MOTILAL OSWAL

FUEL OR ENGINES

FRIEND OF THE ECONOMY

GVA and employment share inverse correlation in Indian economy

Analyzing GVA growth via labor market

- **During the first decade of the 21st century, as much as 85% of GVA growth can be attributed to productivity gains rather than labor employment. Not surprisingly then, employment elasticity with respect to GDP growth is very low in the Indian economy.**
- **Nevertheless, most of these conclusions change quickly if we exclude the agricultural sector. The contribution of productivity gains to non-farm real GVA growth was ~55% in the first decade of the 21st century, as against ~46% three decades ago. Further, employment elasticity in the non-agricultural sector is much higher than that in the total economy.**
- **There is, however, one uniform conclusion with or without the farm sector – an inverse relationship between real GVA and employment growth in the Indian economy, challenging the established economic literature. If not higher GDP growth, then what can push job creation in India?**

This product of ours was named 'Fuel or Engines' to represent the consumption versus investment theme, which we have been discussing for 18+ months now. Our detailed report released in June 2016 concluded very clearly that with lackluster investments, consumption is unlikely to bear the entire burden of GDP growth for long. As and when consumption slows, we argued that real GDP growth will slow down inevitably because even higher investments will not be able to offset the impact of slower consumption. With the focus shifting on employment, we plan to devote the next few versions of this product to the labor market situation in the Indian economy.

In our view, an alternative way to analyze GDP/GVA* growth is to look at the labor market. There are only two ways in which GDP can grow – either by increasing labor employment or raising productivity (or a combination of both). GDP growth in an economy is equivalent to the summation of growth in labor employment and its productivity. Thus, for any given level of GDP growth, the higher the productivity growth, the lower the employment growth required.

Productivity gains accounted for ~85% of real GVA growth during the recent decade

Productivity accounted for as much as ~85% of real GDP growth…: While employment accounted for about two thirds of real GVA growth in 1970s, its contribution fell to as low as 15% during the most recent decade for which data are available *(Exhibit 1-2)*. It implies that productivity gains accounted for ~85% of real GVA growth during the recent decade. Thus, while employment has grown by only 1.2% per annum during the recent decade (FY04-13, when real GVA growth averaged 7.6%), productivity growth averaged 6.4% per annum.

* We have used GVA and GDP synonymously in this note because the large difference between GVA and GDP is a recent phenomenon, which is not covered in this study

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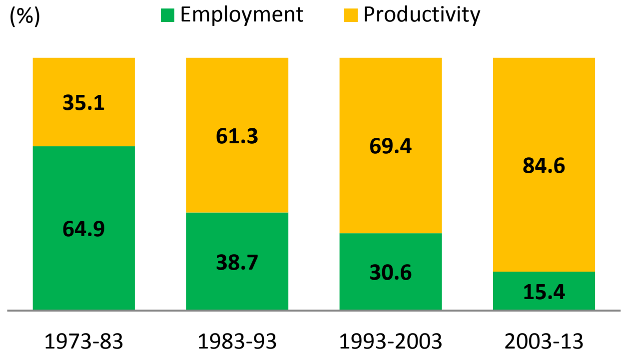
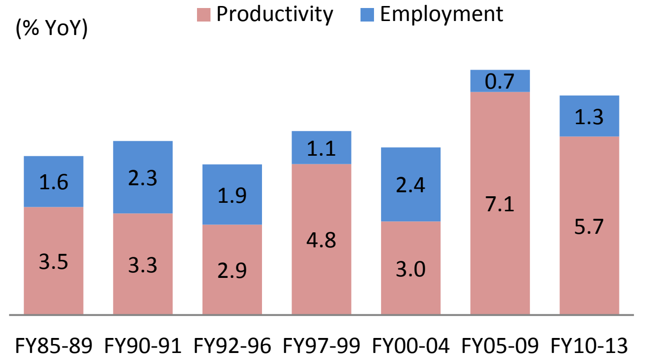
Exhibit 1: Contribution of labor employment and productivity to real GVA growth over past four decades



Source: Reserve Bank of India (RBI), Central Statistics office (CSO), National Sample Survey Office (NSSO), MOSL

Exhibit 2: Average growth in employment and productivity during various periods

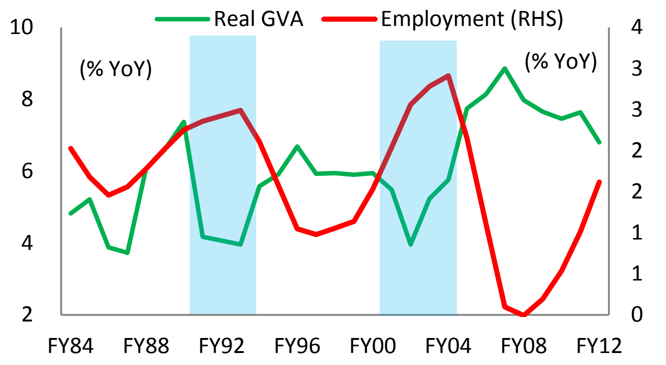


Data arranged as per Lok Sabha elections
We have combined two elections held in 1996 and 1998

In contrast to conventional wisdom, there seems to be a *negative* correlation between real GVA growth and employment

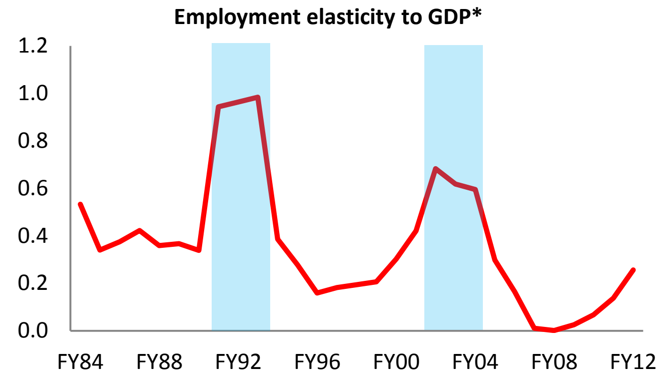
...explaining weak and falling employment elasticity: As a direct side-effect of productivity driven real GDP growth, employment elasticity of real GDP has shrunk considerably in the Indian economy. *Exhibit 3* below shows the long-term trends in real GVA and employment growth over the past three decades, while employment elasticity with respect to real GVA is shown in E*xhibit 4*. Surprisingly, in contrast to conventional wisdom, there seems to be a *negative* correlation between real GVA growth and employment. Ironically, during the past two slowdowns – early 1990s and early 2000s – while real GVA growth decelerated, employment growth picked pace. Further, as the contribution of productivity to real GVA growth has increased over the past four decades, employment elasticity (ratio of employment growth to GVA growth) has witnessed a downtrend *(Exhibit 4)*.

Exhibit 3: Average growth in real GVA and employment in India over past three decades



Slowdown periods are shaded
3-year centered moving average

Exhibit 4: Employment elasticity with respect to real GVA has shrunk considerably since mid-1980s



* Employment growth/GVA growth
Source: RBI, NSSO, CSO, MOSL

Not only employment has contributed as much as half of non-farm GVA/GDP growth in the recent decade, but also it has fallen only slightly during the past four decades

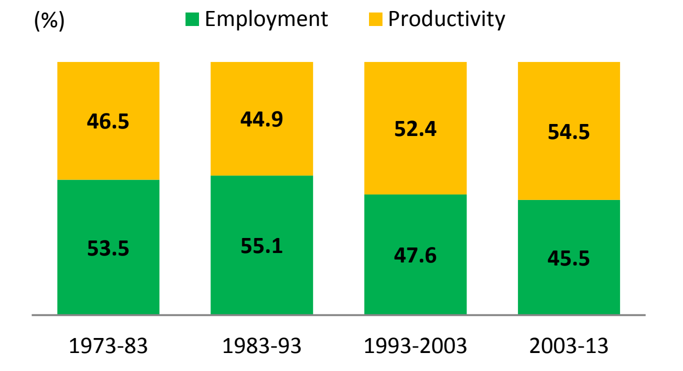
Non-farm sector clears many misconceptions: Further analysis reveals that the conclusions of abysmally low share of labor employment to real GVA/GDP growth and continuously falling employment elasticity are a direct result of the evolving agricultural sector in the economy. The first decade of the 21st century was the only period since 1970s (or probably earlier) when agricultural employment declined. Consequently, not only it skewed entire GVA growth in favor of productivity gains, but also pulled down employment elasticity.

Consequently, we re-estimate the contribution of employment and productivity growth to real GVA/GDP of the non-farm sector *(Exhibit 5)*. The results are exactly in contrast to the previous conclusions. Not only labor employment has contributed as much as half of non-farm GVA/GDP growth in the recent decade, but also it has fallen only slightly every decade during the past four decades. Employment growth in the non-farm sector during the past decade was ~4% per annum, when the non-farm sector posted growth of 8.5% per annum. The corresponding growth numbers during 1970s were 2.4% and 4.5%, respectively.

Employment elasticity in the non-farm sector has averaged 0.48 in the past decade versus 0.22 for the entire economy

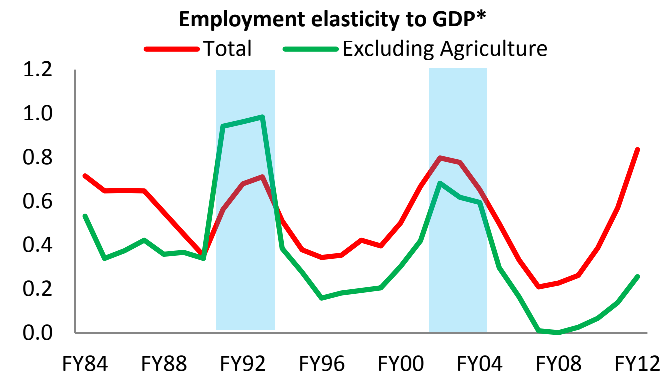
Accordingly, employment elasticity with respect to GDP/GVA growth in the non-farm sector is not as weak as for the entire economy (including agriculture). In fact, employment elasticity in the non-farm sector has averaged 0.48 in the past decade, versus 0.22 for the entire economy *(Exhibit 6)*.

Exhibit 5: Contribution of employment and productivity to non-farm GVA growth over past four decades



Source: RBI, CSO, NSSO, MOSL

Exhibit 6: Employment elasticity with respect to real GVA with and without agricultural sector



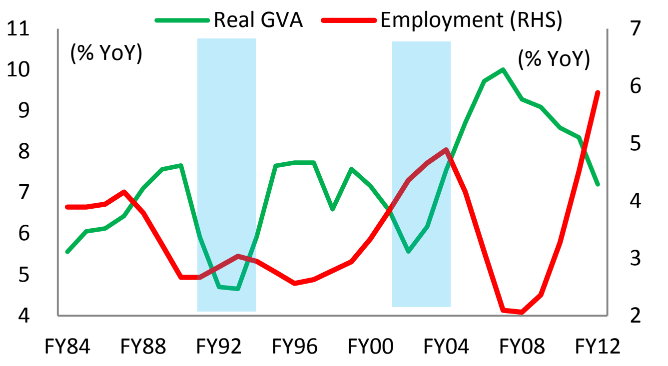
* Employment growth/GVA growth

The conclusion of an inverse correlation between GDP growth and employment growth remains intact with or without the agriculture sector, which is in stark contrast to the established economic literature

However, one uniform conclusion is highly disturbing: Since the decline in agricultural employment is highly desirable, it is appropriate to accept the results of the non-farm sector, which convey that employment elasticity with respect to GVA/GDP growth has averaged about 0.50 over the past four decades.

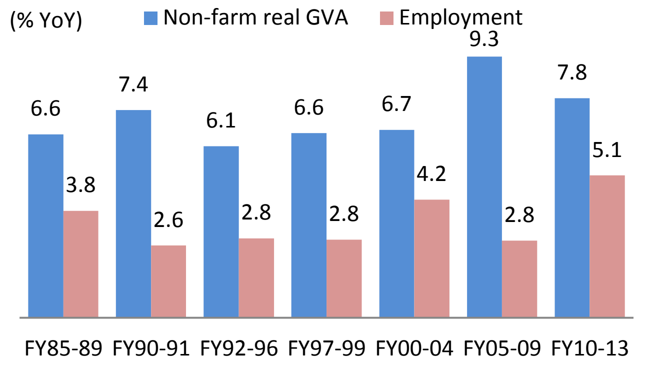
Does this imply that low GDP growth hurt employment generation in the economy, as is almost universally accepted? We do not think so. Although employment elasticity has averaged about 0.52 since early-1970s, it has peaked during the slowdown periods and bottomed during the peak GDP growth periods *(Exhibit 6)*. The conclusion of an inverse correlation between GDP growth and employment growth remains intact with or without the agriculture sector, which is in stark contrast to the established economic literature *(Exhibit 7)*.

Exhibit 7: Real GVA and employment share an inverse correlation in the non-farm sector too



Slowdown periods are shaded 3-year centered moving average

Exhibit 8: Employment and real GVA growth during various periods without agricultural sector



Source: RBI, CSO, NSSO, MOSL

In wake of hard data, the almost unanimously accepted non-arguable conclusion that high GDP growth leads to high employment falls flat in case of the Indian economy. In fact, during periods of highest non-farm growth of 9% (FY05-12), employment grew at an average of 3.4% only, implying that higher growth was more driven by productivity gains *(Exhibit 8)*.

What needs further investigation?

Now, there are two key questions, which will be addressed in our subsequent reports on the subject. *First*, what explains the inverse correlation between employment and GVA/GDP growth in the Indian economy? Don't established economic theories work in India?

And *second*, if higher GDP growth does not necessarily lead to more jobs, *what will* create more jobs? Considering the race to adopt automation by companies to lead in productivity gains, some sections tend to argue that the economy has already missed the bus to provide sufficient employment opportunities. However, we will discuss that this is not true.

NOTES

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