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What does the COVID-19 experience tell us about Indian growth drivers?

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Abstract

In India's battle with Covid-19, recovery was largely under-predicted and financial sector distress over-predicted. The slowdown through the 2010s led to the view that structural features limit growth and financial sector malfunction lowers monetary transmission. Therefore the reliance on the latter, while fiscal policy was relatively conservative, was expected to slow recovery. The inference from better than expected outcomes is that reforms have reached a threshold and monetary stimulus affects output. Diversity and deepening is sufficient to make the financial sector more stable. A turnaround in liquidity in 2019 had led to a rise in high frequency indicators by the end of the year before Covid-19 hit. Similarly, it aided recovery after Covid-19 waves. Tight monetary-financial conditions through the decade reduced growth. More than fundamental reforms, sustaining Indian growth requires continued fiscal supply-side action that reduces costs of doing business and inflation, allowing monetary policy to keep real interest rates below growth rates, thus stimulating demand and allowing public debt ratios to fall. Such monetary-fiscal coordination works best in Indian conditions. External shocks have to be smoothed and large domestic policy shocks avoided to lower growth volatility. We briefly discuss feasible reforms that can deliver, supported by softening of traditional macroeconomic constraints that were responsible for post-reform growth volatility.

Keywords: Indian growth; drivers; reforms; fiscal-monetary coordination

JEL Code: O16, G21, F43, H60, E52

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1. Introduction

A common phrase used in analysis of India's performance during the Covid-19 period was, 'the economy had been under-performing before Covid-19 hit…'. Another common view was the financial sector was broken and Covid-19 would damage it further, thus reducing monetary transmission and making fiscal stimulus more effective. But fiscal space was limited. Partly because of these perceptions, when the global pandemic hit, the majority of predictions for economy were dire. The recovery was expected to be slow and long-drawn out, with long-term scarring lowering potential growth. But the experience so far has been very different.

The 2021 Nobel Prize for economics was given to economists who used natural experiments to tease out robust inferences. This episode and its unexpected outcomes give us an opportunity to deepen our understanding of India's growth drivers. In macroeconomics progress comes through a process of 'abductive' reasoning, where new facts that do not fit in a framework of reasoning leads to a refining of that framework so that it is consistent with the facts (Goyal, 2017b). For example, stagflation could not be explained in the Keynesian framework and led the development of Real Business Cycle theories.

India did have a growth slowdown through the decade of the 2010s. Excessive monetary-fiscal stimulus after the Global Financial Crisis (GFC) led to over-tightening as inflation persisted and double deficits widened. Pushing public sector banks to lend for infrastructure had resulted in large non-performing assets (NPAs). When the rest of the world was going through quantitative easing, credit growth crashed in India as monetary-financial conditions tightened sharply. Stabilization was ignored and the focus was on structural reforms.

These inherited burdens, however, had been worked through. Financial sector reforms undertaken were adequate. Corporate governance and regulation were strengthened. Monetary-financial policies became more relaxed in 2019. As a result, the economy had turned around and begun to grow before the crisis hit. This is perceptible in high frequency indicators. Monetary-financial conditions became highly accommodative through the Covid-19 period, although fiscal expansion was conservative. It was feared that without a large fiscal impulse[1] to support demand, as well as some major medium-run reforms, Indian recover would falter (for example see Mundle and Sahu, 2021, and Sheel, 2021). Small enterprises were thought to be in deep trouble with too little help.

[1] While the central fiscal deficit ratio did rise from a targeted 3.8 into double digits, this was largely because of a fall in revenue and bringing off budget food subsidies on budget. Fiscal impulse refers to spending on new programs in response to Covid-19. The IMF estimated this at 1.6% compared to an EM average of 3.1 and AE average of 8%.

Higher unemployment without income support would reduce consumption. Yet recovery was robust after both the first and second waves. It would seem that low interest rates with liquidity in surplus provided adequate stimulus. Monetary transmission to output worked well.

The government view, as enumerated in recent economic surveys (GOI, 2020), is that the many reforms done will drive growth. Virmani (2020) points to the J curve often associated with reforms so that growth first falls before rising. He argues appropriate sequencing and fine-tuning of reforms is therefore required. Many reforms had indeed been done, but did not deliver growth until there was a reversal of monetary-financial tightening. Income loss and uncertainty was expected to subdue pent-up consumption but did not. A rise in world exports was also a favourable demand shock in 2020. Indian exports rose despite Covid-19 constraints. World exports had risen in 2018 also but Indian exports had continued to stagnate when Indian monetary-financial conditions were tight.

We draw out implications for India's growth drivers and future prospects. Countercyclical macroeconomic policy is essential. Reforms, as conventionally understood, are not a prerequisite for higher growth, but continuous supply-side improvements through feasible reforms that reduce the cost of doing business and therefore inflation are necessary to sustain growth. Also external shocks have to be smoothed and large domestic shocks avoided to lower volatility. This allows monetary and fiscal policy coordination, attuned to Indian conditions, to deliver the required balance between supply and demand.

We put together a few of the predictions made on Covid-19 incidence, on output growth, on financial risks and on long-term scarring fears and contrast these with the actual outcomes. Some high frequency data shows the pre Covid-19 turnaround. An analysis of causes of the slowdown in the 2010s is followed by factors responsible for the turnaround, before turning to those required to sustain growth.

In the remainder of the paper Section 2 examines pre Covid-19 predictions and post Covid-19 performance, Section 3 briefly discusses reasons for growth slowdown in the 2010s, Section 4 turns to the type of reforms required to sustain growth, Section 5 outlines the softening of past macroeconomic constraints and Section 6 draws lessons from switches to higher growth in the past, before Section 7 concludes.

2. **Pre and post Covid-19: Predictions and performance**

Covid19: Given India's congestion, poverty and inadequate health infrastructure, the pandemic was expected to hit it badly. Initial predictions of deaths were in millions[2] and led to a strict nationwide lockdown on 25th March 2020. This imposed a high economic cost but kept the human cost comparatively low[3]. Under a gradual unlock, recovery was rapid especially after unlock 4 on 1st September when states could no longer impose restrictions on inter-state goods movement, allowing supply-chains to recover.

The new and highly infectious Delta variant peaked first in India over March-May 2021. It had a high human cost but passed in a few months. The economic cost was low, since this time lockdowns were decentralized and suited to local conditions. India's containment failure came in for a lot of criticism but Delta spread worldwide and even countries like China found it difficult to contain.

India is one of the very few emerging markets to produce its own vaccines. Vaccination proceeded rapidly after the second wave despite the daunting target of covering almost a billion people as well as the multiple conflicts and protests big democracies face on any issue. The experience demonstrated considerable medical, industrial and administrative abilities in India. By October 21, 2021 a billion doses had been given. More than 50% of the population had at least one dose and 20% had two doses. The economy was opening fully and even contact services were resuming.

Growth predictions: The strength of the recovery in 2020, after a strict lockdown, and in 2021 after a severe 2nd wave, surprised many. Through 2020 pessimistic growth predictions regularly had to be revised upwards. The average predictions of 30 professional forecasters made over September to March 2020 for growth in the fiscal year 2020 (FY20) became less negative from -9.1 to -7.5, and their predictions for FY21 rose from 7.4 to 11[4] (Table 1). The delta variant economic shock was

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[2] By end-November 21 numbers were going down consistently, even after the festival season. India seemed to have avoided a much predicted third wave so far. WHO data (https://covid19.who.int/) showed India had had 3.4 crore cumulative cases and 4.5 lakh deaths. In absolute numbers it had the second highest covid-19 cases after the US, and the 3rd highest deaths after the US and Brazil. But its population was 3 times that of the US.

[3] The many epidemiologist models of accelerated spread turned out to have predicted incorrectly. Decisions were made under extreme uncertainty. But the lockdown did succeed in slowing the spread, raised awareness and gave time to improve medical preparedness. If India had followed the Brazil do nothing model, multiplying their deaths and cases by 6.5 (India's pop of 138 crores is 6.5 times theirs) gives 825000 deaths and confirmed cases 28 million, compared to our August 2020 figures of 88,000 deaths and 5.5 million confirmed cases. Brazil's deaths per million were 608 India's 54.63. India's relatively low death rate provoked a large literature arguing the data was flawed.

[4] There was larger variation in individual forecasts, with the majority predicting large slowdowns in the absence of strong government support. For example, in Sen's (2020) best case post lockdown scenario with no material rise in government spending, FY20 growth was -12.4% and that in FY21 -8.8. He discounted the RBI May 2020 stimulus package because of risk aversion in the financial sector. Some did see a revival. For example, Virmani and Bhasin (2020) in April forecast 2020-21 GDP growth to be between 0.2% and 3.9% with a likely value of 2.3%. My forecast to a media channel in July 2020 (https://youtu.be/swnN8rD6fm0), before individual states started imposing restrictions on inter-state movement, ranged between -3 and 1%.

limited to Q1 2021 with strong recovery in July. Job loss was smaller and more transient in the second wave.

Given the perception that India was already doing badly pre-Covid-19, medium-run structural changes were regarded as pre-requisites for growth to recover. Since the financial sector was thought to have serious dysfunctionalities limiting monetary transmission, the limited fiscal stimulus was seen as a serious constraint. This explains why under predictions were dominant.

Actual growth showed a rapid recovery after the lockdown was eased and after the second wave. Jobs returned and there were signs of the long awaited uptick in investment in some sectors. There was some recovery in consumption, more in investment, while government expenditure was uneven across quarters (Table 2). Export growth was robust and even overtook 2019 values. Following the lockdown, growth was back to positive values by Q3FY21, after 2 quarters of negative growth. Annual growth came in at -7.3%, but this was affected by bringing food subsidies into the budget. GVA growth was less negative at -6.2%. Q1 FY22 in which the impact of the 2nd wave was concentrated, showed large positive year on year growth because of the base effect, but quarter on quarter growth was negative. End 2021 median growth expectations for FY22 were 9.5%.

Table 1: Forecast revisions

	Changing GDP growth forecasts					
Date of survey	May-20	Jul-20	Sep-20	Nov-20	Jan-21	Mar-21
For 2020-21	-1.5	-5.8	-9.1	-8.5	-7.6	-7.5
For 2021-22	11.7	7.2	7.4	8.2	9.5	11

Sources: RBI Survey of Professional Forecasters, various rounds. The survey is bimonthly and covers 45 professionals, more than 30 respond normally.

Notes: Actual GDP growth was -7.3 in 2020-21. It was low because of a large subsidy imputation. GVA growth was less negative at -6.2.

Table 2: Actual growth

2020-21	Growth over last year quarter					Growth over last quarter				
	Q1	Q2	Q3	Q4	Q1 (21-22)	Q1	Q2	Q3	Q4	Q1 (21-22)
P F C E	-26.2	-11.2	-2.8	2.7	19.3	-29.0	20.0	17.7	2.3	-17.4
G F C E	12.7	-23.5	-1.0	28.3	-4.8	24.5	-24.9	6.9	28.3	-7.6
G F C F	-46.6	-8.6	2.6	10.9	55.3	-45.5	56.4	16.0	12.1	-23.6
Export	-21.8	-2.0	-3.5	8.8	39.1	-21.2	26.0	-1.9	11.7	0.8
GDP at MP	-24.4	-7.4	0.5	1.6	20.1	-29.7	22.3	9.9	7.5	-16.9

Source: Calculated from CSO NAS data releases.

Notes: PFCE: Private Final Consumption Expenditure, GFCE: Government Final Consumption Expenditure, GFCF: Gross Fixed Capital Formation, MP: Market Price

But if there are fundamental constraints to growth, recoveries surprising on the upside are a puzzle, since major reforms take time. There was substitution towards manufacturing from contact industries, and innovation within contact industries themselves. Faster digitization boosted outsourcing exports. But most important, monetary-financial conditions had softened since 2019. This was taken further after Covid-19 hit. RBI announced major relief packages in May 2020. These seem to have delivered, suggesting that lower interest rates, backed with surplus liquidity do transmit to growth. Although in advanced economies (AEs) quantitative easing (QE) was excessive, since it added to excesses of the last decade, in India financial conditions were due for a turnaround after the drought of the 2010s.

Figure 1a: High frequency indicators for the pre Covid-19 period

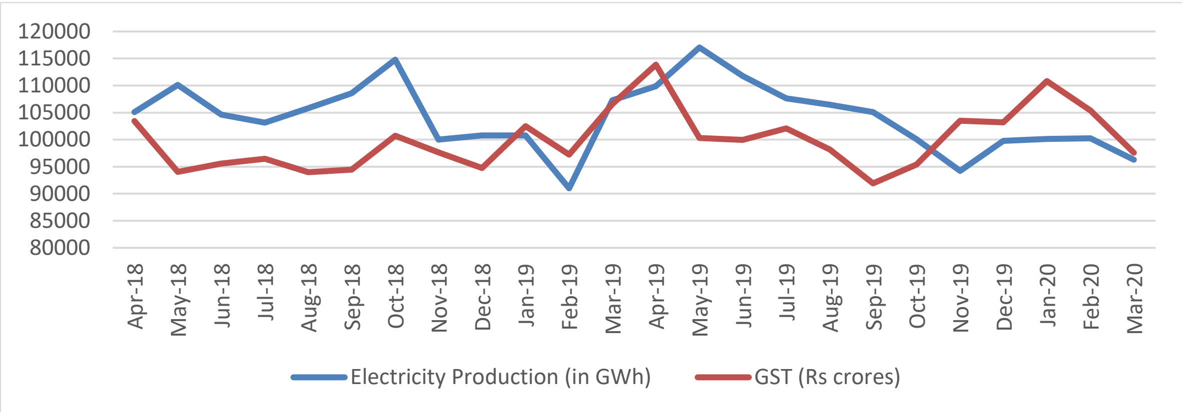
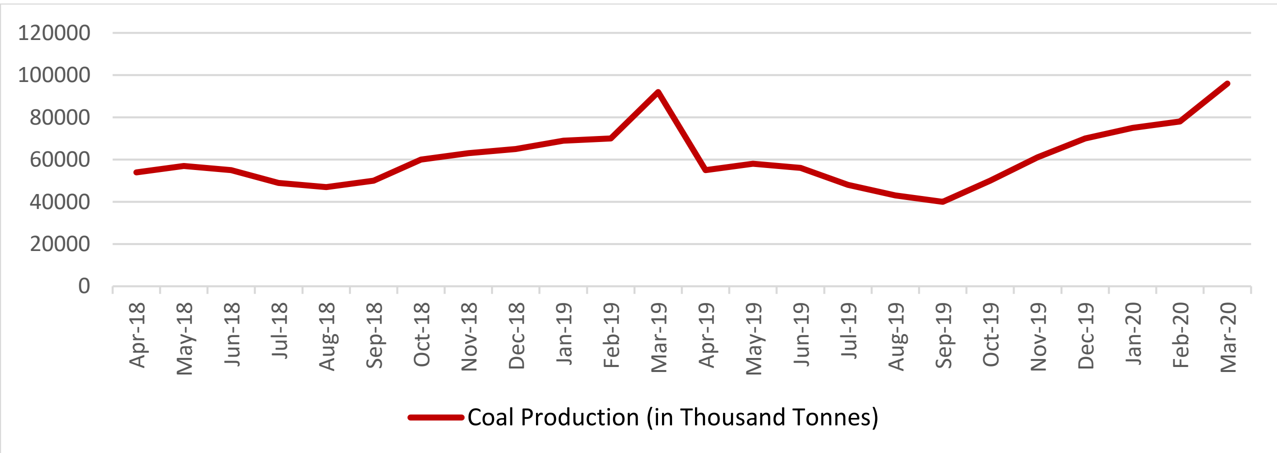
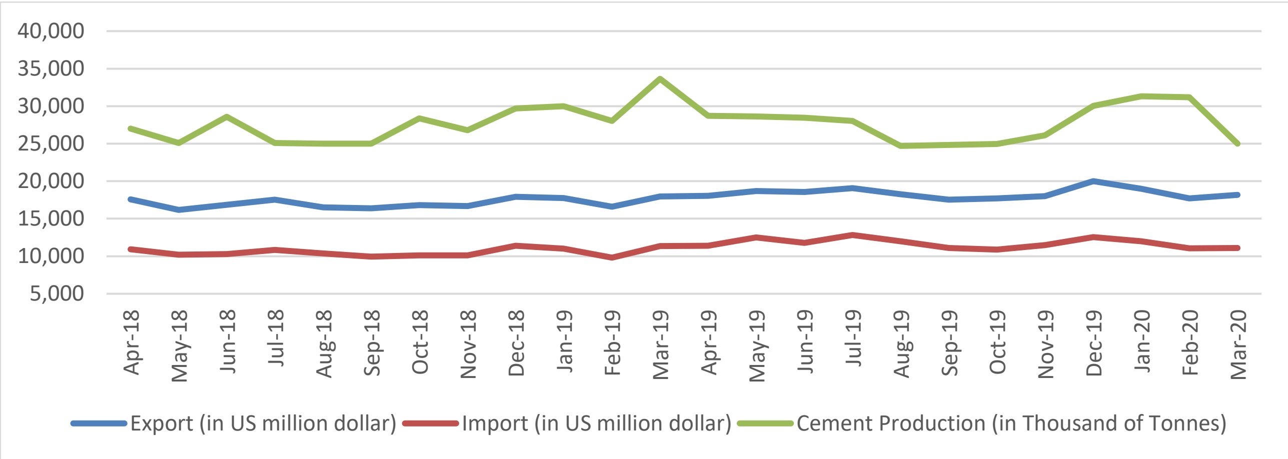


Figure 1b: High frequency indicators for the pre Covid-19 period: Coal (Thousand Tonnes)



The softening of these conditions in early 2019 had led to a growth revival by the end of the year. This is visible in many high frequency indicators (Figures 1a to 1c show a few of these). Because of the negative impact of Covid-19 in March 2020, the improvement was not, however, visible in yearly or quarterly growth rates, which was used to justify the view that the economy was in continuous decline even before Covid-19 hit. If a softening of monetary financial conditions contributed to a growth turnaround in the pre-Covid-19 period, it is likely it did so also post Covid-19.

Figures 1c: High frequency indicators for pre Covid-19 period



Financial sector: Given the perception of high gross non-performing assets (GNPAs), especially in public sector banks (PSBs), predictions were particularly gloomy for the Indian financial sector. It was seen as fragile and expected to add to the stress on the economy.

Table 3: Predictions of non-performing loans compared to actual

July 2020 FSR (Projection of GNPA)											
	Mar-20	*Mar-21*		*Mar-21 (Projected Values)*							
	Actual	**Actual**	% Change	**Baseline**	% Change	**Medium Stress**	% Change	**Severe Stress**	% Change	**Very Severe Stress**	% Change
PSBs	11.3	*9.54*	-15.6	15.2	34.5	15.5	37.2	15.9	40.7	16.3	44.2
PVBs	4.2	*4.78*	13.8	7.3	73.8	7.7	83.3	8.3	97.6	8.7	107.1
FBs	2.3	*2.43*	5.7	3.9	69.6	4.5	95.7	5.1	12.7	5.8	152.2
SCBs	8.5	*7.48*	-12.0	12.5	47.1	13.5	58.8	14.2	67.1	14.7	72.9

Source: Compiled from Financial Stability Report Issue no. 23, July, RBI (2021).
Notes: PSBs: Public Sector Banks; PVBs: Private Sector Banks; FBs: Foreign Banks; SCBs: Scheduled Commercial Banks

Table 4: Projections of capital adequacy compared to actual values

	Mar-20	Mar-21	Mar-21 (Projected Values)			
	Actual	Actual	Baseline	Medium Stress	Severe Stress	Very Severe Stress
CRAR	14.6	15.84	13.3	12.7	12.1	11.8
CET-1	11.7	12.78	10.7	10.2	9.6	9.4

Source: Compiled from Financial Stability Report Issue no. 23, July, RBI (2021).

The baseline projection of the widely quoted RBI financial stability report released in July 2020 expected a rise in gross NPA ratio to 12.5 in 2021 from 8.5 but the ratio actually fell to 7.5 (Table 3). Moratoria and restructuring helped but repayments were more than expected, collection efficiencies were in the nineties and take up of restructuring was limited. Restructured advances were only 0.9% of funding by March 2021. Table 4 and 5 show large capital buffers were built. These were adequate to absorb the limited deterioration in asset quality that occurred, largely in private banks. Again RBI projections underestimated the increase in capital buffers (Table 4). Table 5 shows that GNPA and NNPA fell, while provisions and capital ratios increased for most banks. There were some signs of stress in retail loans after the second wave, but are likely to be transitory after the rapid recovery.

Table 5: The evolution of select asset quality indicators

	September-19	March-20	September-20	March-21
GNPA Ratio				
PSBs	12.3	10.8	9.7	9.5
PVBs	5.1	5.1	4.8	4.8
FBs	2.9	2.3	2.5	2.4
All SCBs	9.3	8.4	7.5	7.5
NNPA Ratio				
PSBs	5.1	4.0	2.9	3.1
PVBs	1.8	1.4	1.0	1.5
FBs	0.5	0.5	0.4	0.6
All SCBs	3.7	2.9	2.1	2.4
PCR				
PSBs	60.1	64.2	70.5	68.4
PVBs	66.0	72.6	78.3	70.0
FBs	83.2	79.6	82.9	75.2
All SCBs	61.6	66.2	72.4	68.9
CRAR				
PSBs	13.5	12.9	13.5	13.8
PVBs	16.4	16.5	18.2	18.4
FBs	17.5	17.7	18.7	18.5
All SCBs	15.0	14.7	15.8	16.0

Sources: Compiled from Financial Stability Report, July (RBI, 2021).
Note: The Provisioning Coverage Ratio (PCR) gives the provisions held for NPAs as a percentage of GNPAs; CRAR: Capital to risk weighted assets ratio.

These perceptions were widely shared. For example, Moody's ratings upgrade for India in October 2021, explicitly said the financial sector had surprised them on the upside.

Forecast errors were especially high for PSBs. One reason for their outperformance is generous provisioning had reduced NNPAs to low single digits even before Covid-19, although the GNPA figure, which tended to be the one quoted, was still high. Table 5 reports the two figures as 4 and 10.8 respectively in March 2020. GNPAs were still high because of delays in the Indian bankruptcy process, but awards were coming in and these added to profits. High provisioning was possible because recapitalization was adequate after the Indian bankruptcy code (IBC) was passed in 2016. The government had waited to put more money into PSBs until large private creditors could be bailed in. The IBC did this, by making it possible for them to lose their assets.

Table 6: Composition of financial flows to the commercial sector (percent of annual total)

Source	**2018-19**	**2019-20**	**2020-21**
A. Adjusted Non-food Bank Credit	52.3	40.7	35.6
Of which Non-Food Credit	48.7	41.2	35.6
B. Flow from Non-banks (B1+B2)	47.7	59.3	64.4
B1. Domestic Sources	31.3	21.3	40.8
Public & rights issued by non-financial entities	0.4	4.5	2.4
Gross private placements by non-financial entities	6.6	16.6	17.4
Net issuance of CPs subscribed by non-banks	5.8	-10.7	2.6
Net credit by housing finance companies	7.1	2.0	2.9
Total accommodation by four RBI-regulated AIFIs *	4.8	5.7	8.4
NBFCs**	5.4	-1.6	4.9
LIC's net investment in corporate debt, infrastructure and social sector	1.3	4.8	2.2
B2. Foreign Sources	16.4	38.0	23.5
ECBs/FCCB	3.0	10.8	0.1
Short-term credit	0.6	-0.5	-1.9
Foreign Direct Investment	12.8	27.7	25.4
Total Flow of Resources (A+B) as percent of 2018-19 values		60.8	68.2

Source: Calculated from RBI reports
Notes: *NABARD, NHB, SIDBI & EXIM Bank; ** systematically important non-deposit taking and Deposit taking (net of bank credit)

Regulatory relief was time barred in line with reforms. Improvements in corporate governance and regulation assured risk-based lending and adequate provisioning. Limits were placed on large exposures. PSBs were also lending more to retail and to SMEs (small and medium enterprises). Although NPAs under the Mudra Yojana for SMEs were at 11.98% end March, 2021, loan sizes were small and Government credit warranties for SMEs were a healthier way of subsidizing small firms. These limited the impact on books of banks, reducing their risk-aversion for such loans.

Although low demand from large firms as corporates de-leveraged and continuing risk-aversion of banks kept growth of bank credit low, the share of non-banks in financing of the commercial sector rose to 64.4% in 2020-21 compared to 59.3% in 2019-20 (Table 6)[5]. Retail loans grew strongly but lending was risk-based. Banks were also participating in the corporate bond market in preference to making loans.

Aggregate financial flows to the commercial sector did rise. Even in the Covid-19 year of 2020-21 they were at 68.2 (as % of 2018-19 levels) higher than 60.8 in the preceding year 2019-20. Higher liquidity played a role in enabling this. Commercial papers and NBFCs reversed a fall in share.

Financial flows rose despite a shrinking in the share of foreign sources in the first year of Covid-19. More stable foreign direct investment dominated.

Reform included more deepening and diversity in financial markets and creating institutions like the IBC, a development finance institute (DFI) and a bad bank. These are essential for long-term financing that avoids the discretion, control and possibly poor decisions of governments while using their ability to borrow at lower costs and to de-risk long-term infrastructure projects. The new DFI can help leverage government funds to attract global funds available under net zero climate.

Corporate governance was generally strengthened, shell companies eliminated, databases built and other anti-corruption measures taken. A prerequisite for a healthy corporate bond market to develop is transparent compliance from corporates.

Thus financial reforms had made progress in delivering better governance, regulation, lending practices and stronger balance sheets as well as more diversity, which improves stability as well as creates more options for development and private financing. Diversity helps avoid the volatility and short-term view of markets while using their discipline and autonomy. It is necessary to serve a

[5] This is the direction modern financial systems are taking. Gorton (2021) shows only 50% of US business loans originate in the banking system and amount to 10% of US GDP. In India the share has fallen steeply because of corporate de-leveraging and bank preferring retail loans and is likely to recover somewhat as business picks up. By November 2021 bank credit growth had risen to 7%.

diverse economy such as India where some use sophisticated derivatives and others are opening a bank account for the first time—in the Jan Dhan Yojana of PSBs.

Long-term scarring: Although growth recoveries are good it is important to examine if they will sustain. There are signs of scarring in the education of those excluded from distance learning, in women's work and in SMEs all over the world. But in advanced economies SMEs received so much support that there is a fear of zombification as resources got locked into non-competitive firms.

In India, which could not afford 30% of GDP as a fiscal deficit, support was too little. SMEs had to substitute towards new opportunities enhancing innate resilience. There was faster adoption of digital. Government supported bank-finance to about 7% of SMEs that get bank loans was based on assessment of long-term survival. Smaller firms had traditionally drawn on informal sources of finance that remained active under easier liquidity conditions. Gold loans boomed. The majority of smaller firms work from home. In 2015 96% were owned by one household (NSSO 2017) suggesting they could remain active through lockdowns[6].

For women, and their employers, the Covid-19 experience made work from home more acceptable. This may facilitate a rise in India's very low women labour force participation. Apart from government programs, a vibrant NGO-CSR sector supported the deprived. There were remedial programs for the digitally excluded. Contact industries have had a very difficult time but the faster than expected recovery, pent up demand, revenge consumption and forced innovations may help them recoup.

Although the lockdown unemployment peak proved transient[7], low productivity informal employment dominates in the Indian economy, and labour force participation rates are low, especially for women. But there are signs of structural change.

Covid-19 has sensitized us to the issue of rural urban migration. Although rural population remains large, few are now supported solely by agriculture. Non-agricultural rural employment accounted

[6] 'Proprietary enterprises (i.e. enterprises owned by a single household) had the highest share (96%) of unincorporated non-agricultural enterprises. Nearly 20% of these were owned by females. Only 2% of enterprises were operated on a partnership basis.' [Statement 7.0]

[7] Unemployment is difficult to measure in India and estimates vary. The ILO's figures show a rise to 5.67 in 2013 after the GFC. Unemployment fell to 5.27 by 2019 but rose to 7.11 in 2020 (https://www.statista.com/statistics/271330/unemployment-rate-in-india/). Quarterly periodic labour force survey (PLFS) (NSO, 2021b) gives unemployment at 10.3 in the last quarter to 2020 compared to 7.9 in the last quarter of 2019. It peaked at 20.9 in the April-June lockdown quarter. CMIE data, which has questionable coverage but is available monthly shows unemployment jumped to 23.50% in April 2020 but fell to 6.50% in November of 2020. It rose again but less steeply after the 2nd wave and was at 8.32% in August. By September 2021 it fell to 6.86% but was higher in October at 7.92%.

for 81% of rural incomes in 2018. Even in 2011-12 agriculture accounted for only 59.4% of rural male employment (Goyal 2020).

Indian labour participation rates are very low for women, but part of this is due to migration to jobs in education and services from menial jobs. Kannan (2019) records that since 2011 about 30m pre-secondary education jobs were lost for women, a similar number were gained for post-secondary education qualifications. PLFS (2017-18) (NSO, 2019) (statement 16 pp. 65) reported the share of 'other services' in usual status female employment rose from 3% in 1977-78 to 8.9% in 2017-18 in rural areas and from 26% to 44.4% in urban areas.

Unemployment reflects aspirations. It is higher for lower age groups, as youths search for better jobs. After 30 they tend to settle for what is available. NSO (2021b, PLFS, 2020) gives the unemployment rate in the 15-29 age group as 24 compared to 10.3 for all ages in October-December 2020.

There are multiple entry points. The possibility of moving up according to skills creates quality ladders for jobs. The less skilled can, with minimal training, get jobs in retail, delivery and other urban services. Supply chain diversification together with government incentives such as the PLI schemes may finally allow India to create jobs in labour intensive manufacturing. Expanding education, health and urban services in 3 tier towns, can generate a potential explosion of jobs.

A sharp rise in entrepreneurship is also creating jobs. Many new Indian firms have grown to become unicorns with a value of over $1billion. The India stack and low cost payments infrastructure highway such as UPI have enabled many digital innovations, giving opportunities in Web based employment for the young.

Formalization was expedited by government tax policies, including the GST and digitization initiatives. But it is part of longer-run development and better labour allocation. NSSO (2017) shows productivity growth continuing to rise in India over 2011-2016, a period when in most countries there was a productivity slowdown after the global financial crisis (GFC). Unorganized sector compound annual productivity growth (7.2%) exceeded that in the organized sector (3.2%) in this period. To the extent formalization was taking place before Covid-19 its negative impact on the informal sector can be expected to be lower. Large firms did gain more, but some small firms may have grown large.

To see how the alleviating factors play out we have to wait for more data on the informal sector[8]. Meanwhile measures to sustain growth over the medium-run and increase employment can reduce scarring. In order to arrive at these measures we first examine reasons for India's under-performance over the last decade.

3. **The decade of underperformance**

Systematic under-prediction points to a lack of understanding of Indian growth drivers. That Indian growth was already slowing in 2019 was taken to indicate some fundamental flaws that Covid-19 was expected to aggravate. It is true, however, that growth slowed for India in the 2010s and there was a decade-long stagnation in investment.

First, India was not alone in this. In the past decade emerging markets (EMs) as a group grew more slowly under many global shocks. For the ten major EMs, IIP growth was 4.3 preceding the GFC (2000-08) and 1.3 after the GFC (2009-17) (Goyal et. al 2020). The years 2011, 2013, 2015 were actually larger shocks for EMs than 2008 itself. Not enough was done to moderate spillovers on EMs and consequences of global risk-on risk-off[9].

Second, India had the added disadvantage of PSBs passing through a severe NPA crisis after they were nudged to support the infrastructure push of the late 2000s. Deposits are for a shorter term compared to an infrastructure project. Global shocks compounded this basic asset liability mismatch. There were delays in resolution. Government was waiting for the IBC to be passed into law before recapitalizing banks to make sure the money was not used to refinance old loans and indebted promoters could be forced to part with their assets. RBI, however, conducted an asset quality review before this. Highly geared firms suffered as rates rose and bank credit fell sharply. NBFCs collapsed without liquidity support. As a result, when the rest of the world was undergoing a credit boom under quantitative easing Indian corporates were deleveraging. Private sector credit growth was the lowest in the world BIS (Table 7). Regulatory policies were also extra strict, as a reaction against corruption allegations surrounding the 2000s growth boom and a number of scams in firms. Critical reforms such as GST had implementation costs.

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[8] Rating transition matrix from ICRA, CARE showed 68% of SMEs they rated stayed in first category in September 2021; but an RBI 2021 survey showed confidence was still low among SMEs.

[9] This was short sighted because the relative size of EMs had risen, making it necessary to protect EMs to prevent negative spillovers to AEs themselves. AEs share of global GDP in PPP terms had fallen from 54% 2004 to 42.18% in 2021.

Over-stimulus as part of G-20 coordinated macro action in 2008 after the GFC led to double deficits and vulnerabilities to global QE and risk-on and –offs. There were also food and oil price shocks. In an over-reaction monetary, fiscal as well as regulatory tightening followed. While some reforms were essential, and costs had to be borne, it is never wise for everything to move in one direction[10]. Macroeconomic policy could have been counter-cyclical. The focus was on structural change, not on stabilization, which is all the more needed in India since specific factors that cause macroeconomic volatility (This are discussed in Section 5). Thus there were global as well as domestic policy shocks.

4. What type of reforms is required?

First of all, the macroeconomic and regulatory tightening needs to be reversed. This did begin in 2019. There is a move to more balance and better monetary-fiscal coordination. Policy has to be countercyclical and smooth external shocks. FX reserves are adequate for this purpose and the absence of full capital account convertibility also gives space. It is necessary to support the domestic cycle if there are outflows during the Fed exit.

Through the decade of slowdown many essential reforms were done in the financial sector, in taxation and to reduce corruption. More needs to be done, but focus can now be on feasible reforms that improve the supply-side. Foreign advice often emphasizes reform of factors of production such land and labour as a pre-requisite for sustained growth. But there is political resistance whenever large groups are affected. We have just seen how large domestic shocks contributed to the slowdown. It is necessary to avoid such shocks. Moreover, recoveries have been healthy even without land and labour reforms. Therefore such reforms are better done slowly, quietly, through competition among states in a federal structure.

Reforms need to be feasible and in line with political economy. It would be fruitful to work with current trends, building on the enormous opportunities from technology and innovation in the context of India's youthful population. Covid-19 has intensified opportunities from digital WFH, outsourcing, and supply chain diversification. To fully harness potential much work needs to be done on education, skilling, infrastructure, institutions and empowerment to enable more to participate—many initiatives are continuing in these areas.

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[10]Virmani (2020) finds evidence of a J curve in the impact of the financial, tax, and anti-corruption reforms imposed in the 2010s. They first cause growth to fall. Then it rises faster. It is, however, not necessary to aggravate a dip with macroeconomic tightening.

Governance can be improved for delivery. A clear focus on reducing the cost of doing business and enhancing human capacity will deliver better outcomes. We illustrate with some examples. Technology can help in myriad ways. E-metering is a solution to inability to impose user charges. Better accounting systems can ensure automatic payments without delay for government work. Courts, police, the environment all need work. Centrally sponsored schemes can be rationalized. States also tend to have more than a thousand schemes running, no scheme is ever shut for fear of a political backlash. Convergence to best practices can be induced for states. This is more than just improving ranking on indices, but requires awareness, dialogue and change in ways of working.

Capacity has to be built at the 3rd tier, where quality public services offered can be linked to taxes or user charges. The private sector sometimes does better in distribution. PPP can be used with regulation to prevent price gouging. Vaccination centres can be converted to expand health infrastructure. Villages that have grown into small towns are often not classified as urban, in order not to lose rural development funds and to have to provide urban services. Many industrial parks are underutilized, while SMEs need plug in facilities. Online land records, apart from other benefits, can improve collateral for low cost loans. Much can be done, therefore, without provoking political backlash and controversy.

Some of these things are happening, since labour productivity is rising, especially in the informal sector, which tends to be more dependent on public services.

4.1 *Fiscal-Monetary strategy*

Macroeconomic policy is a major component of overall government strategy.

The structure of pre-reform fiscal policy can be characterized as one of plans plus populism. Low returns from large investments in public sector enterprises were partly responsible for the debt/GDP ratio crossing 70%. Populism meant that despite cost shocks prices were not allowed to rise. Low or no user charges for many public services resulted in cross subsidies, distortions and deterioration in quality of services. However, the large stock of inherited poorly monetized assets can be leveraged to improve efficiencies as well as restructure government towards supporting human and physical capital formation, which has the maximum spillovers. Tax reform and data-use can increase the tax base. For the really poor income support through Direct Benefit Transfers is now possible. This reduces leakages and other distortions.

Using the financial sector shifts certain spending items below the line. Then they do not add to current public sector borrowing requirements and crowding out of the private sector. Recapitalization bonds are one example. They do add to debt but need not raise debt ratios to the extent they contribute to raising GDP. Credit warranties can remove banks' fear of lending and risk aversion and need not be exercised at all to the extent repayment ability rises with growth. The financial system is ready to be used both because of stronger balance sheets, better corporate governance, regulation and lending practices and because the time is ripe for a reversal of tight monetary and financial conditions that would better utilize it.

4.1.2 Coordination

To the extent continuing improvement in supply conditions reduces costs and inflation, monetary policy can keep real interest rates below growth rates while reducing the volatility of both. This is the snowball effect that reduces debt ratios. The effect normally holds in EMs but is vitiated by high volatility in growth and interest rates. Therefore policy must smooth both.

In the post Covid-19 world of supply shocks and high government debt monetary-fiscal coordination has become acceptable in AEs, while earlier it was regarded as compromising monetary policy independence. In India, however, coordination normally does better because supply shocks dominate inflation and can be better influenced by fiscal policy and reform, while monetary policy has more space to affect demand. The flexible inflation targeting regime ensures central bank independence and contributes to anchor inflation expectations. Coordination is consistent with central bank independence since rates can be kept low only if there is supply-side action.

Research shows that monetary transmission to output is effective in Indian conditions[11]. High debt and interest payments, however, constrain fiscal spending. Procedural delays and risk-aversion also adversely affect the latter. The real interest rate aligned with liquidity affects demand and output. Persistent liquidity deficits leave both the informal and the market sector that do not have access to central bank liquidity, underserved. Then liquidity hoarding adversely affects payments through the economy. This was the case in the2010s. Liquidity has to be in sufficient surplus to ensure that shocks such as foreign outflows, currency leakage or rise in government cash balances do not create a durable liquidity deficit.

Government does create demand in excess of its income since it runs a deficit, but overall demand need not be in excess, since there is a large working population in transition to higher productivity

[11] Goyal and Arora (2016) show the interest elasticity of aggregate demand (-0.21) in a semi-structural estimation with gap variables is as high in AEs. This is intuitive because of a booming consumer durable and housing loan demand that induces demand for working capital and investment funds. Goyal and Agarwal (2018) show monetary transmission works best when the policy rate and liquidity are aligned.

work making the supply response elastic, although it is subject to cost-push[12]. Monetary policy can adjust the real interest rate to keep demand a step ahead of supply and sustain growth, as long as the government is alleviating some of the supply-side issues that create inflation[13]. The resulting rise in spending will be gradual, but cumulative yet sustainable, if the real interest rate is kept around the natural rate. Fiscal consolidation, as growth rates exceed real interest rates, will reduce risk premiums due to rating agency actions that can raise interest rates in EMs.

The Covid-19 period has given experience in handling supply-demand mismatches. The pandemic response illustrates effective use of the monetary-fiscal strategy discussed.

4.1.3 Pandemic response

The macroeconomic response to the pandemic demonstrated the above monetary-fiscal coordination and cautious use of the financial sector. The immediate response was monetary stimulus, regulatory relief, moratoria, restructuring. In the first stage government spent on medical facilities, free food and unemployment insurance. Then it announced warranties through the financial sector. The support through banks went only to illiquid, not long-term insolvent firms. A transparent reversal-time was communicated for support measures. Reform measures that improved supply conditions, including frontloading infrastructure spending, were continued.

In 2020 the government was initially accused of under spending and told to focus on creating demand. But when the fiscal deficit ratio (FD) was revealed to be 9.5, the debate swung around to worry about debt and it's financing. The ask was to clone AE protection transfers, but this is unaffordable for a one billion plus population. Expenditure on infrastructure has a high-multiplier and makes monetary accommodation more feasible.

Covid-19 facilitated a new type of crisis response for India. Not tightening against outflows but monetary stimulus; even a QE type expansion of central bank balance sheets, cuts in policy rates, with a limited increase in government deficits. This worked well since it enabled use of the snowball effect that reduces debt ratios if growth rates exceed interest rate. Timely reversal, reforms and medium-term fiscal consolidation prevented risk premium from rising. There was a correct sequencing and combination of demand and supply measures. In AEs over-emphasis on demand led to persistent supply bottlenecks, creating inflation for the rest of the world.

[12] Goyal (2011, 2017a) developed such a macroeconomic model. The first derived it from a general equilibrium foundation, the second from a policy perspective. I thank Arvind Virmani for suggesting it should be given an appropriate label. Since it analyses demand and supply simultaneously in a small emerging open market, EMDS may be suitable.

[13] Goyal (2018) demonstrates that in Indian conditions delegation to a conservative fiscal and pro-growth monetary authority gives the best results.

In the post-Covid-19 period continuous supply-side action is required from the government so that real interest rates can be kept low. Interest rate policy enables appropriate fine-tuning of demand. If exports and pent-up demand moderate demand can be raised; if there is overheating, it can be reduced.

5. Macroeconomic constraints and growth volatility

The fact, however, is that India's post-reform growth has been volatile. Why should it be different in future? We argue that certain constraints that contributed to this volatility are somewhat relieved, although continuous action is required to smooth shocks.

5.1 Commodity and other shocks

India's dependence on oil makes it vulnerable to international oil price shocks. This has been a major shock contributing to inflation, creating other distortions and periodically slowing growth. Various green initiatives[14] and the greater elasticity of supply of shale oil makes for a change in the political economy of oil pricing, reducing the duration and size of peak prices. The oil intensity of production is continually falling so that a higher level of pricing can be absorbed with less impact on inflation. Reforms have lowered distortions in Indian policy that meant oil prices only rose and did not fall. Oil prices are market determined. The remaining distortions due to discretionary tax changes will reduce as oil is brought into GST. Firms will also then get input tax credit. With two-way movement oil prices can be looked through in an inflation targeting regime and need not raise inflation expectations.

Food price inflation is another major supply shock the economy has had to contend with. Populous East Asia generally was careful to focus on productivity and keep food prices low as long as food dominated the consumption basket. India went in for a complicated system of price support for farmers and for consumers. Productivity suffered. But by the mid-2010s there were clear grain surpluses, signs of a shift to horticulture, which makes multiple shorter crop cycles possible and rising exports. Improved interior roads under a central scheme (PMGSY), was a major enabling factor. This allowed better market access. Since India's per capita income has crossed a threshold, income support and subsidy programs that distort prices are becoming WTO incompatible. India's minimum support price (MSP) that has degenerated into an income support program has to go back to being a true MSP. Income support, if necessary, can be given through direct transfers or green box program.

[14] A green shock slowed traditional energy sources and contributed to shortages in the Covid-19 period, but is unlikely to persist for long.

A large share of rural income now comes from non-agricultural activities. Providing uniform facilities, such as wellness centres and schools has large employment potential. Resilience to climate change also needs to be planned for.

External shocks such as excess volatility of foreign flows due to global events are another major source of shocks. India has enough reserves to be able to protect the domestic cycle from such shocks. The Covid-19 episode has again demonstrated the benefits of countercyclical domestic policy. India's gradual and sequenced capital account convertibility also gives it degrees of freedom. Emerging markets have been at the receiving end of global shocks ever since the GFC. The G-20 and other fora can be used to push for more protection for EMs in the international financial system[15].

5.2 Financing constraints

In the post reform period government debt and interest payments were relatively high. The corporate bond market did not develop adequately. Therefore, financing infrastructure was a problem. Government discretionary intervention to push infrastructure finance through PSBs loans to private parties resulted in large NPAs.

Financial sector reforms were essential to meet private and public financing requirements without instability. Through the 2010s there was a clean-up of banks and firms. Regulation and corporate governance was improved and the IBC implemented. In this process, after the GFC, when credit was increasing worldwide under QE, India had tight financial conditions.

Indian government had more debt but overall (corporates and household) debt was much lower than in other EMs (Table 7). In 2019 BIS data shows the debt/GDP ratio for the Indian private sector was 87.2 compared to 147.1 in EMs. For government, however, the respective ratios were 71.9 and 43.6. EMs had the largest rise in corporate debt in this periods; AEs in government debt. A debt survey (NSO, 2021a) also corroborates this picture. In 2019 compared to 2013 urban household indebtedness stayed unchanged at 22%, while rural increased from 31.4 to 35. The average for faster growing and more financially developed Southern states was generally above the all India level.

India was therefore ready to use credit-based stimulus. The financial sector had strengthened and become more diverse and had space to lend. There was no high private leverage unlike in most

[15] Oil prices have been excessively volatile after the US Commodity Futures Modernization Act passed in 2000, lightened position limits, among other deregulations for 'Swap dealers', who facilitate over-the-counter investment in exchange-traded funds tracking commodity indexes. There was an explosion in these. Financial reforms after the GFC that focused too much on banks have increased arbitrage to other markets. Oil price volatility hurts EMs. This is a major issue to take up.

other countries. But rise in public debt had to be moderate. Even so, in the Covid-19 year rise in aggregate debt in India was only half that of EMs. Therefore, the relative caution continued.

Table 7: Core debt as a ratio to GDP

	Total credit to the private non-financial sector	Bank credit to the private non-financial sector	Total credit to household	Total credit to non-financial corporation	Total credit to government sector at nominal value	Total credit to the non-financial sector
India						
2019	87.2	53.1	34.5	52.7	71.9	159.1
2020	95.2	58	37.7	57.5	85.7	180.9
AEs						
2019	164.7	79	73.5	91.2	100.1	273.4
2020	185.3	88.6	81.1	104.2	123	321
EMs						
2019	147.1	112.8	45.4	101.7	53.6	200.9
2020	172.9	135.3	53.9	119	66.3	239.5

Notes: 1.Core debt comprises debt securities, loans and currency and deposits in nominal values. 2. In USD at market exchange rates
Source: BIS (2021) https://stats.bis.org/statx/toc/CRE.html

6. Sustaining the recovery

While the recovery has been good, for sustaining higher growth rates, apart from supply-side reforms, demand has to high enough to induce investment to rise. In past switches to higher growth paths in India, the marginal propensity to invest rose above that to save. But total savings and savings ratios also then rose with income (Goyal 2020).

Pre-reform rise in public sector investment drove the process, but was unable to sustain because of rise in public deficit and debt in 1980s.

Post reform, there was a jump in private investment mid-90s, mid-2000s. Each time, this was halted by supply-side led inflation, sharp rise in interest rates and NPAs.

A more stable and diversified financial sector can finance investment that leads savings. In the past, savings ratios followed a jump in investment, as incomes rose. Therefore current rates need not be a constraint, as long as inflation and interest rates stay stable. Changes in the composition of savings, also makes them more available to finance investment. Although household savings have fallen, the share of financial savings[16] in household savings is rising. There is a rise in financial and corporate savings.

The rise in the share of investment in government expenditure can crowd in private investment. A low real interest regime can raise durable consumption and housing loans, inducing private investment. Together investment may obtain the required critical mass. Keeping real rates below growth rates is possible if inflation targeting and supply-side action keep inflation low[17], shocks decrease in intensity as the ability to smooth those rises.

Even small but well-coordinated beginnings can trigger and sustain higher growth. It is necessary to prevent a demand constraint, but a large excess demand stimulus is not essential.

7. Conclusion: Growth drivers

Post reform growth in India was volatile but constraints are easing now. After the GFC macro policy and regulations were too loose; after 2011 they were too tight. Now there is a move towards more balance.

Essential reforms are adequate. Although slow, fundamental reform was undertaken in the financial sector. It had become relatively healthy prior to the Covid19 shock and in order to preserve this, moratoria, restructuring and liquidity support given were not indefinite. Corporate governance, regulations and board independence have improved. There is more diversity in sources of finance.

Most banks are now doing careful risk-based lending with a focus on retail. Government credit warranties helped overcome banks risk aversion. It is correct that subsidies should be directly borne by the government, instead of being forced on a commercial sector that then fails. Monetary financial conditions remain relatively soft. With a softening in 2019, growth revival took place and was visible in the high frequency data, before Covid-19 hit. Despite the lockdown and disruption of activity, resource flow to the commercial sector was actually higher in the Covid-19 year of 2020-21 than in the pre-Covid-19 year of 2019-20. A stable financial sector can safely finance investment that leads savings and pulls it up.

[16] One estimate is it will cross 55% in 2030 compared to 41% in 2020.

[17] Reforms such as asset monetization that offer opportunities for PPP, with government de-risking of projects, and Gati Shakti one of whose aims is to reduce the share of logistics in costs from 13% to 10% by correcting the excessive use of costly and polluting road transport, can keep conditions conducive.

That the post Covid19 stimulus did not go overboard underlines the new-found balance in policy. Despite the required rise in deficits, the path to fiscal consolidation is clear.

It is not just careful policies that give India a growth advantage. Its demographic profile is the big one. In an increasingly aging world there will be a premium on youth, talent and entrepreneurship. India has all this in abundance (Goyal, 2021).

It is this energy that will find opportunities provided some basic support is there. One example of this support is the steady improvement in infrastructure. Better rural roads and Inter-State movement partly explain the sharp rise in agriculture exports. Diversification of orders from China has contributed to 2021 export growth overtaking its 2019 levels. And the potential is much more. The rising share of foreign direct investment can complement domestic investment. It is clear that foreign inflows are discriminating among EMs—Indian inflows are not just due to QE. Growth prospects and stable macroeconomic parameters are pull factors.

Thus the largest share of youth combined with technology/innovation, outsourcing and supply chain diversification gives an opportunity to kick-off a virtuous growth cycle[18] with inclusion largely from empowerment, unlike in the past when all kinds of subsidies for a 1 billion plus population reduced sustainable inclusion through capacity building.

To sustain growth and employment it is necessary to avoid large policy shocks and implement feasible reforms with continual supply-side improvements, sustaining the required monetary-fiscal coordination.

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[18] At a 13% rate of nominal growth the economy will be $10 trillion in 2030; at 10% it will be $7trillion; inflation around 5% and 8-5% real growth gives this variation. By then it should account for 17% of global consumption, just behind China.

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