Bank of Baroda

How different sectors fared in terms of capital formation:

When talking about the investment demand of Indian economy, the first data point which comes to our mind is the gross fixed capital formation, which basically speaks about additions to fixed assets such as machinery and equipment. Added to this, the increase in stocks of inventories give us an overall picture. National Account statistics 2024 gave us an idea about the same regarding different sectors. Two angles are explored here: 1) how shares of Gross Capital Formation (GCF) across sectors have emerged over a ten year period and 2) how productivity of capital (under certain assumptions) has moved.

Few highlights of the same are:

1. The sectors whose shares have moderated in overall capital formation are the ones whose productivity has increased. Thus, necessarily moderation in share in total is not bad, it should be looked from the perspective of deployment of existing capital and the inherent nature of industries, whether it is capital intensive or not and the lagged input-output dynamics.
2. Another thing which comes out from the study is that Gross Value Added for the sectors are not showing much momentum. This means that the movement in capital formation is driving overall productivity ratios. Notably, productivity looked in the study is partial productivity and is the ratio of GVA to gross capital formation.
3. The input-output dynamics show that manufacturing is still under pressure as both share of GVA and capital have moderated. There remains scope for higher capital utilisation.
4. Real estate shows improvement in terms of improvement in share of GVA.

How have shares moved?

Two quinquennium are looked at for the purpose of our analysis one ranging from FY14-FY18 and another FY19-FY23. The purpose of looking at the same is to even out odd years.

- Sector wise, real estate and other services, manufacturing, transport, storage, communication & services related to broadcasting, trade, repair, hotels and restaurants and public administration and defence are the top sectors having the maximum share (68.3%) in overall capital formation.

- Between two quinquennium's, share of manufacturing in capital formation has fallen. The major jolt was faced during pandemic (2019-20) where share of manufacturing in GCF fell to its lowest of 16%. Post which, it recovered to 18.3% in 2021-22, but again witnessed deceleration in 2022-23. Despite this, the current share has surpassed its pre-pandemic level, which hints at some recovery of the sector at a crawling pace.
- Mining and quarrying is witnessing some moderation on account of slowing export growth.
- Forward linkage from real estate was also visible in construction sector whose share also increased in the two quinquennium.
- The share of public administration and defence also improved, attributable to increased government spending.

Table 1: Sector wise share in GCF

Shares in Gross Capital formation (GCF)	Quinquenium-1	Quinquennium 2
Agriculture, forestry, and fishing	7.8	8.2
Mining and quarrying	2.0	1.4
Manufacturing	17.5	16.9
Electricity, gas, water supply & other utility services	8.3	6.5
Construction	5.5	7.2
Trade, repair, hotels and restaurants	9.5	9.8
Transport, storage, communication & services related to broadcasting	9.1	10.3
Financial services	1.2	0.9
Real estate, ownership of dwelling & professional services	23.9	21.7
Public administration and defence	9.0	9.6
Other services	6.2	7.5
Total	**100**	**100**

Source: MOSPI, Bank of Baroda Research, Note: Green highlighted ones are the sectors whose shares have increased, beige highlighted ones are the sectors whose shares have moderated.

Productivity of capital:

Next, we look at the partial productivity of capital by calculating how much output will be produced with per unit of capital. Here it is defined as Gross Value Added per unit of Gross capital formation which includes both gross additions to fixed assets (i.e., fixed capital formation) and increase in stocks of inventories.

- For the two quinquennium's under consideration, average productivity of capital has broadly remained unchanged.
- *Among major sectors, productivity has improved for sectors such as real estate, mining and quarrying and for utility services. However, for sectors such as trade, hotels etc, manufacturing*

and public administration and defence the productivity remained unchanged in the current quinquennium. For construction and agriculture, forestry, and fishing, it has fallen the most.

- *Notably, for financial sector, the productivity is elevated as it is a less capital-intensive sector. Even excluding financial services, the productivity ratios doesn't alter much.*

Table 2: Productivity of capital in different sectors

Productivity of capital	Quinquenium-1	Quinquennium-2
Agriculture, forestry, and fishing	6.29	5.81
Mining and quarrying	4.21	4.51
Manufacturing	2.80	2.81
Electricity, gas, water supply & other utility services	0.73	0.94
Construction	3.94	2.71
Trade, repair, hotels and restaurants	3.57	3.59
Transport, storage, communication & services related to broadcasting	2.03	1.60
Financial services	14.36	18.05
Real estate, ownership of dwelling & professional services	1.81	2.16
Public administration and defence	1.71	1.67
Other services	3.11	2.61
Total	**2.66**	**2.61**

Source: MOSPI, Bank of Baroda Research, Note: beige highlighted ones are the sectors whose productivity has moderated, green highlighted numbers are the sectors whose productivity is higher, sectors which have broadly remained same have been left unmarked.

Sectoral analysis:

- For manufacturing, productivity flattened. This explains that firms are gradually utilising their existing capacity. However, one interesting shift that has been noticed is that the ratio for manufacturing sector has fallen since 2018-19 (pre-Covid). This shows that albeit some improvement in productivity, there is further scope for improvement in existing capacity. As per RBI data, capacity utilisation rate of 76.3 observed in 2022-23 is still lower than the highs of 83.2 observed in 2011.
- Trade, repair, hotels, and restaurants has remained flat in terms productivity of capital. This is on account of fall in the productivity of capital of *Hotels & restaurants*. Especially, with low occupancy rate, the productivity has been severely impacted during Covid period, where the ratio hit its lowest of 0.97. However, in 2022-23, it recovered from its low at 1, despite lower than 2.67 seen in 2018-19. *Thus, still the productivity of this sub segment is yet to reach its pre pandemic level.*
- For real estate, ownership of dwelling & professional services, the increase in productivity ratio may be attributable to positive home buyer sentiments, stable growth in per capital

income and supportive policies. Notably, post Covid, the productivity in this sector has maintained its momentum.

- For Construction productivity of capital is still less aligned. Ideally it should have picked up in line with the improvement in productivity of real estate, ownership of dwelling & professional services. Thus, there is further scope for improvement in this sector.
- For Transportation, the ratio has fallen primarily driven by Air transport. The deceleration in productivity also coincided with the period when some airlines were grappling higher capital cost and liquidity issues.

Summary Table:

So, what can be concluded putting the pieces of puzzle of output and capital formation of different sectors. We have identified certain sectors based on whether the share of GVA has increased at a faster pace than GCF or not. Few things come out clearly:

1. For capital intensive sectors such as manufacturing and construction, margin of improvement remains. For manufacturing, share of both output and capital has moderated.
2. For construction on the periphery shares in GCF have improved but share in GVA have fallen impacting productivity ratio. This may be due to the inherent nature of the sector of deployment of additional capital.
3. Sectors such as real estate have been able to increase output with efficient deployment of capital.

Table 3: Sector wise sum up

Sectors evolution of share between two Quinquennium	Productivity of capital	Share in GVA	Share in GCF
Agriculture, forestry and fishing	Decrease	Increase	Increase
Mining and quarrying	Increase	Decrease	Decrease
Manufacturing	Flat	Decrease	Decrease
Electricity, gas, water supply & other utility services	Increase	Flat	Decrease
Construction	Decrease	Flat	Increase
Trade, repair, hotels and restaurants	Flat	Decrease	Increase
Transport, storage, communication & services related to broadcasting	Decrease	Decrease	Increase
Financial services	Increase	Increase	Decrease
Real estate, ownership of dwelling & professional services	Increase	Increase	Decrease
Public administration and defence	Flat	Increase	Increase
Other services	Decrease	Increase	Increase

Source: MOSPI, Bank of Baroda Research, Note: Increase implies increase in share between two quinquennium, decrease implies decrease in share between two quinquennium, Green highlighted sectors are the ones where share of GVA has increased at a faster pace than the share of GCF between two quinquennium and the beige ones are otherwise

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