Ecowrap

INDIA TACKLED COVID MUCH BETTER WITH OUR MODEL CASES 2.65 LAKH LOWER THAN ACTUAL: HUMAN PSYCHE HAS NOT CHANGED IN 355 YEARS!

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'Be the Bank of Choice for a Transforming India'

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India reached its COVID peak on 16 Sep'20. The daily new cases have declined since then and are now moving around 50,000, while the daily recoveries are higher than new cases. Using a bottom up approach, of adjusting for population and juxtaposing it with Indian states to see how has India done in terms of controlling COVID, we tested a two stage least square (2SLS) panel model with 20-major states considering the monthly data from April to October 2020. In this 2SLS regression, we first regressed the state-wise test data on population to gauge the number of tests that should have been ideally done given the population difference across Indian states. In Stage 2, the number of confirmed cases was then regressed on estimated test numbers calculated in equation 1 to arrive at model estimate of number of cases if the tests were done in accordance with the population size. Results indicate that for India the estimated number of cases is 84.49 lakh which is 2.65 lakh higher than the actual confirmed cases of 81.8 lakh, thus indicating India has done a good job on controlling the spread of the virus. However, state-wise numbers vary widely. **States including Maharashtra, Karnataka, Andhra Pradesh, Kerala, Chhattisgarh, West Bengal, Delhi and Tamil Nadu have done badly in managing the pandemic, with estimated cases lower than the actual cases. Meanwhile, Uttar Pradesh, Bihar, Gujarat and Jharkhand among others have managed the situation quite well with estimated cases more than their actual cases.**

New cases continue to rise in top 15 districts which are mostly urban. The good thing is that they are not spreading to other areas, while the bad is that they are concentrated and we are not able to control the situation in top areas affected by the virus. **However, fatality rate in top 15 districts is falling. Does that mean that India has developed some level of immunity?** The share of rural districts in new cases has declined further to 39% in October 2020 compared to 43.4% in Sep'20.

Meanwhile, ILO has come up with estimates for working hours lost (% of total, average over first three quarters of 2020) and equivalent fiscal stimulus value for country groups to directly compare the size of fiscal stimulus with the labour market damage due to COVID-19. We conducted a similar exercise for India. Our results show a gap of around 10% exists for India vis-à-vis a gap of 11.6% in the lower-middle income group. Thus a further direct fiscal stimulus of the size of 3-5% of GDP might be required to offset gap between the equivalent fiscal stimulus hours and the loss in hours.

Interestingly, when the current pandemic and 1665 London plague are compared we see striking similarity in behaviour changes including people becoming more altruistic and religious during both periods, preference of home cooked food, rise of quacks and belief in miraculous cures.

As an afterthought, Global Financial Crisis provided a turning point in how Economics as a subject is taught. Economists of the future should receive a training that is critical, pluralist, interdisciplinary and applicable to real world problems.

INDIA HAS TACKLED COVID MUCH BETTER CONSIDERING ITS POPULATION

♦ India reached its COVID peak on 16 Sep 2020. The daily new cases have declined since then and are now moving around 50,000, while the daily recoveries are higher than new cases.

♦ Since 4th week of March 2020, Government has taken many drastic steps to tackle the spread of COVID-19 virus in the country. It has also motivated states to save their people from infections. India has achieved several milestones in building isolation centers, special COVID-19 hospitals, free testing, door to door contact tracing etc.

♦ To see statistically the state-wise infections, we tested a two stage least square (2-SLS) panel model with 20-major states considering the monthly data from April to October 2020. In this 2SLS regression, we first regressed the state-wise test data on population from Apr'20 to Oct'20 to gauge the number of tests that should have been done given the population difference. In Stage 2, the number of confirmed cases was regressed on estimated test numbers calculated in equation 1 to arrive at model estimate of number of cases if the tests were done in accordance with the population size.

$$T = \alpha + \beta P \mu \;\;.....(1)$$

$$C = \sigma + \rho T + \pounds \;\;.....(2)$$

Where, T = Number of Test, P= Population, C = Confirmed Cases

♦ Both the estimated models are significant at 5% level and results indicate that for India the estimated number of cases is 84.49 lakh which is 2.65 lakh higher than the actual confirmed cases of 81.8 lakh, thus indicating India has done a good job in controlling the spread of the virus. However, state-wise numbers vary widely.

♦ States including Maharashtra, Karnataka, Andhra Pradesh, Kerala, Chhattisgarh, West Bengal, Delhi and Tamil Nadu have done badly in managing the pandemic, with estimated cases lower than the actual cases.

COVID-19 Cases: Actual vs Estimated			
	Actual Cases	Estimated Cases	Difference
Andhra Pradesh	823348	582707	240641
Assam	206351	339653	-133302
Bihar	216764	791373	-574609
Chhattisgarh	187270	134284	52986
Delhi	386706	341301	45405
Gujarat	172944	440305	-267361
Haryana	166712	195649	-28937
Himachal Pradesh	22059	32194	-10135
Jammu and Kashmir	94785	169938	-75153
Jharkhand	101761	246252	-144491
Karnataka	823412	573836	249576
Kerala	433106	338731	94375
Madhya Pradesh	171359	215387	-44028
Maharashtra	1678406	650373	1028033
Odisha	290116	332297	-42181
Punjab	133658	191586	-57928
Rajasthan	196993	272964	-75971
Tamil Nadu	724522	721666	2856
Uttar Pradesh	481863	1075473	-593610
West Bengal	373664	332341	41323
India	8183394	8449029	-265635

-' : Well Managed '+': Badly Managed

♦ Meanwhile, Uttar Pradesh, Bihar, Gujarat and Jharkhand among others have managed the situation quite well with estimated cases more than their actual cases.

DAILY CASES AND FREQUENCY IN THE LAST 3 MONTHS

♦ Statistics for daily new cases for the last 3 months indicate range bound cases for new infections in Gujarat, West Bengal, Rajasthan and Tamil Nadu While Delhi and Kerala increasing daily cases and test positivity show an expected increasing association, but for West Bengal increasing daily cases are not associated with higher test positivity?
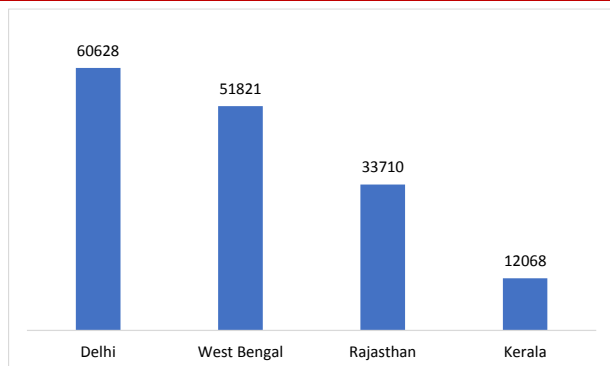
POSSIBLE UNDERREPORTING IN SOME STATES?

♦ Considering peak recovery rate of 78% and taking the confirmed and current recovered cases data, cases might not be getting reported.

SPREAD IN RURAL CONTINUES TO DELCINE– ANOTHER POSITIVE DEVELOPMENT

♦ The share of rural districts in new cases has declined further to 39% in Oct'20 compared to 43.4% in Sep'20.

♦ However, new cases continue to rise in top 15 districts which are mostly urban. The good thing is that it is not spreading to other areas, while the bad is that it is concentrated and we are not able to control the situation at top areas affected by the virus, which might be hotspots for potential second wave.

♦ **However, fatality rate in top 15 districts is falling. Does that mean that India has developed some level of immunity?**
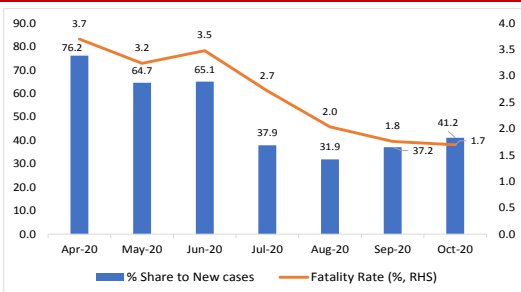
Daily New cases for last 3 Months			
State	**Mean**	**SD**	**CV**
Andhra Pradesh	7418	2688	36
Delhi	2729	1302	48
Gujarat	1212	143	12
Karnataka	7601	1956	26
Kerala	4451	2894	65
Maharashtra	13655	5250	38
Odisha	2807	948	34
Punjab	1278	672	53
Rajasthan	1684	341	20
Tamil Nadu	5203	1055	20
West Bengal	3299	392	12

Daily cases and frequency in last 3 months

West Bengal

Delhi

Kerala
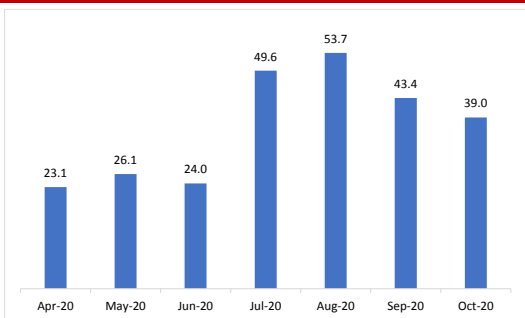
Source: SBI Research

Possible under-reporting of cases
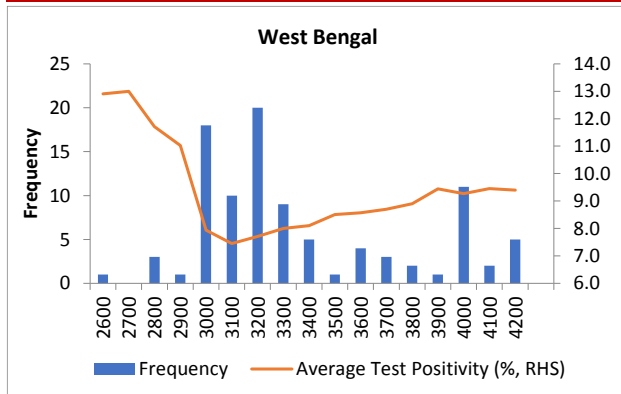

Source: SBI Research

New Cases

Source: SBI Research

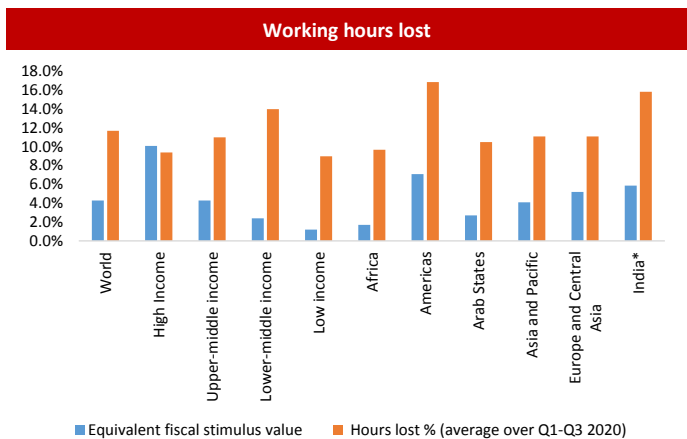**Share of Rural districts in total new cases (%)**
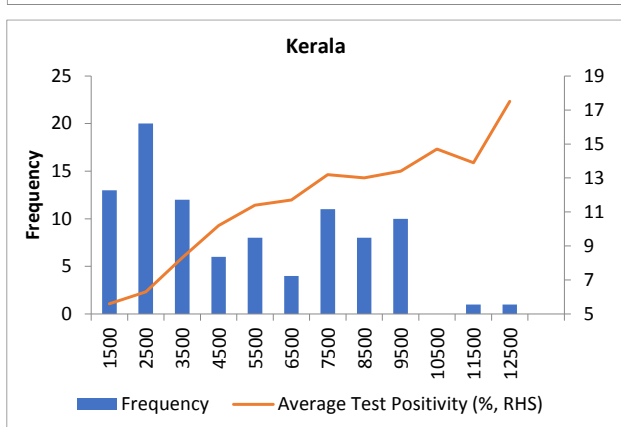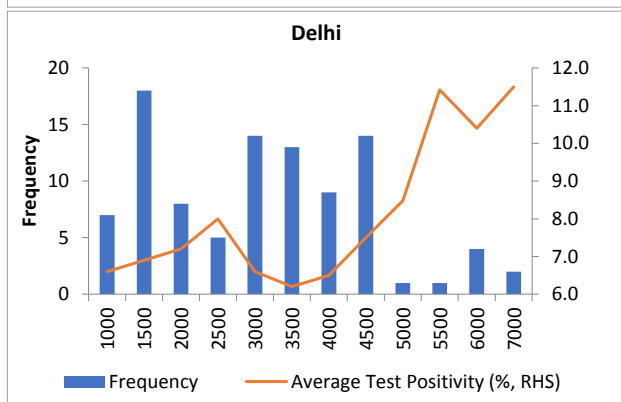
Source: SBI Research

BEHAVIOURAL CHANGES DURING 1665 AND 2020

♦ There are various visible behavioural changes that are associated with pandemics/epidemics. When the current pandemic and 1665 London plague are compared we see striking similarity in behavior changes including people becoming more altruistic and religious during both periods, preference of home cooked food, shortage of certain essential items, communities not taking it seriously until it arrives in their midst, the Government doing contact tracing and isolating the ones infected, certain manipulation of data so as to hide the true picture.

♦ Rise of quacks and belief in miraculous cures are another development which arise during the pandemics. With vaccine yet to come, desperate patients are going to quacks and spiritual healers in large numbers to get their health restored.

MORE DIRECT STIMULUS REQUIRED TO SUPPORT LABOUR

♦ ILO has come up with estimates for the working hours lost (% of total, average over first three quarters of 2020) and equivalent fiscal stimulus value for country groups to directly compare the size of fiscal stimulus with the labour market damage due to COVID-19.

♦ It has utilised the data provided by google mobility index, oxford stringency index and hours worked to create nowcasts for countries wherever data is available and it has extrapolated the hours lost for others, including India based on these nowcasts. For the lower-middle income group the announced fiscal stimulus measures equate to 2.4% of total working hours, while estimated working-hour losses averaged 14%, thus showing a gap of 11.6%.

♦ We conducted a similar exercise for India. However, we utilised the weekly labour force participation rate, employment rate and average 48 hours work week to construct the total number of working hours lost during Q4 2020, Q1 2021 and Q2 2021 and compared it to the baseline of Q3 2019-20. This showed that the maximum hours lost was in Q1 2021, when the lockdown was severest. The total number of hours lost for all these periods comes to 5948 crore hours. Utilising the method employed by ILO to change the direct fiscal stimulus amount of around 3% of GDP of India, which has ben provided by the government gives the figure of 2206 crore hours.

♦ Thus a further direct fiscal stimulus the size of 3-5% of GDP might be required to offset gap between the equivalent fiscal stimulus hours and the loss in hours. The estimates have averaged out the different working conditions and are solely based on the employment figures. However, they are in line with the estimates for lower middle income countries, as dividing the calculated hours lost and equivalent fiscal stimulus by the total number of hours worked in Jan-Sep'2020 gives 15.8% and 5.9% respectively. Thus a gap of around 10% exists for India vis-à-vis a gap of 11.6% in the lower-middle income group.

Change in Behaviour during Pandemic		London 1665 Plague	Current Pandemic
Entity	Behavioural aspect		
Individual	Lack of knowledge about virus led to initital spread	✓	✓
	Concept of kitchen garden, more of home cooked food, (less of food deliveries in current pandemic)	✓	✓
	Shortage of certain essentials	✓	✓
	Rise of quacks, beliefs in miraculous cure	✓	✓
	Increase in opportunity to make money, innovations	✓	✓
Social	People hide about infection to avoid being shunned out	✓	✓
	Communities do not take it seriously until it arrives in their midst	✓	✓
	People become more religious and altruistic	✓	✓
Governance & policy related	Authorities impose local restrictions initially	✓	✓
	Contact tracing and isolation	✓	✓
	Identification of essential services	✓	✓
	Maintain supply of essentials & controlling their prices	✓	✓
	Manipulation of statistics, number of cases and deaths	✓	✓
	Isolation Centres	✗	✓

Working hours lost

■ Equivalent fiscal stimulus value   ■ Hours lost % (average over Q1-Q3 2020)

Source: ILO , * for India different methodology used

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