

On-the-Job Training

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Chapter 1 - Introduction

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In 1964, Gary Becker noted the important role of on-the-job training in *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* by observing that:

Theories of firm behavior, no matter how they differ in other respects, almost invariably ignore the effects of the productive process itself on worker productivity. This is not to say that no one recognizes that productivity is affected by the job itself; but the recognition has not been formalized, incorporated into economic analysis, and its implications worked out... Many workers increase their productivity by learning new skills and perfecting old ones while on the job. Presumably, future productivity can be improved only at a cost, for otherwise there would be an unlimited demand for training (1964, p. 8).

In the decades following Becker's classic text, researchers have made substantial progress in achieving Becker's goal of fully incorporating the role of on-the-job training into economic analysis

Researchers now widely accept that there are two key aspects of training. First, there is the recognition that on-the-job training is an important example of an "investment" in human capital.¹ Like any investment, there are initial costs. For on-the-job-training, these costs include the time devoted by the worker and co-workers to learning skills that increase productivity plus the costs of any equipment and material required to teach these skills. Like any investment, the returns to these expenditures occur in future periods. For on-the-job training, these future returns are measured by the increased productivity of the worker during subsequent periods of employment.

The second key aspect of on-the-job training is the distinction between "general" and "specific" on-the-job training, a distinction emphasized by Becker in his early works. While all training increases the productivity of the worker at the firm providing the training, general training also increases the productivity of the worker at firms other than the one providing the training. For example, a secretary who learns the use of a standard word-processing program or a doctor who interns at a specific hospital both receive general training, as these skills are transferable to

other workplaces. On the other hand, specific on-the-job training increases the productivity of the worker at the firm providing the training, but not at other firms. Resources spent orienting new employees to the practices of their new employer, or teaching employees how to contribute to a unique assembly process or work team, are examples of specific training.

Chapter 2 presents the standard theoretical framework for assessing the impact of on-the-job training on productivity, wages, and turnover. This sets the stage for our investigation in subsequent chapters of the magnitude and effects of on-the-job training, an investigation that focuses on three employer-based surveys of the training received by newly hired workers. We start by considering two questions: Exactly how much training do employers provide their workers? Who receives this training? Chapters 3 and 4 address these two issues: the extent of training and the characteristics of the recipients of on-the-job training. Our focus is on the extent of training provided to new workers during their first three month of employment. We find that a substantial amount of on-the-job training takes place at the beginning of a job, that most of this training is informal training, and that participation in this training depends on such variables as an individual's level of education and experience.

The findings reported in chapters 3 and 4 rely solely on employer-based surveys. This raises the issue of whether the patterns of on-the-job training reported by employers are similar to workers' perception of the extent of training. One way to examine this is to identify a particular position and compare the employer's response concerning the training involved with the responses of the worker who is the recipient of this training. An analysis of such a "matched" survey is the subject of chapter 5. We find substantial measurement error in the training variables, and also that firms tend to report more training than workers. But there appears to be no systematic variation in reporting errors based on firm or worker characteristics, and aggregate reported measures of the incidence of training are similar.

The theory of on-the-job training developed in chapter 2 involves several key predictions concerning the effect of training on the starting wage and on wage and productivity growth. Chapter 6 investigates the evidence supporting such predictions. We find that training does increase wage and productivity growth as anticipated, but there appears little evidence that training substantially reduces the starting wage as predicted.

Chapter 7 investigates evidence consistent with the possibility that there is a matching of positions with more training to more "able" individuals. To do so, we examine employer recruiting activities. Here we find evidence of a systematic attempt by employers through their hiring activities to link high training positions

to higher-ability workers. In short, employers do spend substantially more time searching for a new employee if the position to be filled involves greater training. These findings provide a rationale for our failure in chapter 6 to detect a strong, inverse relationship between the level of training and the starting wage. Chapter 8 summarizes all of our findings and offers some policy recommendations.

Note

1. Human capital investments have been classified as "...activities that influence the future money and psychic income by increasing the resources in people (Becker 1964, p. 1). Human capital investments include not only schooling but also on-the-job training, migration, medical care, and searching for information about wages and prices. All these activities are engaged in at some cost and yield future returns, often in the form of higher wages.