

Does the telework really improve the labor productivity?

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Abstract

This paper aims to examine whether the telework actually improves the labor productivity. A simple comparison between the firms introduced a telework and the firms that do not introduce the telework regardless the firm-size, the industry and the amount of the capital, as well as case-studies indicates that the telework increases the labor productivity. However, a few firms and a few workers in those firms introduce telework, and a mechanism of the increase in productivity is unclear. Furthermore, the number of teleworkers decreases according the survey by the Ministry of Land, Infrastructure and Transport although the previous studies report that the telework has a positive impact on the productivity.

First, this paper compares the similar firms, and examines the effect of telework on the labor productivity when the firms introduce telework and not. This paper obtains the Communication Usage Survey. This paper finds the positive effect of the telework, but this effect decreases to half the volume, 650 thousand Japanese yen, if this paper controls the firm size in terms of capital, benefit and employment. Additionally, the telework increases the productivity in manufacturing and service industries, but does not significantly affect in other industries.

Second, this paper obtains the Japanese Panel Study of Employment Dynamics, picks up the similar persons in terms of the workplace, age, gender, occupation, and form of employment, and compares the impact of telework on productivity between the person who is a teleworker and the person who works at office. In the estimation for manufacturing, this paper confirms the volume of half effect of the estimation using a whole firm-level data in all industries with few control variables. According to these estimation using firm-level and individual-level data, the simple comparison in the previous studies may overestimate the effect of the telework on the labor productivity.

In contrast, the result for the construction is not significant at the firm-level estimation, but the estimation using the individual-level data indicates the significantly positive impact of the telework on the productivity. The descriptive statistics indicates that the workers with high educational level and specialists tend to work as the teleworker in the construction. The estimation mating the form of employment and occupation demonstrates the positive effect of the telework. As for service industries, the estimation at the firm-level data indicates the positive effect, but that of individual-level data is not significant. The service industries at the firm-level data include the vast industries. Dividing the individual-level data in more detail industrial category may result in the consistent result.