

Investment and Saving Slowdowns and Recoveries: Cross-Country Insights for India

03 CHAPTER

Investment calls the tune, and profits dance accordingly

Hyman Minsky

India's unprecedented climb to historic high levels of investment and saving rates in the mid-2000s has been followed by a pronounced, albeit gradual, decline. This current episode of investment and saving slowdown is still ongoing. This chapter draws on cross-country experience to study the pattern of investment and saving slowdowns as well as recoveries in order to obtain policy lessons for India. One finding is that investment slowdowns have an impact on growth but not necessarily saving. Another is that recoveries from investment slowdowns, especially those associated with balance sheet difficulties--as in India--tend to be slow. Notably, mean reversion or some degree of automatic bounce-back is absent so that the deeper the slowdown, the slower and shallower the recovery. The policy conclusion is urgent prioritization of investment revival to arrest more lasting growth impacts, as the government has done with plans for resolution of bad debts and recapitalization of public sector banks.

INTRODUCTION

3.1 Since 2010, discussions of India's growth have centered on one simple question: how soon will the economy revert to 8-10 percent growth? The question is at times posed as if such a reversion is a *fait accompli*, a phenomenon just waiting to occur. Perhaps it is even just round the corner, given all the structural reforms the government has implemented in recent years.

3.2 Underlying this expectation is the firm belief that domestic saving and investment will soon start to accelerate. But this cannot be taken for granted. As Figure 1 shows, neither saving nor investment is unduly depressed. Investment (gross fixed capital formation) rate and gross

domestic saving rate are actually above the levels that prevailed throughout the 1990s. In fact, it was the boom of the 2000s that was exceptional, as India's climb to about 10 percent real GDP growth was accompanied by an unprecedented 9 percentage point pick-up in domestic saving and investment rates. The subsequent slide in investment and saving (as a percent of GDP) has merely brought these rates back towards normal levels. Specifically:

- The ratio of gross fixed capital formation to GDP climbed from 26.5 percent in 2003, reached a peak of 35.6 percent in 2007, and then slid back to 26.4 percent in 2017.¹
- The ratio of domestic saving to GDP has

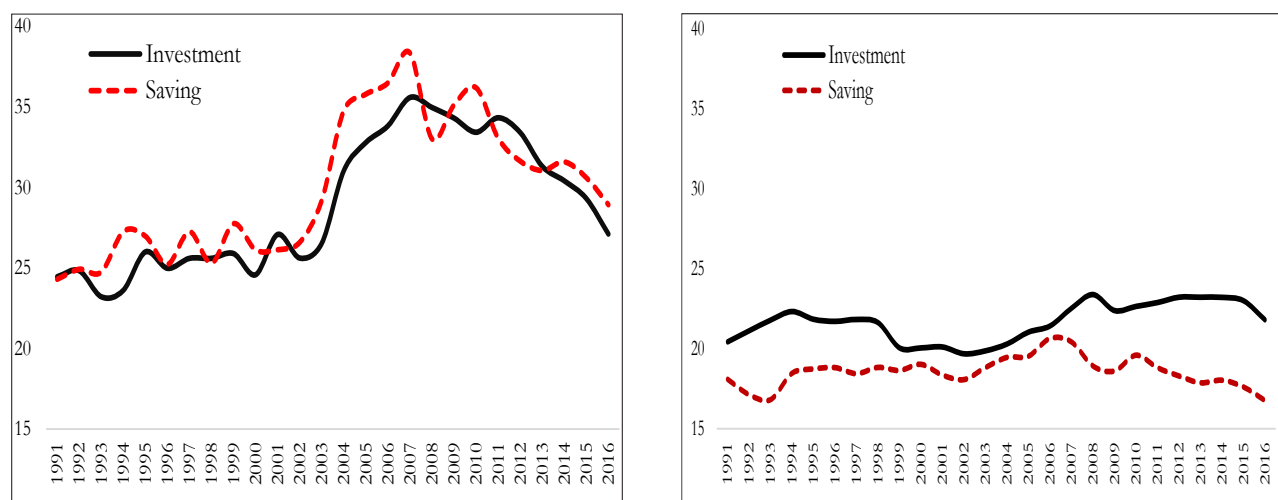
¹ Data, including for India, are from the World Bank's World Development Indicators (WDI). Gross fixed capital formation includes purchases of plant, machinery, and equipment; the construction of infrastructure (roads and railways, schools and hospitals, private residential dwellings, industrial buildings, etc.) and land improvement. These ratios are in nominal terms.

registered a similar evolution, rising from 29.2 percent in 2003 to a peak of 38.3 percent in 2007, before falling back to 29 percent in 2016.²

- The cumulative fall over 2007 and 2016 has been milder for investment than saving, but investment has fallen to a lower level.

global economy, no other country seems to have gone through such a large investment boom and bust during this period. The right hand panel of Figure 1 shows that in comparable countries the average increase in saving and investment prior to the crisis was modest, while subsequently only domestic saving has shown a pronounced decline. And while averages always conceal a variety of

Figure 1. Investment & Saving (as percentage of GDP):
India (left panel) and average for sample economies (right panel)³



3.3 Such sharp swings in investment and saving rates have never occurred in India's history—not during the balance-of-payments crises of 1991 nor during the Asian Financial Crisis of the late 1990s. And while it is true that the past 15 years have been a special period for the entire

experiences, the only country that displays a similar pattern to India over the same time period is Brazil – and even in this case the parallel is far from exact.

3.4 Which sectors are responsible for the

Table 1. Change in the Composition of Investment and Saving Rates (percentage points)

	Change in Investment		Change in Saving	
	2004-05 to 2007-08	2007-08 to 2015-16	2004-05 to 2007-08	2007-08 to 2015-16
Total	9.1	-6.3	9.1	-7.7
Public	1.4	-1.3	3.9	-4.0
Private	7.6	-5.0	5.2	-3.8
Private corporate	8.9	-4.4	5.2	1.4
Household	-1.3	-0.6	0.0	-5.2

Note : The investment data is as per the 2011-12 series. The gross savings number is from the World Bank to which sectoral ratios from National Accounts Statistics are applied to estimate the sub-components.

Source : Central Statistics Office (CSO).

² This is the latest year for which data on saving is available.

³ The sample consists of 55 economies, some low income (8) but mostly middle income (40), and a few high income (7). A few economies get excluded from subsequent analyses as they are oil exporters (Algeria, Ecuador, Iran, Trinidad & Tobago, Nigeria and Venezuela). This sample encompasses 23 major emerging market economies (Annex I).

saving/investment decline in India? Essentially, private investment and household/government saving (Table 1). Based on the break-up of investment and saving, that is available up to 2015-16, private investment accounts for 5 percentage points out of the 6.3 percentage point overall investment decline over 2007-08 and 2015-16. The fall in saving, by about 8 percentage points over the same period, has been driven almost equally by a fall in household and public saving. The fall in household saving has in turn been driven by a fall in physical saving, partly offset by an increase in the holding of financial assets. Within the latter, there has been a shift from currency and bank deposits towards market instruments, viz. shares and debentures, as discussed in Chapter 1 of *Economic Survey 2017-18*, Volume 2.

3.5 So, what can be expected going forward, for India's investment in particular—and for the country's prospects of reverting to sustained high growth rates? This chapter attempts to answer this question, taking its cue from saving and investment slowdown episodes witnessed over the past 40 years in other, including similar, countries. To investigate these issues, this chapter:

- Identifies episodes of saving and investment slowdowns;
- Studies their patterns;
- Examines how investment behaves in the aftermath of a slowdown; and
- Draws policy lessons for reversing India's investment slowdown and re-accelerating GDP growth.

3.6 In earlier and related literature Hausmann, Rodrik and Pritchett (2004) studied growth accelerations. Their results, among other things, indicate that standard determinants of economic growth (viz. greater investment, exports and a more competitive exchange rate) partly explain such accelerations. Rodrik (2000) examined cases in which countries underwent sustained saving

transitions, analyzing the relationship among saving, investment and growth during those periods. His main conclusion was that economic growth is aided by creating incentives for investment (rather than saving) and production.

3.7 Drawing upon the tools used in these papers, this chapter focuses on episodes of saving and investment slowdowns. The next section starts by defining such slowdowns.

IDENTIFYING INVESTMENT AND SAVING SLOWDOWNS

3.8 Investment and saving slowdowns are defined using a specific set of conditions (filters). First, a “shortfall” is defined as the difference between (a) the average of investment (saving) in the slowdown year and subsequent two years; and (b) the average of the previous five years. Then, a “slowdown year” is defined as one where the shortfall in that year exceeds a certain threshold. If there are two or more consecutive slowdown years, this counts as a “slowdown episode”. Second: the average investment rate for the 5 years prior to the slowdown year is at least 15 percent of GDP.⁴

3.9 The thresholds considered are of 2, 3 and 4 percentage points. As noted in Rodrik (2000), the lower the threshold, the greater the risk of capturing episodes of temporary volatility rather than more enduring slowdowns. But because India's current investment (saving) slowdown has been so gradual it is best captured in the 2 percent threshold. Moreover, in most cases, the results for the 3 and 4 percent thresholds also hold for the 2 percent case.

3.10 The effective span over which slowdowns are captured is 1975 to 2014, with a sample of 55 countries, providing around 2,200 observations (Annex I).

3.11 Table 2 (for the 3 percent threshold) reveals that investment episodes are more frequent than saving episodes, while common episodes (where

⁴ This rate ideally should be a little higher, say 20 percent, to limit the number of slowdown cases. At that rate, however, certain important economies will be excluded most prominently Israel, Ghana, and Egypt.

both investment and saving slow) are relatively unusual. This pattern, however, has reversed after 2008, with saving episodes catching-up with investment episodes. Presumably, the relatively lower number of investment episodes in the latest period reflects concerted efforts in emerging economies to revive investment after the Global Financial Crisis via stimulus and other policies. Similar trends hold for the 2 and 4 percent thresholds.

Table 2. Number of Slowdown Episodes (3 percent threshold)

	Saving	Investment	Common
1975-83	6	14	13
1984-97	12	19	8
1998-2007	9	15	5
2008-2014	9	10	1
Total	36	58	27

Note: This table includes episodes of oil exporters. These patterns hold even with such countries excluded.

3.12 Table 3 shows that that investment and saving slowdowns tend to be similar in duration. However, investment slowdowns are greater in magnitude. Magnitudes are the shortfalls (as defined above), cumulated over the entire slowdown episode. Measured in this way, the

magnitude of a typical investment slowdown (calculated as an average of slowdowns identified using the 2, 3 and 4 percent thresholds) is 33 percentage points, higher than the 22 percentage point average for saving slowdowns.

3.13 Duration is a simple count of the number of years that the shortfall in investment/saving exceeds the various thresholds. For example, if the shortfall persists for 5 years, but exceeds 2 percent only for 2 years, then the duration is termed as 2 years. Using this definition, both investment and saving slowdowns typically last around 4 years.

3.14 At the same time, Table 3 reveals some notable differences between investment and saving slowdowns. Investment is more prone to extreme events: there are 4 cases where the cumulative investment slowdown exceeded 50 percentage points, whereas there are hardly any cases of saving slowdowns of this magnitude. On the other hand, large saving slowdown episodes measuring between 30 and 50 percentage points tend to drag on for a year more on average than similarly-large investment slowdowns.

3.15 The table in annex III provides a complete cross-country list of investment and saving slowdowns. It reveals that slowdowns are quite frequent, appearing even in ‘success stories’, such as China (1988), Singapore (1985, 1999), and

Table 3. Magnitude-wise Count and Duration of Slowdown Episodes (Percentage Points, Average of 2, 3, and 4 percent Thresholds)

Cumulative Magnitude	Investment			Saving		
	Count	Avg. Magnitude	Avg. Duration (years)	Count	Avg. Magnitude	Avg. Duration (years)
50 to less than 70	4	65.4	6.1	--	--	--
30 to less than 50	14	39.0	5.4	11	38.7	6.5
10 to less than 30	42	19.0	3.7	27	18.6	3.5
Up to 10	15	7.8	2.1	13	8.0	2.1
All	75	32.8	3.8	51	21.8	3.8

Note: The table does not include oil exporters.

Mauritius (1981, 1995, 2012). In fact, Mauritius – along with Tunisia and Egypt – has experienced no less than 4 investment slowdowns over the past 40 years in the 2 percent threshold. Looked at another way, there is only one economy in the sample since the early 1980s that has not suffered from any slowdown: Bangladesh.

3.16 While frequent, slowdowns have tended to cluster in particular time periods (Figure 2). Most slowdowns in Latin America and Africa occurred during the 1980s, a period that became known as the ‘lost decade’ in those continents. The investment and saving slowdown in Mexico following the debt crisis of 1982 is captured in various thresholds, while the weakness of the Brazilian economy manifests as investment and saving slowdowns from the early 1980s to the early 1990s.

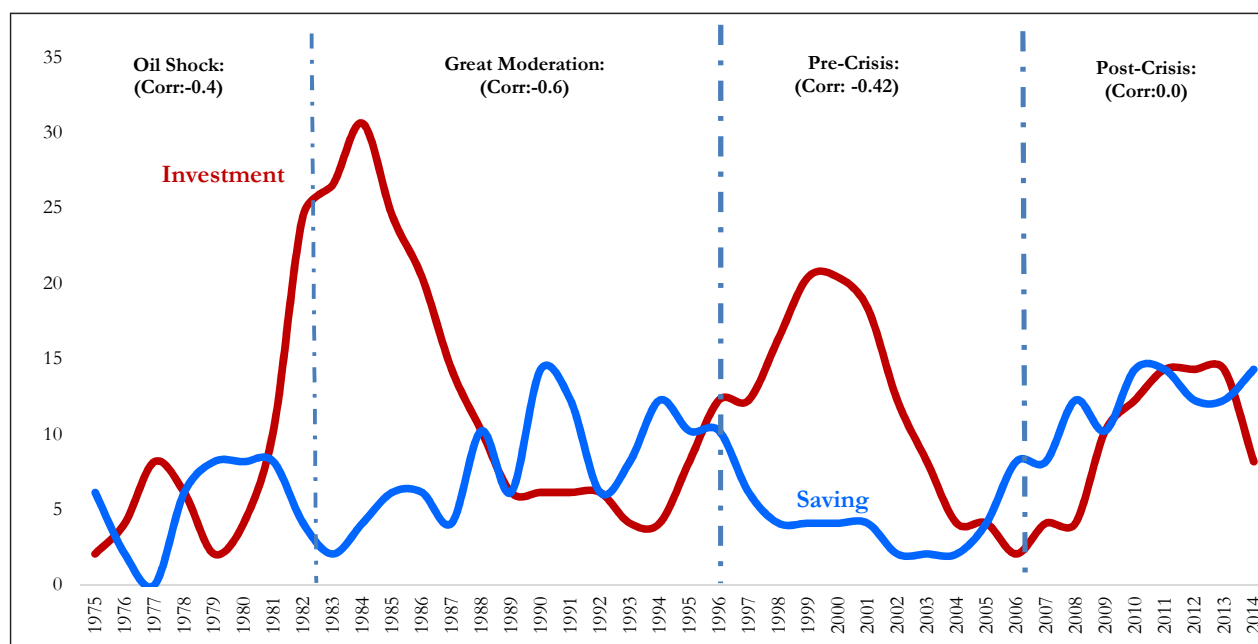
3.17 Meanwhile, Asian countries faced the largest number of slowdown episodes (10) following 1997. During that period, there were large investment slowdowns in Malaysia, Thailand, Indonesia and Korea, which of course is why this

period is known as the East Asian crisis—though the phenomenon extended to countries as far away as Turkey and Argentina.

3.18 Currently (after 2008), these economies are in the era of saving slowdowns, with the percentage of such countries at its peak, as Figure 2 shows. The fraction of countries with investment slowdowns has also increased, though to a limited extent. Curiously, this relationship between the two types of slowdown turns out to be unusual—from 1975 to 2007, the correlation in figure 2 between the number of countries experiencing an investment slowdown and those experiencing a saving slowdown that was negative—seems to be breaking down in the latest period. Saving are perhaps less prone to cycles because of being influenced by long term trends viz. demographics.

3.19 How does India fit into this broader picture? As so often occurs, it seems to be a special case. Until recently, India had not experienced either type of slowdown (as per the definitions used): not

Figure 2. Percent of countries experiencing a slowdown (3 percent threshold)⁵



Note : Does not include oil exporters. Source: WDI database and Survey Calculations.

⁵ This excludes common episodes of investment and saving slowdowns.

during the ‘lost decade’, not during the East Asian crisis, not even after India’s own balance-of-payments crisis in 1991. As a result, the current slowdown – in which both investment and saving have slumped – is the first in India’s history. Even then, the slowdown is detected most fully only in the 2 percent threshold, largely because the slide has been gradual, unlike (for example) the sharp adjustments that occurred in East Asia after the 1997 crisis.

Table 4. India Slowdown Years*

	Investment	Saving	Common
2 per cent		2010	
		2011	
	2012	2012	2012
	2013	2013	2013
	2014	2014	2014
	2015		
	2016		
3 per cent		2011	
		2012	
	2013		
	2014	2014	2014
	2015		
4 per cent		2014	Nil
	2015		Nil
	2016		

Note: *The terminal years mentioned in the table do not indicate the end-years of the slowdown. Data constraints limit the ability to detect slowdowns beyond those years.

3.20 Table 4 shows the years of India’s slowdown captured under different thresholds. The investment slowdown started in 2012 (when it surpassed the 2 percent threshold), subsequently intensified (surpassing the 3 percent and then the 4 percent thresholds in 2013 and 2014 respectively), and was apparently still continuing as of the latest date, that for 2016.⁶ With the slowdown now having

lasted at least five years, it has already surpassed the typical duration of slowdown episodes; if it continued through 2017, as seems likely, it would have reached the six-year duration recorded in the exceptionally severe cases. Yet because the investment decline has been so gradual, the magnitude of the shortfall so far is relatively less severe – it remains a moderate 21 percentage points, well under the average magnitude.

3.21 Meanwhile, the saving slowdown started in 2010, and also seems to be still continuing. Owing to data limitations, however, the last year that can be captured as a slowdown year is 2014.⁷ Even at that point, the slowdown episode had lasted for five years, though like its investment counterpart, its magnitude was a below-average 15 percentage points.

3.22 In other words, India’s current investment/saving slowdown episode has been lengthy compared to other cases – and it may not be over yet.

SAVING VERSUS INVESTMENT: GROWTH CONSEQUENCES

3.23 The simultaneous slump in saving and investment gives rise to a question. Should policies that boost investment (viz. substantial infrastructure push, reforms to facilitate the ease of doing business or the ‘Make in India’ program) be given greater priority over those that boost saving? The issue is about relative importance and urgency. Both set of policies are crucial in the long run but which one needs to be prioritized at present?

3.24 The standard solution that is often prescribed is that both problems need to be tackled simultaneously.⁸ Rodrik (2000) provides evidence that a simultaneous push may not be

⁶ In line with the methodology discussed above, calculating the shortfall for 2016 requires estimates for the subsequent two years. Estimates for 2017 are taken from the CSO’s 1st Advance Estimate, released on January 5, 2018. Those for 2018 are based on an assumption that this year the slide in gross fixed capital formation is halted but not reversed.

⁷ The data for saving for 2016-17 will be released by CSO on January 31, 2018.

⁸ For example, refer to the Report of the Parliamentary Standing Committee on Finance on ‘Current Economic Situation and Policy Options’, August, 2012.

necessary—arguing that successful economic performance is not explained by saving transition episodes. He presents evidence to show that countries experiencing positive saving transitions do not necessarily experience sustained growth increases. Rather, causality seems to flow in the opposite direction: countries that experience growth transitions eventually see sustained higher rates of saving. Based on these findings, Rodrik (2000) proposes that policies should focus on encouraging investment, rather than saving, to boost growth. Minsky also accorded primacy to the role of investment over saving (profits) in his analysis of macro-financial developments.

3.25 Do similar conclusions follow from the present analysis? To answer this question, the behaviour of growth (measured as change in real

per capita GDP growth in constant 2010 US\$) around slowdowns is examined for the sample excluding oil exporters. Figures 3a and 3b plot the intensity of investment and saving slowdowns (measured as magnitude divided by duration, that is, the average fall experienced over the slowdown episode) against the change in growth (the rate 3 years after the start year less the rate 3 years before the slowdown).^{9,10} These results are reported here for the 3 percent threshold.¹¹

3.26 Given that a more intense slowdown (a larger negative value on the x-axis) should lead to a larger fall in real per-capita growth, the relationship between the two variables is expected to be *positive*. Indeed, the relationship for investment slowdowns is distinctly positive; with many of the East Asian crisis episodes associated

Figure 3a. Change in Growth & Change in Investment (3 percent threshold)

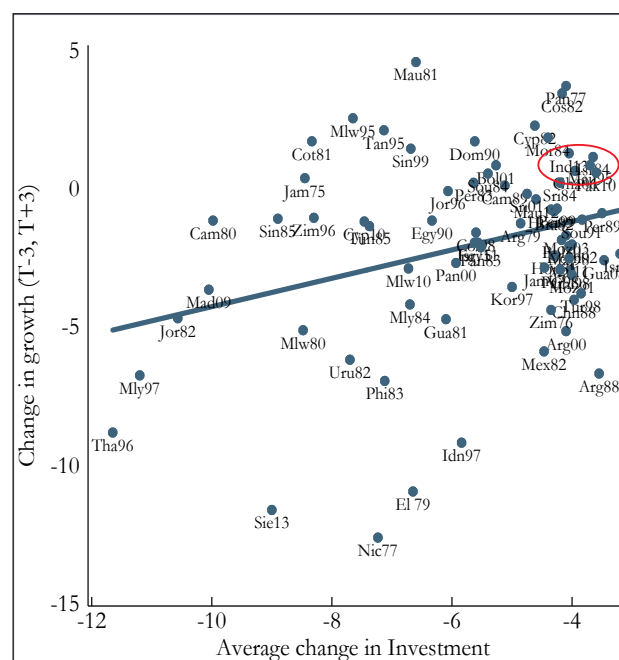
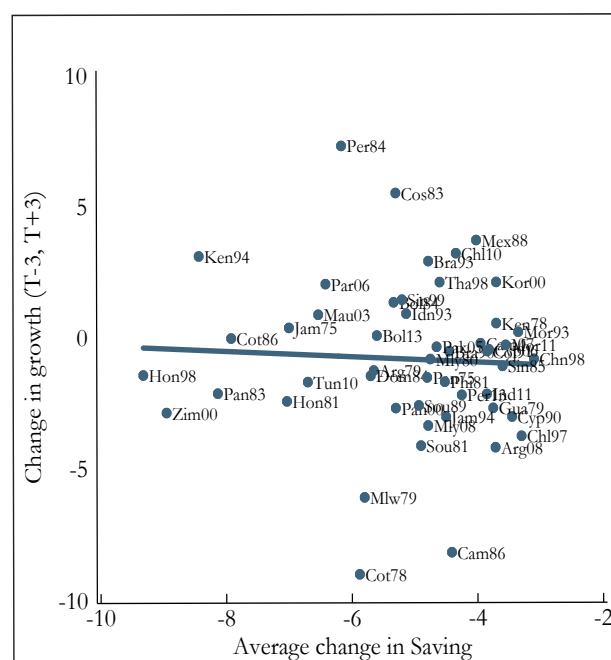


Figure 3b. Change in Growth & Change in Saving (3 percent threshold)



⁹ It may seem that the T+3 versus T-3 comparison of growth around the slowdown episode is a change in definition vis-à-vis the definition employed to capture investment and saving slowdowns. This, however, is not the case as the 3-year ahead minus the 5 year prior was a filter constructed to capture slowdowns, in line with the literature. In contrast, in these graphs the interest is to see how real growth behaves around such slowdowns. Therefore, it is intuitive to take equidistant periods around a slowdown year.

¹⁰ In figures 3a and 3b the labels on the scatter imply the country and the start year of a slowdown episode. For example, 'Tan95' refers to the 1995 slowdown in Tanzania; 'Sin85' refers to the 1985 slowdown in Singapore.

¹¹ The T+3 to T-3 year growth change result is reported here especially to capture the India slowdown starting 2013.

with large growth effects (Figure 3a). But the relationship for saving episodes is unclear, with many of the large saving episodes (e.g. Peru 1984, Kenya 1994, Mauritius 2003) not associated with sharp declines in growth (Figure 3b).

3.27 In Figure 3a India is above the line of best fit, though not an outlier, suggesting that the impact on growth has been relatively moderate than witnessed in comparable investment slowdowns in other countries.

3.28 Cross-country regression results confirm the visual impression: the relationship is significantly positive for investment episodes, but insignificant for saving. A one percentage point

fall in investment rate is expected to dent growth by 0.4-0.7 percentage points. This of course gives the average result. These results are robust to different time periods and specifications.¹²

3.29 The difference between investment and saving slowdowns can be isolated in another manner. There are a few episodes across economies in which both investment and saving have slowed simultaneously.¹³ Do the relationships in Figures 3a and 3b hold even excluding these common episodes? In fact, they do, as can be seen in Figures 4a and 4b. Even though the coefficient of investment weakens somewhat, it stays significant, especially in the 4 percent

Figure 4a. Change in growth & change in Investment without common episodes* (3 percent threshold)

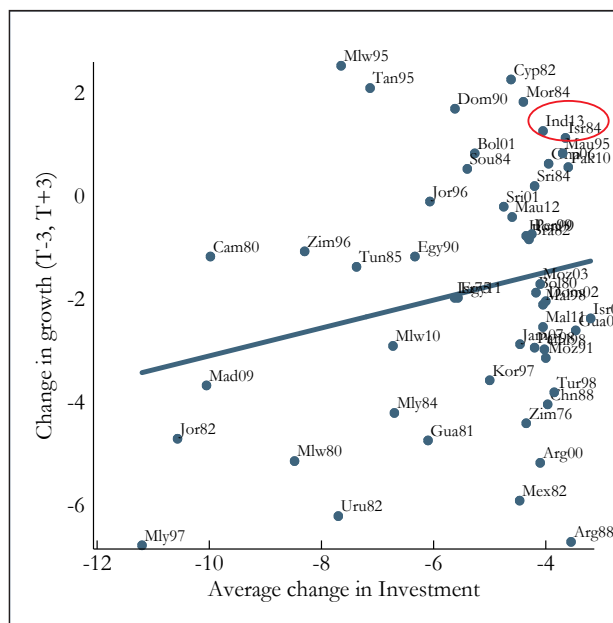
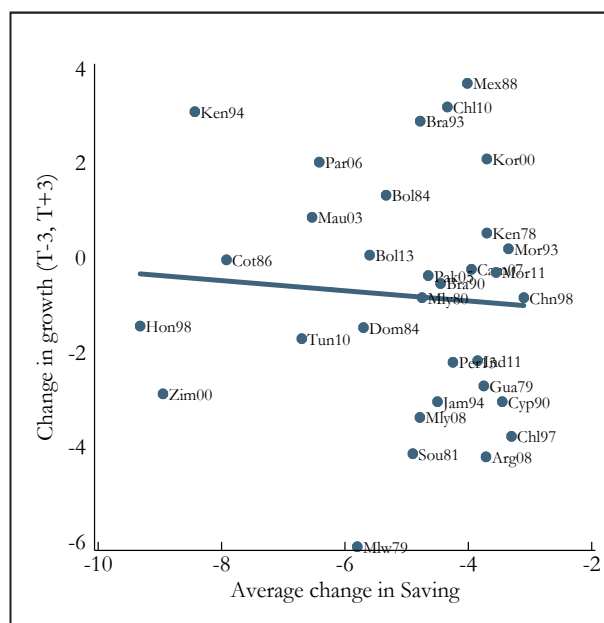


Figure 4b. Change in growth & change in Saving without common episodes (3 percent threshold)



Note: *: This result is marginally insignificant if two outliers (Mauritius 1981 and Sierra Leone 2013) are excluded. This scatter is without these outliers.

¹² These results are robust to: (a) using a five (not three) year window for measuring the change in growth, (b) considering different variables: (i) measuring the cumulative (and not the average) fall in investment and saving (independent variable); and (ii) *average growth* over 3-5 years after the start of a slowdown rather than the *difference* in growth (dependent variable), (c) excluding outliers, and (d) measuring GDP growth in purchasing power parity (PPP from the Penn World Tables version 9.0) rather than market exchange rate terms.

¹³ There are 21 common episodes in the 3 percent threshold: Argentina 1979, Cameroon 1989, Colombia 1998, Costa Rica 1983, Cote-de-Ivoire 1981, Cyprus 2010, El Salvador 1979, Honduras 1981, Indonesia 1997, Jamaica 1975, Nicaragua 1978, Panama 1977, 1983 and 2000, Peru 1984 and 1989, Philippines 1983, Singapore 1985 and 1999, South Africa 1991, and Thailand 1998.

threshold. The relationship of saving with growth not only remains insignificant but turns mildly negative.

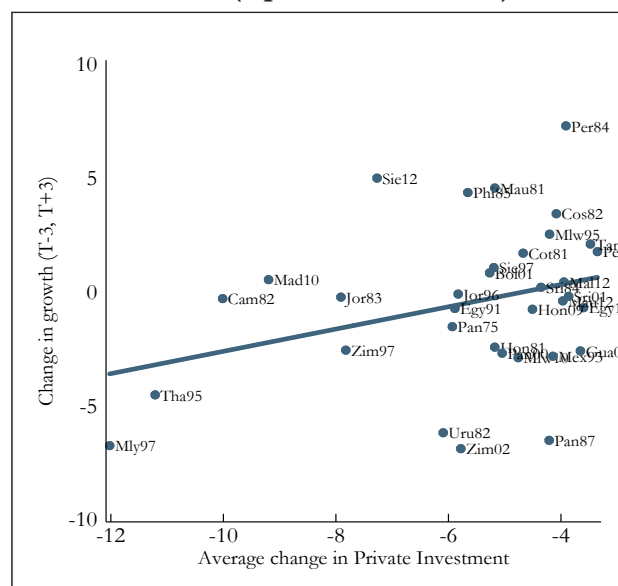
3.30 The table in annex IV summarizes the regression results for the 3 and 4 percent thresholds with and without the common (simultaneous investment and saving) episodes. In other words, not only are investment episodes followed by slower growth (unlike saving episodes), this is also true of ‘pure’ episodes of investment slowdowns, i.e. those not accompanied by slowdown in saving.

3.31 A further classification of the investment slowdowns can be attempted: those that are driven primarily by a fall in private investment and those that are not.

3.32 Data on the private investment component of aggregate gross fixed capital formation is available from the WDI database. Considering the residual as the public component and studying the contribution of each to the total fall in aggregate investment during an slowdown episode¹⁴ it is clear that three-fifths of the episodes recorded in the 2 and 3 percent thresholds are caused by a fall in private investment.^{15,16}

3.33 Does the relationship between the fall in investment and growth hold in case of private investment slowdown episodes? The filters were used to identify private slowdown episodes. Figure 4 depicts the relationship

Figure 5. Change in Investment & Change in Growth (3 percent threshold)



for the 3 percent threshold; it is positive and significant.¹⁷

RECOVERY FROM ‘INDIA-TYPE’ INVESTMENT SLOWDOWNS

3.34 India’s investment slowdown is unusual in that it is so far relatively moderate in magnitude, long in duration, and started from a relatively high peak rate of 36 percent of GDP. Furthermore, it has a specific nature, in that it is a balance sheet-related slowdown. In other words, many companies have had to curtail their investments because their finances are stressed, as the investments they undertook during the boom have not generated enough revenues to allow them to service the debts that they have incurred.¹⁸

3.35 What do these characteristics portend for

¹⁴ Private investment data is available for 60 out of 92 investment slowdown episodes for 2 percent threshold and 45 out of 74 investment slowdown episodes for 3 percent threshold for the sample excluding oil exporters.

¹⁵ An episode is considered as a private slowdown episode if the fall in such investment contributes to more than 50 percent of the total fall in investment over the episode.

¹⁶ However, the experience has varied across time. During the first two periods (the oil shock 1975-1983 and the great moderation 1984-1997) the share of public and private in aggregate investment declines are almost similar. Over the 1998-2014 period investment slowdowns are overwhelmingly led by private investment contractions.

¹⁷ Results are robust using cumulative, rather than average, measure of slowdown and for the 4 percent threshold.

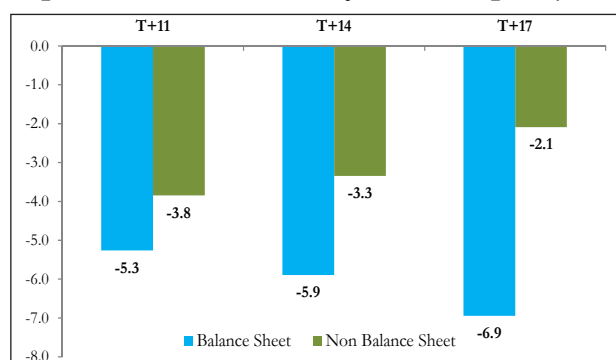
¹⁸ For a fuller discussion refer to *Economic Survey* 2016-17, Volume 1, Chapter 4.

the extent of an eventual investment recovery? To answer this question, two types of international experience after slowdowns are considered: (i) balance sheet-related ones; and (ii) where investment fell by 8.5 percentage points peak-to-trough over 9 years.¹⁹

What happens after balance-sheet slowdowns?

3.36 What tends to happen to investment rates in the aftermath of ‘balance sheet’ episodes? Allen *et. al.* (2002), Chamon *et. al.* (2010), Rosenberg *et. al.* (2005), and Chen *et. al.* (2015) discuss episodes of crises and balance sheet effects in emerging economies. Some of these episodes (11) are also captured as investment slowdown episodes in the sample.²⁰ The aftermath of these are then contrasted to episodes of slowdowns that are not primarily related to balance sheet difficulties (Figure 6).²¹ Since India is now 11 years past its investment peak, investment rates are measured as deviations from peak levels for years 11, 14, and 17 after the peak dates.

Figure 6. Extent of Investment Recovery after Slowdowns (percentage point fall from peak level, number of years after peak)#



Note: #T is the peak time period : The graph shows that even after 14 years of attaining the peak investment remains depressed by about 6 percentage points in case of balance sheet - related slow downs. In contrast, in non balance sheet - related cases it remains depressed by 2 percentage points.

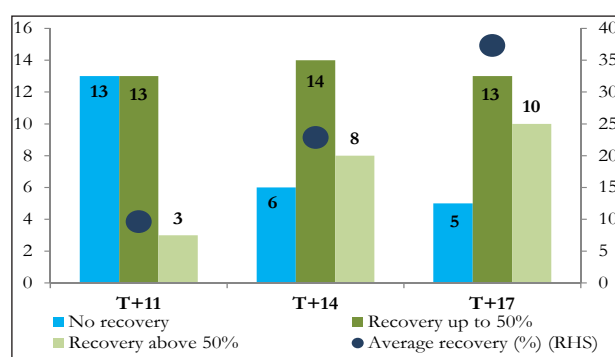
3.37 There are two take-aways from figure 6:

- Investment declines flowing from balance sheet problems are much more difficult to reverse. In these cases, investment remains highly depressed, even 17 years after the peak, whereas in case of non-balance-sheet slowdowns the shortfall is smaller and tends to reverse.
- India’s investment decline so far (8.5 percentage points) has been unusually large when compared to other balance sheet cases.²²

What happens after similar investment falls?

3.38 Accordingly, the experience of countries with similar investment declines is examined. Specifically, cases in which the rate of investment has fallen by at least 8.5 percentage points from its peak over a 9 year period are considered. The questions then asked is: what is the investment rate 11, 14 and 17 years after the peak?

Figure 7. Count and Extent of Recovery from India-type Investment Decline*



Note: *T is the peak time period *: A fifty percent recovery implies that the country attained an investment rate that reversed half of the 8.5 percentage point fall. The dots imply the percentage of the total fall that the median country managed to reverse.

¹⁹ The year 2016 is strictly not a trough for India as the investment slowdown seems to be still continuing.

²⁰ Most of these episodes (appearing in both Allen *et. al.* [2002] and Chen *et. al.* [2015]) pertain to East Asian countries in the aftermath of the crisis in the late 1990s. Apart from these it also includes Malaysia 1984, South Africa 1983 and Turkey 1998.

²¹ These includes 9 episodes; Mexico, Uruguay and Brazil 1982, Peru 1983, Argentina 1979 and 1988, China 1988, South Africa 1990 and Chile 1998.

²² The others are crisis cases, whereas India did not experience a crisis.

3.39 There are 30 such cases in the sample.²³ Figure 7 shows the count of countries that recover over the three time periods. A ‘full’ recovery is defined as attainment of an investment rate that completely reverses the fall, while no recovery implies the inability to reverse the fall at all or worse.

3.40 The median country reverses only about 25 percent of the decline 14 years after the peak, and about 40 percent of the decline 17 years after the peak. If India conforms to this pattern, the investment-GDP ratio would improve by 2.5 percentage points in the short run. Of course, this is the median: if India situates itself in the upper quartile, it can recover by more than 4 percentage points. But India is already 11 years past the peak, and its current performance puts it below the upper quartile.

3.41 Given the large fall in investment that India has registered, it has paid moderate costs in terms of growth. Between 2007 and 2016, rate of real per-capita GDP growth has fallen by about 2.3 percentage points—that is lower than the above 3 percent decline in growth noticed, on average, in episodes in other countries that have registered investment declines of similar magnitudes and from roughly a similar peak (about 36 percent) (Annex V).

CONCLUSION: POLICY LESSONS FOR INDIA

3.42 What lessons can be drawn for India from the above analysis? The notion that growth is constrained by saving has a long and illustrious pedigree going back to Ragnar Nurkse, Arthur Lewis, Rosenstein-Rodan and others. But the evidence presented here points in a different direction, albeit subtly.

3.43 First, it is clear that investment slowdowns are more detrimental to growth than saving slowdowns, a conclusion that was earlier reached by Rodrik (2000). So, policy priorities over the short-run must focus on reviving investment. Mobilizing saving, for example via attempts to unearth black money and encouraging the conversion of gold into financial saving or even courting foreign saving are, to paraphrase John Maynard Keynes, important but perhaps not as urgent as reviving investment. In any case, the share of financial saving is already rising in aggregate household saving—with a clear shift visible towards market instruments—a phenomenon that has been helped by demonetization.

3.44 Second, India’s investment slowdown is not yet over although it has unfolded much more gradually than in other countries, keeping the cumulative magnitude of the loss – and the impact on growth – at moderate levels so far.

3.45 But this leads to the third question: how will the investment slowdown reverse, so that India can regain 8-10 percent growth? There is both a bleak and a hopeful pointer from similar episodes in other countries. India’s investment decline seems particularly difficult to reverse, partly because it stems from balance sheet stress and partly because it has been usually large. Cross-country evidence indicates a notable absence of automatic bounce-backs from investment slowdowns. The deeper the slowdown, the slower and shallower the recovery. At the same time, it remains true that some countries in similar circumstances have had fairly strong recoveries, suggesting that policy action can decisively improve the outlook.

²³ These cases are not slowdown episodes and are not derived from the application of filters.

3.46 Taken together, the results suggest a clear—and urgent—policy agenda which the government has launched; first with the step-up in public investment since 2015-16; and now, given the constraints on public investment with policies to decisively resolve the TBS challenge. These steps will have to be followed up, along with complementary measures: easing the costs of doing business further, and creating a clear, transparent, and stable tax and regulatory environment.

3.47 In addition, creating a conducive environment for small and medium industries to prosper and invest will help revive private investment. The focus of investment-incentivizing policies has to be on the big and small alike. The ‘animal spirits’ need to be conjured back.

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