# Aggregate Productivity and Productivity of the Aggregate: Connecting the Bottom-Up and Top-Down Approaches

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**Paper Abstract:** An industry is here considered as an ensemble of individual firms (decision making units) that may or may not interact with each other. In National Accounts terms this is symbolized by the fact that industry (aggregate) nominal value added is the simple sum of firm-specific nominal value added. From this viewpoint it is natural to expect there to be a relation between industry productivity and the firm-specific productivities. Yet, microdata researchers do not care too much about the interpretation of the weighted means of firm-specific productivities they employ in their analyses. In this paper the consequences of this attitude are explored, based on a review of the literature.

A structurally similar phenomenon happens in sectoral studies, where the productivity change of industries is compared to each other and to the productivity change of some next-higher aggregate, which is usually the (measurable part of the) economy. Though there must be a relation between sectoral and economy-level measures, in most publications by statistical agencies and academic researchers this aspect is more or less neglected.

The point of departure of this paper is that aggregate productivity should be interpreted as productivity of the aggregate. It is shown that this implies restrictive relations between the productivity measure, the set of weights, and the type of mean employed.