



PIDE

COVID-19 BULLETIN

No. 17

Opting for a Smart Lockdown in Pakistan

PIDE COVID-19 Bulletin No. 2, talked about the 'lockdown paradox' that confronted Pakistan, and most countries in the world, at that time. What we have seen in the country is neither a complete lockdown nor exactly just a slowdown. Twenty-two days have passed since that Bulletin, and people are beginning to show signs of worry, restlessness and fatigue. The same can be said of the national economy. Can we go on indefinitely like this? No country can, neither can we.

Although the 'paradox' remains but we are at least better prepared now- with a few quarantines made, some testing ability and medical equipment attained and relief packages for the poor and small businesses in place, than we were three weeks back. With April 14 nearing, when the decision about the current state of lockdown is to be made, we need to see if there are any options available for us that can help us reduce the pressure on economy, personal and national, without putting lives in danger. Perhaps it is time to consider a *Smart Lockdown*¹.

What is a Smart Lockdown?

Pakistan is going to complete its first month of (partial) lockdown in a few days' time. As PIDE COVID-19 Bulletins have shown, this whole crisis would leave millions of people unemployed and pushed into poverty. Lockdowns cannot continue indefinitely, but if they are ended the existing infections would again cause a surge in the numbers, forcing another lockdown (see Figure 1A). This is the *yo-yo effect*, with the number of infected people going up and down with every lockdown's beginning and ending.

We need a policy that, at the same time, contains the infection and also allows some basic level of economic activity. A model² developed by a group of scientists recommend an intermittent lockdown: ten days of lockdown and four days of work per fortnight. The basic notion behind this is that, "*In this way, the virus replication number, i.e., the number of people infected by each infectious person, drops below one – the magic number that causes the epidemic to decline*"². The model suggests that after several such cycles, the number of those infected will begin to drop (see Figure 1B).

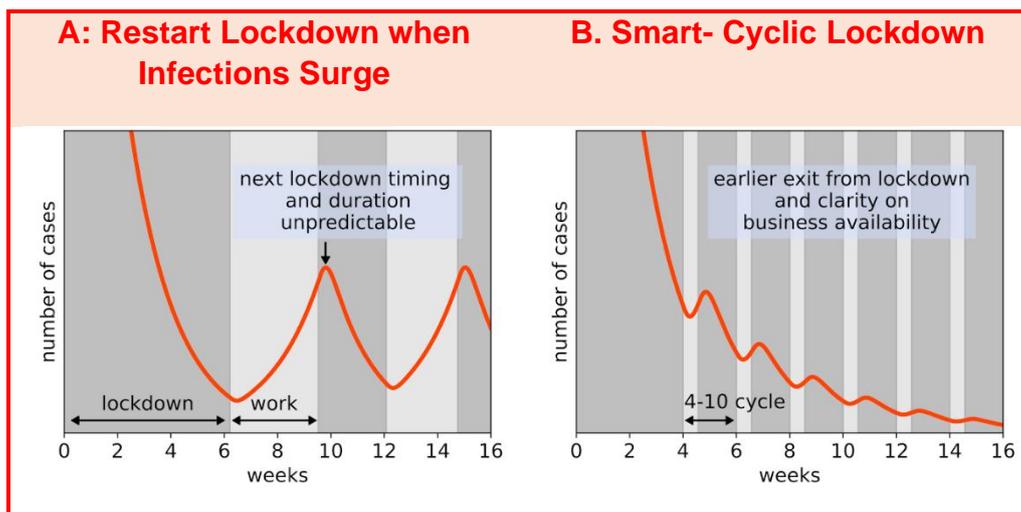
The model is built on the basic principle of epidemiology that when R_0 ³ is below 1, the number of infected people declines exponentially. The cycle provided by the *Smart Lockdown* lowers the reproduction number (R_0) through a reduced time of exposure and an "*anti-phasing effect in which those infected during work-days reach peak infectiousness during lockdown days*"².

¹ It should not be confused with what was implemented in Denmark as the 'Intelligent Lockdown', which had achieved dubious results.

² The model has been developed by Prof. Alon and his colleagues and can be found at: <https://medium.com/@urialonw/adaptive-cyclic-exit-strategies-from-lockdown-to-suppress-covid-19-and-allow-economic-activity-4900a86b37c7>

³ R_0 is reproduction rate- defined as number of infections an infected person can cause.

Figure 1: Two Options of Lockdowns



Source: Alon, et.al (2020)

To bring R_0 below 1, the model proposes a cyclic schedule with four days of work followed by 10 days of lockdown. With a staggered/rotational duty of employees some level of productivity can be achieved. The cyclic strategies help in reducing the R_0 by two mechanisms: *restriction* and *anti-phasing*.

The COVID-19 has a latent period of 3 days, in which it is non-infectious. The suggested 14-day cycle help people be away from workplace, and hence spreading infection, as their lockdown days begin when they reach the infectious state (see Figure 2). Even if someone gets infected on Day-1 of the cycle, their peak infection period would be during the lockdown days, reducing the number of secondary infections, the R_0 , they can cause.

Figure 2: Smart Lockdown: Cyclic Strategy to have the Probable Peak Infectious Days in Isolation for Every Worker

D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13	D-14	D-15
Work				Lockdown										Work
Infected	Latent		Becomes Infectious	Infectious								Not Infectious		

Source: Op cit. Note: D refers to Day.

The model suggests this cycle till the time an efficient testing system is designed to isolate the infected from the non-infected, and ideally until a treatment is developed leaving no need for such lockdowns.

Geo-tracking (PIDE COVID-19 Bulletin No. 2) is possible with consistent accuracy through the mobile phone. Testing based on retracking will allow the networks of infected people to be identified and isolated. This procedure is already allowing infected areas to be identified with some accuracy. Smart lock down will of course involve isolating those areas for a period of time to lower R_0 . So, it is not as if there will be no lockdown, but it will need to track and isolate the infection.

Smart Lockdown Options for Pakistan

In recent days, the increasing volume of traffic on the roads and voices heard on the media tell us that people want a solution to this lockdown situation. For reasons ranging from economic to psychological, current state of lockdown is becoming untenable.

PIDE COVID-19 Bulletins are analysing the impact of these lockdowns on the economy. A summary of these is presented in the table below, but the crux is that the lockdowns are negatively affecting all aspects of the economy.

Potential Costs of a Full Lockdown

	Factor		Impact
1	Loss in GDP through Trade Disruption	Trade Disruption	-4.6
2	Sectoral Analysis of the Vulnerably Employed	Unemployment (Million)	18.53
3	Sectoral Analysis of the Vulnerably Employed	Wage Loss (Rs. Billion)	260.9
4	Impact on Poverty	(million)	125
5	Internal Migrants Effectuated	Unemployment (Million)	3.78
6	Probable SMEs and casual employment Protection	Wage Protection (Rs. Billion)	206
7	SME Employment	Unemployment (million)	3.3
8	Provincial Impacts	Unemployment (Million)	Punjab: 12.1 Sindh: 4.1 KP: 2.3 Balochistan:0.7

Source: PIDE COVID-19 Bulletin No. 1, 4, 11, 13 and 16.

In this scenario, Pakistan can opt for a much adapted version of the *Smart Lockdown* discussed above and do the following.

- **Mandatory use of mask and gloves:** Wearing of gloves and masks have been found to reduce the transmission of infection, and should be made mandatory for everyone leaving home. Data from across the world show the efficacy of wearing masks and gloves in reducing infection levels (<https://www.saveatrain.com/blog/coronavirus-updates-map/>). All kinds of media sources should be used to educate people on advantages of wearing these and the way they should use it.
- Keep those who can **work remotely/from home**, continue to do so. This includes conduction of online classes.
- At all big firms, of every kind- service or manufacturing, **plan for a two-week work schedule** as discussed above. It will allow managers and employees to plan ahead and stay productive, while minimising the chance of spreading infection.
- **Strict SOPs** to be followed at workplace should be extra-emphasised. This strategy needs to be adopted not as an alternative but in addition to all the epidemiological

measures, including hygiene, physical distancing, and testing, tracing and isolating of the infected.

- **Big Businesses** should be allowed to continue with protocols that they preannounce and maintain. They should have certain penalties if there they show up to be a hub of contagion. However, the allowance has to be generous with some mechanism to ensure that this does not become a disincentive from opening.
- **SMEs** should be allowed to open with a whetting of their protocols for social distancing and how they will protect their workers.
- **Local shopping centres** can be opened but with their associations announcing clear protocols such as
 - 3 or 4 neighbouring shops choosing different days to open.
 - Each shop posting outside and ensuring that only that number of people can enter which can maintain social distance.
 - Each shopping mall will monitor the number of people going in and ensure that that number does not go beyond that which has been determined to be the maximum for protection.
 - Queueing protocols have already evolved with 6-8 feet distances. They should be enforced everywhere.
- **Restaurants** may be allowed only for take away business.
- **Monitoring-** Local government and police in collaboration with well-known civil society enterprises can develop monitoring mechanisms. Electronic surveillance will be useful in this regard.
- Keep an eye and continuously **adapt and fine-tune** the number of workdays/rotation of staff according to the results achieved in response to the adopted strategy.
- It would take some resources and effort, but now is the **time to push for cashless transactions**. Cash is apparently a big carrier. Cash transactions should be minimised, and issuance of ATM cards liberalised and cards allowed to be issued on mobile money with minimum costs.

These are times when effect of any policy can have serious and far-reaching consequences. Hindsight is 20-20 but, in this case, we have to see it right, right now. What we are suggesting here is a possible strategy that can contain the pandemic and help sustain the economy to some extent.

Risky? Yes, it is risky! But as the PM has been repeatedly saying: we are faced with a tough choice, that of health or widespread economic hardship. Our analysis suggests that the economic cost is huge and perhaps more than our debt-ridden, IMF strangulated economy can afford. In any case businesses and a working population are assets that countries cannot easily let erode.

People are testing the lockdown because of their own needs every day. Government is finding it hard to deliver support. Signs of food rations being raided, and social unrest and crime are beginning to appear.

So yes! Risks are becoming apparent every day.

Yet no strategy can remain static. With experience and evidence all strategy must change and develop. And the time is coming (April 14) where the government will be forced to review the lockdown. Everyone is searching for ideas. The government is announcing packages which are hard to implement and harder still to connect to economic revival.

We are merely suggesting lockdown approach can be fine-tuned with experience wilfully rather the current approach of people developing informal approaches to beating it.

Use Talent and Provide a Lot of Information!

As we noted in our *PIDE Plan of Action* (included in the PIDE COVID-19 eBook) and in our Bulletin No. 5, the war has to be strategised centrally but fought locally. At both levels all wars are technical and require research, talent, information and analysis. We are happy the national command centre has set up but what remains to be seen is how coordination with and among local battlefields is happening. It is also not clear:

- Is the command centre supported by research centres and teams that are required for this complex battle? Command centres are always final strategy decision-making centres but that requires a large amount of specialized local information to be filtered processed and thrown up. People are not seeing that and are therefore edgy.
- There is a great need for people to see a lot of plans guidelines, SOPs and other information that will guide them as well as educate them on behaviour and public health. Experts are clamouring for such information that they can contribute to as well as filter through their networks. The lead, however, has to come from the NCOC.
- The NCOC should be listening to different reports from a variety of experts to learn in these uncertain times. The world is perplexed in this “Black Swan” event. No one has any advantage on knowledge and information. There should be far more public interface (virtual not physical) in this war. There should be numerous reports coming out of all levels of government and the government be ready to listen to ideas and debates.

PIDE has been in consultation with a vast body of professionals on this and other matters of policy. That is our mandate and we take it very seriously. In each of those consultations it has become clear again and again that many of our problems arise from policies being mandated without research, adequate professional consultation or a good public debate.

COVID-19 is an existential war—perhaps the worst we have seen in our existence. Our approach to beating this must be novel. We are exposed to very large risks. Time to meet these risks in collaboration with our best talent and with innovation.

By:
Durr-e-Nayab
and
Nadeem Ul Haque
PIDE.

PIDE COVID-19 Bulletin is an initiative by the Institute in response to the current pandemic, which is bound to have serious consequences for the country, specifically for its economy. The Bulletin would carry research that would aid in an informed policymaking to tackle the issue.

Pakistan Institute of Development Economics

Web: www.pide.org.pk, Twitter: @PIDEpk, Facebook: PIDEIslamabad