Sectoral Linkages and Labour Productivity: Panel Data Analysis for Turkey

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Theoretically, linkages between agglomeration and productivity; studied within the scope of economical geography, Industrial Organization Approach and Endogenous Growth model. According to Economic Geography Approach; impacts of agglomeration on productivity is explained by the effects of both labor and intermediate input market arising from specialization (Krugman, 1991, Fujita and Thisse, 2003). With regard to Industrial Organization Approach; sectoral and inter sectoral linkages have been taken into account as a main source of productivity and it asserts that agglomeration influes productivity positively both in firm and sectoral level. (Tirole, 1988). With respect to Endogenous Growth Theories; relation between agglomeration and productivity is clarified with knowledge diffusion and technology externalities. Since increasing importance has been given to social relations between economic agents in modern economies, validity of Industrial Organization Approach has been analyzed for Turkish Economy on the basis of sectors between 1995 and 2011.

The productivity accepted indicator of performance is measured as both partial productivity of each inputs and total factor productivity exhibiting ratio of outputs to inputs (Andersson and LÃ¶Ã¶f, 2009). While labor productivity has been chosen as dependent variable in the study, backward and forward linkage coefficients were added to model as independent variable. Also ratio of export to output and capital-labor ratio included so that improve ability of the model to measure impacts of agglomeration effects on productivity.

To achieve aim of the study; values of the both dependent and independent variables were calculated from Turkey National Input Output Tables for both 1995 and 2009 years which have been published by World Input Output Database (WIOD). 35 sectors in the National Input Output Tables aggregated to 25 sector groups with regard to input output methodology and coefficients calculated on this aggregation. Panel data analysis has been used to detect relations between industrial/inter industrial linkages and productivity and if agglomeration have significant impacts on labor productivity. Possible cross-section dependency and heterogeneity problems are taken into account in the model and the best estimation methods were preferred in the study.

As we researched it is not found any study in this field using these methods and findings of our study are expected to understand determinants of labor productivity that is one of the major source of economic growth.

Keywords: Heterogeneous Panel Data, Sectoral Linkages, Labor Productivity