



# Technical Efficiency and Productivity in Vietnam Electronic Industry

## A Comparison between foreign affiliated firms and domestic firms

### — Application of Parametric and Non-Parametric Analysis—

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The purpose of this research is to find out the performance between FDI foreign affiliated firms and domestic firms in electronic sector. Based on parametric approach (Stochastic Frontier Production Function-SFPF) and non-parametric approach (Input-based Data Envelopment Analysis-DEA), author investigates the technical efficiency, its determinants, productivity growth. Author uses cross-section data of 658 firms to study of technical efficiency and that of determinants and uses panel data of 38 firms in order to confirm the productivity growth (Malmquist Productivity Index) through out six years.

- The estimated technical efficiency on average for foreign affiliated firms and domestic firms were 60.58%; 56.2%, respectively, under the specification of SFPF model, and were 40.2%; 36.01%, respectively, under the input-based DEA model. Most of firms in two sectors were having inefficiency in term of optimal return to scale. The implication is that those of firms were better to reduce the production cost by increasing return to scale.
- According to two different models, the foreign affiliated firms perform higher technical efficiency than domestic ones. Despite domestic firms show more rapidly increasing in investing capitals than in scale of labor, the labor production of domestic firms still low in comparison with foreign affiliated firms. Nevertheless, both of the foreign and domestic sector employed labor-intensive method of production.
- In term of determinant factor affecting technical efficiency, beside of strong effect of capital-labor ratios and labor productivity, the wage and experiences of firms have not so much impact. Especially, the type of firm in aspect of foreign direct investment firms and domestic firm show very little influence to technical efficiency performance.
- In term of productivity growth, two sectors declined in TFP change, but the foreign sector improve its productivity better than domestic sector.
- During 2000-2006, domestic sector is catching up to foreign sector in aspect of improvement of performance and productivity growth.