BIOGRAPHICAL MEMOIRS

Jacob Mincer

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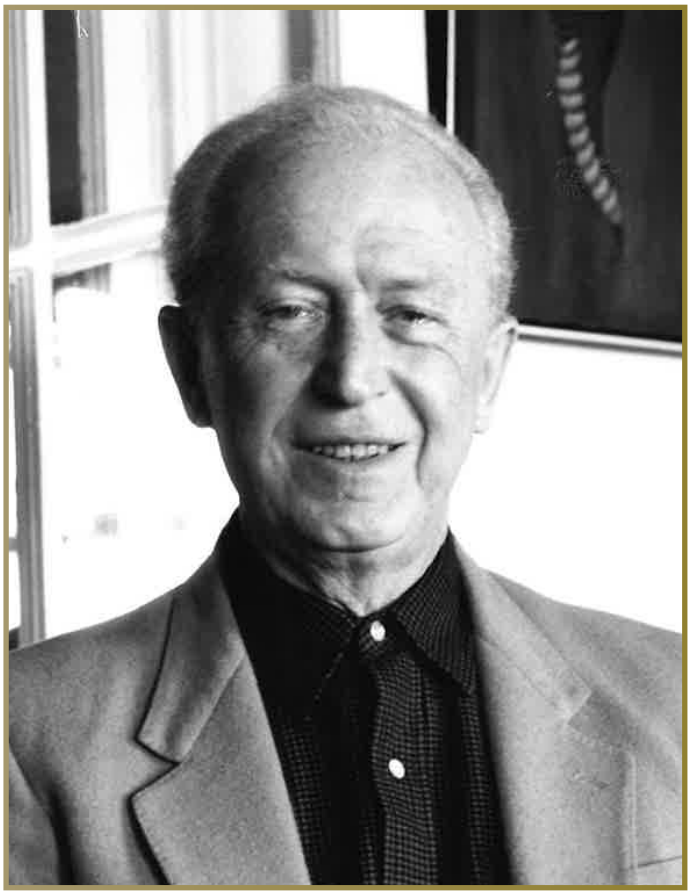
A Biographical Memoir by Janet Currie and David Card



Economist Jacob Mincer was a pioneer in the field of labor economics. His research in the areas of human capital, education and earnings, and inclusion of data related to women's contributions to family economy were groundbreaking. Jacob Mincer was born in Tomaszów Lubelski, Poland, on July 15, 1922. At the start of World War II, he was a sixteen-year-old college freshman in Czechoslovakia, but he spent most of the war years in prison camps in Germany and Czechoslovakia. His parents and two sisters were killed as they fled east. After the war, Mincer won a Hillel scholarship to Emory University in Atlanta, Georgia, and he received a bachelor's degree after only two years. He then studied at the University of Chicago and at Columbia University, where he earned his Ph.D. in 1957, joining the faculty there in 1959. Mincer is best known for two remarkable contributions: His pioneering work on the Human Capital Earnings Function (HCEF) and his work on the relationship between women's employment, wages, and family circumstances.

The HCEF models the relationship between wages and the two major types of human capital investment—schooling and on-the-job-training—in a form that is both theoretically appealing and statistically robust. Mincer's HCEF has been estimated thousands of times using data from nearly every economy in the world and is one of the pillars of modern labor economics. In addition to its central role in research in education and training, the HCEF provides the foundation for the economic analysis of gender and race discrimination, immigrant assimilation, returns to time on the job, spatial differences in wages, and the intergenerational transmission of socioeconomic status.

Mincer laid the groundwork for the schooling component of the HCEF in his 1957 doctoral dissertation.[1] The underlying idea can be traced back to Adam Smith's discussion of how professions with high training costs must compensate with higher wages. Mincer showed that in equilibrium, the percentage wage differential between two occupations requiring differing amounts of formal schooling has to equal the difference in years of schooling multiplied by the discount rate.[2]

Many extensions and complications of the simplest model have been considered, including allowing differences in ability or in individual discount rates or considering the

distinction between permanent and transitory earnings shocks.[3,4] In his 1997 paper, Mincer was one of the first to note an increasing convexity in the relationship between schooling and earnings in the 1980s and 1990s, interpreting it as an increase in the relative demand for highly skilled labor.[5] Nevertheless, the fact that schooling-related wage differentials are roughly comparable to discount rates remains one of the most important empirical regularities in economics.

In his 1958 paper, Mincer also made the fundamental observation that "… the other part of the training process—experience—can be introduced into the theoretical model in terms of the amount of time spent on the job."[6] Mincer hypothesized that time spent on training early in one's career would depress wages initially but cause them to rise later. Mincer further noted that if the fraction of time devoted to training is a declining linear function of time since the end of formal schooling, then earnings will be a quadratic and concave function of the same variable.[7] Combining this simplified model of post-schooling investment with the equalizing differences model of the return to schooling produced the now famous "Mincerian" HCEF, in which the logarithm of individual earnings depends on schooling (in years) and a quadratic function of years since completing schooling.

Within a few years after the publication of his 1974 volume, Mincer's HCEF had become the workhorse of a new generation of empirical researchers. The rapid adoption of the HCEF is attributable to two factors. First, Mincer's painstaking empirical research using 1960 U.S. Census data showed that the model "works": It explains a surprisingly large fraction of the variance of individual earnings.

Second, the HCEF is an insightful framework for generating new hypotheses. By highlighting the separate roles of schooling and time in the labor market, the HCEF set the stage for later work on the variability of earnings over the lifecycle, on earnings gains associated with mobility across firms, and on the career profiles of men and women.

One insight from the HCEF is that if people with the same level of formal schooling and same inherent earnings capacity embark on careers that require different investments in on-the-job training, then those who invest in training will earn less in the early years but eventually "overtake" those who invested less. At this overtaking point, the observed cross-sectional variance in earnings will be minimized. Thereafter, the high investors will pull ahead and the cross-sectional variance in earnings will rise.

Mincer found complementarities between investments in formal schooling and on-the-job training that implies more highly educated workers will have less turnover and lower unemployment.[8] Mincer and Jovanovic noted that workers and firms tend to remain attached to each other for long periods and that mobility between jobs tends to be concentrated early in the career and to decline with time on the job.[9] They showed that one way to interpret these patterns is that workers invest in firm-specific human capital and the accumulation of this capital then makes it less likely that they will leave a job over time. The quality of the match between the employer and employee is an important determinant of these investments. This study provides a theoretical basis for wage growth being inversely correlated with turnover. More successful matches have steeper wage growth, which can be interpreted as sharing the returns from greater firm-specific human capital investments between workers and firms. In turn, these gains reduce quitting and layoffs. The difficulty that workers often face in finding new jobs at older ages supports the importance of firm-specific investments in understanding life-cycle earnings.

Applying the HCEF to the study of female-male labor market differences led to a second major contribution, the study of women's labor supply. This work was perhaps inspired by the career of Mincer's wife, Flora Kaplan Mincer, as a radiation oncologist. Mincer followed her from Chicago to New York and clearly thought about the consequences of breaks in her career occasioned by the births of their three children.

In a famous 1962 study, Mincer set out to explain the positive trend in married women's labor force participation over the twentieth century.[10] The centerpiece of the study is a model of participation that considers the effects of both married men's earnings and married women's wages on the probability of participation. The former affects the income of the family, and the latter affects the cost of staying out of the labor force to engage in "home production." Using city-level data from the 1950 Census, Mincer found that married women's participation rates were strongly positively related to their wage rate. He then used the model to interpret trends in labor force participation between 1890 and 1960.

Mincer combined his insights into human capital and female labor force participation into work on male-female wage differentials.[11] Previous work had documented substantial wage differences between men and women as well as a slower growth rate in earnings for women with experience. This study argued that expected future labor force participation influences the incentives for human capital investment so that women who expected to spend substantial time outside the labor market in home production might make fewer investments, resulting in lower wages and slower wage growth. In particular, the presence of young children might prompt mothers to withdraw from the labor force for substantial periods. Mincer and Solomon Polachek showed that the earnings of women who had never married were very similar to those of never-married men over their working lives, a finding that remains salient today.

Decades after its introduction, Mincer's HCEF remains an extremely parsimonious framework for modeling the relationships between education, experience, and earnings and for interpreting many features of the labor market. The model has been successfully adapted to conform to emerging trends in the labor market while retaining its tractability and theoretical underpinnings. The close blending of theory and data represented in Mincer's work has shaped the direction of labor economics and influenced and inspired all those who have followed him.

In addition to being elected to the National Academy of Sciences, Mincer was a member of the National Academy of Education and the American Academy of Arts and Sciences. In 1991, he received an honorary Doctor of Law degree from the University of Chicago. He was awarded the German Institute of the Study of Labor's first IZA Prize in Labor Economics in 2002. In 2004, Mincer received a Career Achievement Award from the Society of Labor Economists; the annual award was renamed the Mincer Award after his death in 2006.

Refeferences

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