The global economy has seen downturn in productivity growth in the recent years. A less discussed aspect is the performance of emerging economies. This paper is an attempt to understand productivity dynamics in India, in the context of financial crisis, and global productivity slowdown. The present paper examines the labor productivity growth performance for the Indian economy for the period 2001-2015 and compares the pre global slowdown period with the post crisis period with an industry perspective. Using India KLEMS dataset, which provides detailed industry level data, and growth accounting technique, the sources of labor productivity for aggregate economy as well as disaggregated industrial sectors are analyzed. Our analysis did not find evidence of any steep productivity decline in India as was observed in many advanced countries. Labor productivity grew at an annual average rate of 6 per cent per annum over the period 2001-15 with a modest decline during the period 2012-15. Overall, the industries that performed well in terms of productivity in the pre-crisis period are manufacturing sectors and market services sectors with relatively large foreign content in their production. Other sectors that performed well include utilities, and market services in general. In the post-2012 period, however, productivity growth has declined substantially in sectors which are highly integrated to the global economy – i.e. those where the foreign content in production is high – both manufacturing and market services. With a compensating productivity gain in other manufacturing and market services sectors, where the foreign content is relatively less, overall productivity growth was somewhat maintained at the pre-crisis average. We observe a positive relationship between change in foreign content in domestic production and labor productivity growth, which warrants further investigation. Available evidence is suggestive of a decline in the change in foreign content across majority of sectors in the post crisis period, which might be having a productivity lowering impact in those industries.