## How Does Labor Outsourcing Affect the Labor Productivity of Manufacturing Firms?

- A New Measure of Labor Productivity -

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The existing measures of labor productivity do not consider labor outsourcing, such as secondment and in-house contracting. This causes labor productivity to be biased when a firm heavily depends on labor outsourcing to produce its output. This paper estimates new labor productivity considering both directly hired and outsourced workers, and analyzes the impacts of labor outsourcing on labor productivity using the new measures.

According to the results of an analysis of manufacturing firms, the larger the firm, the higher the level of labor outsourcing, resulting in a more significant upward bias for labor productivity. The level of such upward bias is estimated to be around 3.9%-4.4% for small and medium-sized firms and 8.7%-11.2% for large firms.

The relation between labor outsourcing and labor productivity is found to vary depending upon the characteristics of the technologies adopted by firms. We cannot draw any conclusion about the impacts of labor outsourcing on the labor productivity of unskilled labor-driven manufacturing firms. Labor outsourcing, however, reduces labor productivity for high-skilled labor-driven manufacturing firms. On the other hand, for high-tech service firms that undergo rapid technological change and require labor with diverse expertise, labor outsourcing increases labor productivity.

These results imply that a firm should make labor outsourcing decisions after sufficiently considering its technological characteristics (unskilled/skilled and low-tech/high-tech), instead of simply following what leading companies are doing.

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