STs and Rs 2,352 towards welfare of backward classes.

If for the time being these investments are put on hold the government might benefit from the saving which could be utilised for other high priority expenditure.

Furthermore, the MTFP 2020-21 and Annual Financial Statement 2020-21 indicate that in certain sectors the Government of Karnataka has already planned an expenditure cut (as shown in Table 7). These sectors include:

• Agriculture and allied activities
• Social Welfare and Nutrition
• Energy
• Transport
• Welfare of SC/ST/OBC and Minorities

Further reduction in the volume of expenditure in the year 2020-21 could be planned by the government to generate more savings. However, expenditure decisions should be made keeping in mind that irrespective of the magnitude of the budgeted expenditure in various categories within the sector, the government should rationalise its spending in a manner that that essential items still receive the planned amount as budgeted in the financial statement of 2020-21.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Education, Sports, Arts and Culture</td>
<td>24,532</td>
<td>27,943</td>
<td>28,184</td>
<td>28,967</td>
<td>3%</td>
</tr>
<tr>
<td>Irrigation and Flood Control</td>
<td>14,155</td>
<td>15,775</td>
<td>15,238</td>
<td>19,603</td>
<td>29%</td>
</tr>
<tr>
<td>Agriculture and allied activities</td>
<td>20,519</td>
<td>22,309</td>
<td>21,805</td>
<td>16,472</td>
<td>-24%</td>
</tr>
<tr>
<td>Water Supply, Sanitation, Housing and Urban Development</td>
<td>12,635</td>
<td>13,013</td>
<td>12,152</td>
<td>13,749</td>
<td>13%</td>
</tr>
<tr>
<td>Social Welfare and Nutrition</td>
<td>18,253</td>
<td>19,718</td>
<td>17,174</td>
<td>13,395</td>
<td>-22%</td>
</tr>
<tr>
<td>Energy</td>
<td>10,689</td>
<td>13,128</td>
<td>13,128</td>
<td>12,918</td>
<td>-2%</td>
</tr>
<tr>
<td>Transport</td>
<td>12,555</td>
<td>12,479</td>
<td>12,981</td>
<td>12,220</td>
<td>-6%</td>
</tr>
<tr>
<td>Health and Family Welfare</td>
<td>9,477</td>
<td>9,693</td>
<td>9,170</td>
<td>10,296</td>
<td>12%</td>
</tr>
</tbody>
</table>
Similarly, there are certain categories of expenditure, such as education, health, and family welfare, Irrigation and Flood Control, and Rural Development that might still require continuing with the planned expenditure since these categories are crucial for maintaining economic stability in the state.

Finally, while at first sight, it appears that the revenue receipts of the government cannot be increased, PAC proposes that an increase in state excise can reduce the decrease in revenue receipts thereby reducing the gap between the revenue receipts and revenue expenditure (revenue deficit). A basic analysis of the share of excise to the state’s total tax collection for 2019-20 reveals that excise contributed to 20% of the state’s own tax revenue. Therefore, by increasing excise, the government can benefit substantially in terms of an increase in revenue receipt in 2020-21. In this context, the hike in additional excise duty announced by the state recently is a welcome move. A few other resource mobilisation avenues - increasing the cess on petroleum products for instance - remain open and can be leveraged later in the year, if necessary.

<table>
<thead>
<tr>
<th></th>
<th>2019-20</th>
<th>2020-21</th>
<th>2021-22</th>
<th>2022-23</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Development</td>
<td>7,068</td>
<td>7,837</td>
<td>7,910</td>
<td>9,769</td>
<td>23%</td>
</tr>
<tr>
<td>Welfare of SC/ST/OBC and Minorities</td>
<td>11,910</td>
<td>11,114</td>
<td>10,054</td>
<td>9,402</td>
<td>-6%</td>
</tr>
<tr>
<td>% of total expenditure</td>
<td>71%</td>
<td>69%</td>
<td>69%</td>
<td>66%</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Karnataka Budget Documents 2020-21 (Annual Financial Statement, Detailed Demands for Grants, Budget Speech); PRS.
Conclusion

This report provides a brief analysis of the budgetary position of the Government of Karnataka in the light of the COVID-19 pandemic by extrapolating the economic effects of the 2008 subprime crisis on current estimates. PAC’s analysis reveals that while the impact of the crisis will cause a reduction in both revenue and expenditure, its effect on revenue will be deeper. While this will provide results that are underestimated, it provides a starting point for the government to take immediate action to mitigate the continuing effects of the COVID-19.

The impact of the pandemic will be felt across all sectors, and given the global economic integration levels, there would be no escape from the event horizon of a severe recession unless bulwarks are set up. Whether we return to GDP levels before the crisis quickly or stay below these levels depends on the labor market recovery and potential damage to productivity growth. Unemployment will remain a problem even if demand picks up as there will be a lag due to structural issues. It is likely that the current crisis will compel a new economic normal.

The state therefore needs to prepare for a longer term economic stress. From a macroeconomic perspective, emerging markets also have relatively limited fiscal resources to cushion the blows of any lockdowns; they cannot afford to pay people to sit at home and wait this out; neither can they bail out all suffering firms with loans. The responsibility of sagacious macroeconomic management will be on the government by implementing a macroeconomic strategy that will best absorb the economic shocks of COVID-19.