

## **Employment Supported by India's Exports: Estimates for 112 Sectors, 1999-2000 to 2012-13.**

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Using input-output (IO) analysis, we provide estimates of employment supported by India's merchandise and services exports during the period 1999-2000 to 2012-13. The major advantage of the IO framework is that, in addition to the direct effect of exports on employment within a given industry, employment generated in other industries as a result of indirect backward linkage effects can be taken into consideration. The study makes use of the official IO tables (IOTs) for the benchmark years 1998-99, 2003-04, 2007-08 as well as the recently published Supply Use Tables (SUTs).

The IOTs and SUTs, compiled by CSO, do not distinguish imported inputs from domestic inputs. If imported inputs are not subtracted from total input use, we would overestimate the number of domestic jobs generated through backward linkage effects. We use an imputation procedure to separate imported inputs from domestic inputs. Further, making use of detailed production and trade data from various official sources we construct time series of domestic use tables for the period 1999-2000 to 2012-13. For constructing these tables, we have made use of information on the changing input-output relations and other structural features as reflected in available official IOTs and SUTs. Using annual domestic use tables and detailed sector-wise employment coefficients (ratio of employment to output), we provide consistent time series estimates of direct and indirect jobs supported by India's exports for 112 sectors.

We find that the total number of jobs supported by aggregate Indian exports (merchandise plus services) increased from about 34 million in 1999-00 to 62.6 million in 2012-13, with a growth rate of 3.4% per annum. Throughout the period, export related jobs grew significantly faster than that of country's total employment: the share of export-supported jobs in total employment increased from little over 9% in 1999-00 to 14.5% in 2012-13. During the period 1999-2000 to 2009-10, the share of direct employment (that is, employment in a given sector attributed to its own exports) in total export related employment stood significantly higher than that of indirect employment (employment in a given sector due to its linkage with other exporting sectors). However, the contribution of indirect job creation increased significantly in recent years, from 38% in 2007-08 to 50% in 2012-13. Backward linkages, particularly from manufacturing to agriculture and services, have become an important source of export related job creation in the country.

While the total number of jobs supported by exports increased significantly, jobs supported per million dollar worth of exports declined over the years. This is consistent with the trends observed in several other countries. Our estimates suggest that one million dollar worth of exports supported 138 jobs in 2012-13. This value is significantly higher than those reported for other countries in earlier studies: for example, 1 million dollar worth of exports from US

supported only 6.6 jobs in 2009 and 5.2 jobs in 2014. Estimates for China suggest that 1 million dollar worth of its exports supported 140 jobs in 2007 as compared to 191 jobs in India for the same year. The observed decline in the number of jobs per million dollars of exports can arise as a result of improvement in labor productivity (which in turn may mean higher wages) as well as due to the change in the composition of exports in favor of more skill and capital intensive products.

Turning to the estimates for the broad sectoral groups, we find that in 2003-04, agriculture accounted for the largest share of export-supported jobs (44.4%) followed by manufacturing (30%) and services (25.7%). Between 2003-04 and 2007-08, however, the share of services increased steadily to nearly 43% at the cost of agriculture and manufacturing whose shares declined to 40% and 17.5% respectively. The trend got reversed again since 2007-08 as the share of manufacturing steadily increased to 38.5% in 2012-13 while the share of services declined sharply to 19%. These changes in the sectoral composition of employment are consistent with the observed changes in the composition of exports in official IOTs and SUTs.

We observe a major increase in aggregate export supported jobs during the period 2010-11 to 2012-13. This was mainly brought about by the manufacturing sector. The percentage of total manufacturing employment that can be attributed to exports increased significantly from 19.6% in 1999-2000 to 24.5% in 2004-05 and 39.5% in 2012-13. The significant growth of export related manufacturing employment between 2010-11 and 2012-13 has been brought about by sectors such as ‘readymade garments & miscellaneous textile products’ (with an employment growth of 4.5 million), gems & jewelry’ (2.4 million), cotton textiles (0.7 million), communication and electronic equipments (0.6 million), motor vehicles (0.5 million), ‘miscellaneous food products (0.4 million), miscellaneous metal products (0.4 million), leather footwear (0.2 million) ‘other non-metallic mineral products’ (0.2 million), tobacco products (0.2 million), and drugs and medicines (0.2 million).

Direct employment accounts for a very high share – ranging from 73% to 85% - of total export-supported jobs in the manufacturing sector. In contrast, a significant share of employment generated in agriculture and services are attributed to indirect effects, implying that manufacturing export plays an important role in generating employment in agriculture and services sectors through backward linkage effects

To sum up, our estimates suggest that exports have become an important driver of job growth in India. The study identifies a number of specific sectors where exports can contribute significant employment growth, directly as well as through backward linkages. At the broad sectoral level, manufacturing exports hold the largest potential to generate employment within the sector (direct effect) as well as in agriculture and services through backward linkage effects. Policies specifically targeting export growth from the manufacturing sector can reap rich dividends in terms of creating large scale employment opportunities for various skill categories. Viewed in this light, the manufacturing focus in “Make in India” initiative of the government is a move in the right direction.