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“Summary of article by David Card and Alan B. Krueger: Is There an Explanation? Alternative Models of the Labor Market and the Minimum Wage”

Economists agree, almost unanimously, that raising the minimum wage causes increased unemployment. It is a straightforward deduction from the standard textbook model: employers have a downward-sloping demand curve for labor; so if forced to pay more for labor, they will hire fewer workers. However, this widely held conclusion is inconsistent with the facts. As David Card and Alan Krueger demonstrate, increases in the minimum wage actually cause either no change or a small increase in employment.

The empirical evidence against the standard analysis, developed in detail in their book, is summarized briefly here. Most of this summary is based on the chapter which explores the implications of their findings for economic theory.

Six Strikes and You’re Out?

Six different categories of evidence are inconsistent with the standard theory and its conclusion that higher minimum wages cause increased unemployment. First, changes in employment in the fast-food industry, a major employer of minimum-wage labor, show the opposite of the expected effect. When New Jersey raised its state minimum wage in 1992, fast-food employment in New Jersey expanded, both in absolute terms and relative to restaurants over the state line in eastern Pennsylvania, where the minimum wage remained unchanged.

Second, teenage employment in low-wage states was not hit particularly hard by the 1990-91 increases in the federal minimum wage. Under the standard model, Mississippi, for example, where many teenage workers received the minimum wage, should have suffered relatively larger job losses than Massachusetts, where most young workers were already above the minimum. In fact, there was no meaningful difference in teenage job growth in low-wage and high-wage states.

Third, an analysis of teenage employment in the 1970s, the most widely cited evidence supporting the standard theory, becomes inconclusive when updated with data for the 1980s. Fourth, changes in minimum-wage laws lead to a number of anomalies that are inconsistent with the standard theory, including the “ripple effect” that leads to pay raises for workers who previously earned wages above the new minimum. Another anomaly is the reluctance of employers to use the subminimum-wage provisions in recent laws.

Fifth, increases in the minimum wage have reduced wage dispersion, partially offsetting the tendency toward rising wage inequality. The 1990-91 increases in the minimum wage transferred roughly \$5.5 billion, or 0.2 percent of all earnings, to low-wage workers. Sixth, news about minimum wage legislation has little or no effect on the value of stocks in companies that are major employers of low-wage workers.

These findings (documented in other chapters of the book) demonstrate the need for a new theory to explain the effects of minimum wage laws.

Critique of the Standard Model

The standard model of the labor market rests on the fundamental assumption that employers are price takers in a competitive market. Therefore an increase or decrease in an individual firm's hiring should not affect the wage rate. Workers with the same characteristics, doing the same job, should receive the same wages regardless of where they work; there should be no variation in wage scales from one firm to another. This is a reasonable model for some purposes, and explains some important categories of labor market data. The simplest forms of the model can be extended to include distinctions between different types of labor, and between different sectors. Such extensions bring the model closer to some aspects of the evidence on minimum wages.

However, all forms of the standard model make the familiar, wrong prediction about the effects of an increase in the minimum wage on employment. Likewise, all forms of the standard model predict, incorrectly, that employers will make extensive use of subminimum wage provisions. To explain these facts, it is necessary to develop a theory in which firms are not price takers in the labor market, but have the power to set firm-specific wages.

Models in Which Firms Set Wages

The analysis revolves around a relatively simple question: Do employers have to pay a higher wage in order to maintain and motivate a larger work force? If the answer is "yes," then a modest increase in wages induced by a minimum-wage hike can lead to an increase in employment. (369)

For a simple alternative model, consider the labor market in a one-company town. The company is a monopoly buyer, or "monopsonist," in the labor market. It cannot assume that the wage rate is independent of its hiring decisions; it faces an upward-sloping labor supply curve, since more residents of the town are willing to work if the company offers higher wages. At the profit-maximizing level of wages and employment, the monopsonist firm is paying workers less than their marginal product (just as a monopolist sells its products at more than their marginal cost). Therefore, a modest increase in the minimum wage, forcing the firm to pay more, leads to an increase in employment.

Is this model only a textbook curiosity, or is it potentially relevant to the industries that employ low-wage workers? Typically, each firm employs only a tiny fraction of the workers in its local area. If workers were perfectly informed about all job opportunities, as the standard theory

implicitly assumes, then the competitive model of firms as price-takers would apply. However, in reality information about vacancies is quite imperfect, and the turnover in low-wage jobs is very high. Job openings at the going wage rate are not filled instantly, as implied by the standard model; employers spend a great deal of time and energy recruiting and training new workers. In short, imperfect labor market information makes firms more like monopsonists.

Suppose that the rate at which a firm can hire new workers is an increasing function of its wage rate, while the rate at which employees quit is a decreasing function of the wage rate. (Both of these assumptions are supported by some empirical studies.) Then in order to grow larger, a firm must pay higher wages. All else being equal, wage rates should be significantly related to firm size. This is true in two samples of fast-food restaurants, although the effect is small. The same model implies that moderate increases in the minimum wage will increase employment – agreeing with the data, but contradicting the standard competitive model. Furthermore, the monopsony model implies that small changes in the minimum wage should have little or no effect on the profitability of employers, just as observed.

Explaining the Dispersion of Wages

The simple monopsony model depends on ad hoc assumptions about hiring and quit rates. More sophisticated models have provided a firmer foundation for this approach, and offer plausible explanations of the variation in wages from one firm to another. One theory assumes that each firm selects and announces its wage rate; workers slowly but continually learn about other firms' offers, and switch jobs every time they hear of an opening that pays more than their current wages. These assumptions ensure that there are more frequent hires and less frequent quits at higher-wage firms. In equilibrium there will be a variety of wage rates: larger firms will pay higher wages and have less turnover; smaller firms will pay lower wages and have greater turnover.

A variant on this theory assumes that workers differ in productivity, in ways that firms can observe. Each firm posts its wage offer and then hires any applicant whose productivity equals or exceeds the wage. Over time, as workers learn about other job offers, the most productive employees will move to the highest-paying firms. In this theory, it is clear that most firms will reject the option of subminimum wages even if it is allowed by law; it would imply a switch to hiring workers of “subminimum productivity.”

Wage dispersion models, of the types discussed in this section, provide three important insights. First, the existence of search costs gives firms some amount of monopsony power over their current employees. Second, monopsony power means that firms with different wage policies can coexist in equilibrium; some will prefer high wages and low turnover, while others will opt for the reverse. (The existence of this range of wage policies is taken for granted in personnel management textbooks.) Third, a raise in the minimum wage can lead to increased employment, by forcing low-wage firms to pay enough to reduce turnover and expand their work forces.

A similar model can be derived from “efficiency wage” theories, in which employers pay workers more than their marginal product to induce additional effort, as an alternative to direct monitoring and control. Here the theory is that employees balance their desire to shirk on the job

versus the value of keeping the job; the better the pay, the harder an employee will work to avoid any risk of being fired. If management's ability to monitor individual workers declines as the firm grows larger, then larger firms have a greater need to pay "efficiency wage" premiums to obtain greater effort on the job. The implications of efficiency wage theory therefore parallel those of the monopsony model: larger firms will pay higher wages; a small increase in the minimum wage will force low-wage firms to offer more attractive jobs, thereby leading them to expand; and subminimum wages will not be offered by most employers, since workers paid at those wages would be so likely to shirk on the job.

In conclusion, both efficiency wage theory and the theories based on the monopsony model can explain the observed facts about minimum wages and employment – unlike the standard competitive model of the labor market.