

**DIFFERENTIAL EFFECTS OF
POST-SCHOOL TRAINING ON
EARLY CAREER MOBILITY; WP
3358-91-BPS, NOVEMBER 1991**

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November 1991 by Lisa M. Lynch

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Early Career Mobility**

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MIT and NBER

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While the number of studies on the incidence of private-sector training and its impact on wages and productivity has been increasing (recent studies include Altonji and Spletzer (1991), Barron et. al. (1988), Bartel (1989), Bishop (1991), Brown (1989), Duncan and Hoffman (1979), Lillard and Tan (1986), Lynch (1992), and Mincer(1988)) there has been virtually no analysis of the impact of private-sector training on the mobility patterns of young workers. Yet firms that make investments in workers' training are very concerned about the turnover of their trainees. At the same time there are other forms of private-sector training such as training programs provided by proprietary institutions off-the-job that individuals can use to move out of dead end jobs and into a higher paying career track. The lack of analysis on training and mobility has been due primarily to the lack of detailed information on the timing and source of private-sector training and employment spells in the United States. Surveys of employers' training practices are useful for examining the impact of training on wages and productivity but they are less useful for examining the patterns of job changes of workers and the role of training in these changes. Longitudinal surveys of individuals that follow workers over time and across employers, are much more useful for examining this type of issue.

This paper focuses on the role of different types of training on the probability of leaving an employer. In Lynch (1992) the impact of private-sector training on the determinants of wages and wage growth of young workers was examined and the following conclusions were reached. First, formal company provided training, or ON-JT, appears to be highly firm specific in the U.S. and, therefore, not portable from employer to employer. Company provided training raises wages in the current job but has no effect on the wages

earned in subsequent employment. Second, formal training received from 'for-profit' proprietary institutions, or OFF-JT, has little effect on the wages earned on the current job but it does raise the expected wage in subsequent employment. Finally, there are important differences by race, gender and education level in the probability of receiving different types of formal training and the impact this training has on wages and wage growth.

These findings have several implications for the impact of training on mobility. One implication is that if company provided training is primarily firm specific then the probability of leaving an employer should decline if a young worker has experienced some on-the-job training. An additional implication is that if workers participate in off-the-job training programs they are more likely to leave the current employer. In this case, off-the-job training allows a young worker to change career paths and find a 'better match'. Using data from the National Longitudinal Survey Youth cohort, NLSY, this paper examines in detail the factors that influence the probability of new entrants leaving their first job including the differential effects of company provided training, apprenticeships and training from 'for-profit' proprietary institutions.

There are a variety of explanations of why young workers change their employment status so often in the early years of their careers and then seem to 'settle down' into more stable employment. For example, young workers are more likely to be laid off in a downturn than older more experienced workers. There are other explanations of the higher turnover rates of young workers, however, that have little to do with the state of demand. Such theoretical explanations include job search, job matching and on-the-job training. Job search theory, as detailed by Lippman and McCall (1976), predicts that workers who earn

more relative to their alternative wage are less likely to quit a job. In the Jovanovic learning model (1979a, 1979b, 1984) both workers and firms 'learn' about the unobserved characteristics of each other over time. There are two main predictions on turnover in this framework. On the one hand, 'better' workers remain with employers longer leading to negative duration dependence in the probability of leaving a job. On the other hand, as 'bad' matches are revealed the turnover probability will rise over time. Finally, the process of on-the-job training within the human capital model as described by Mincer (1974) implies that as workers acquire firm-specific training, their productivity and, consequently wages, will rise. Therefore, the probability of leaving an employer will fall with training and tenure since the wage will rise relative to the alternative wage. In addition, employers will be less likely to lay off those workers in whom they have invested in specific skills.

All of these theories are not mutually exclusive and clearly some combination of all of these factors influences the probability of a young worker remaining with an employer. Consequently, it is not the purpose of this paper to distinguish between these different theories. Rather, it would be more useful if precise data on employment spells and training could be found in order to establish the links between different types of training and turnover behavior.

There have been relatively few empirical studies that have attempted to examine the role of training, demand and other factors in predicting the probability of leaving an employer. Recent exceptions include Gritz (1988) and Mincer (1988). Gritz used data from the early years of the NLSY and found that private sector training (not distinguishing between different sources of training) increased the amount of time in total employment for

females but decreased the amount of time males were employed. Gritz's study used data from the very early years of the NLSY when most of the observed training spells occurred before the detailed employment history in the survey begins. Mincer used data on training and mobility from the Panel Study of Income Dynamics, PSID. The training variable comes from the answer to the following question in the 1976 and 1978 interviews: "On a job like yours how long does it take the average new person to become fully trained and qualified?" While this is potentially a very broad measure of training it does not measure how much training has actually occurred for the specific respondent. It is also not possible with the PSID data to observe when the training occurred during an employee's tenure with the firm.

Using data from the NLSY it is possible to examine in more detail than has been possible in the past the role of training, the general state of demand, and other personal characteristics in determining turnover. In particular, I examine the incidence of private-sector training for young workers in the United States in the early years after they have completed school; the timing of employer provided training versus training received off-the-job from proprietary institutions over a worker's tenure on the job; and the impact of different types of private sector training on the probability of leaving an employer.

Empirical Framework

For the analysis presented in this paper a subsample of the NLSY is used. The NLSY is a survey of 12,686 males and females (who were 14 to 21 years of age at the end of 1978) and contains detailed data on education, jobs, military service, training programs marital status, health and attitudes of young workers. The respondents have been interviewed every year since 1979 on all aspects of their labor market experience. The

response rate in 1985 was over 95 percent of the original cohort. The data on types of training (other than governmental training or schooling) received are some of the most comprehensive data available on private sector training. Respondents were asked about what types of training they had received over the survey year (up to 3 spells not just the longest) and the dates of training periods by source. Potential sources of training included business college, nurses programs, apprenticeships, vocational and technical institutes, barber or beauty schools, correspondence courses and company training. All of the types of training programs are independent from training received in a formal regular schooling program which is included in the schooling variables. However, the questions ask about only those spells of training that lasted at least 4 weeks (they did not have to be full time). This suggests that the NLSY measure of training is more likely to capture formal training spells than informal on-the-job training. In 1988 this restriction of 4 weeks or more of training was dropped from the NLSY survey. It is therefore possible to see the impact of this restriction on the measurement of the incidence of training. The restriction only seems affect the measurement of the incidence of company training and not the reported incidence of off-the-job training or apprenticeships. For a sample of non college graduates in 1988 who were 25 years old, 3.8 percent had four weeks or more of company training while 10.2 percent had company training of any length. The following percentages of females(males) had 4 weeks or more of on-the-job training versus OJT of any length - 1.4%(5.9%) versus 7.1%(12.9%). Therefore, in the following analysis which uses data from 1979-1987 when the 4 week restriction applied, the number of company provided training spells with be underestimated. However, from the point of view of firms, the turnover probabilities of