Growth and the Fragmentation of Production

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Abstract :
How much do changes in the fragmentation of production contribute to growth? Using detailed plant-level data on the manufacturing sector in India between 1990 and 2014, we study Smithian growth, the link between greater fragmentation of production and productivity. We propose a measure of a plant's vertical span, which corresponds roughly to the number of stages in a supply chain that the plant performs in-house; when plants have smaller vertical spans, production is more fragmented. We find that fragmentation increases with development in both the cross-section and time series. Further, within locations at a point in time, larger plants tend to have smaller vertical spans, and increases in sales tend to be associated with decreases in vertical span. We provide evidence that increased size causes specialization using changes in demand during India's tariff liberalization in the 1990s. A model serves to clarify the mechanisms and as a basis for quantitative work.