

MINIMUM WAGES AND MARGINAL VALUE PRODUCTS: Impacts on Employment

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OVERVIEW

This paper analyzes potential employers willingness to hire new workers. It is shown that the key factor determining whether more employees will be hired is their expected marginal value product. Minimum wages can interfere with employers hiring decisions if they exceed a potential new employee's expected marginal value product.

A worker's expected marginal value product does not depend only upon the worker's expected physical productivity. It also depends upon the additional revenues the employer expects to earn by increasing production. In some markets, the employer may expect that additional sales are only feasible if the product's price is cut. In such markets, a new employee's expected marginal revenue product will be less than the price charged for the additional product because prices will have to be cut on all previously produced products as well. Thus, the expected marginal value product of a new employee will often vary by industry and with local market conditions. In strong local economies, marginal value products will tend to be higher. Also, inflation will tend to increase product prices and raise marginal value products. Under such conditions, employers will not generally be as opposed to increases in the minimum wage. Thus, minimum wages often tend to increase in strong local economies and during inflationary times. However, in recessionary times or when the national or local economy is weak, higher minimum wages may cause employers to be more reluctant to hire new workers. As a result, past increases in minimum wages may have little or no negative effect when first imposed, but may have an adverse effect upon employment that only shows up later. Consequently, one must be careful when analyzing studies of minimum wage effects, as investigators with a political bias often can tend to analyze data for strong economic times or regions and/or over short time periods to support their view that minimum wage increases have little adverse effect upon employment. However, in recessionary periods, anything that prevents wages from falling as marginal physical products fall, due to slowing demand or falling prices, will tend to make employers more reluctant to hire workers.

Many politicians argue for establishing or increasing the minimum wage for labor. However, minimum wages may have an effect upon the potential employability of some workers. The exact effect will tend to vary according to what a potential employer determines a worker's marginal value product is likely to be. A potential worker's marginal value product (MVP) is an economic term that is well defined in more advanced economics courses (which do not hesitate to use calculus) but may be glossed over in elementary economics courses. In this tome we will try to illustrate that important concept by using examples. Once defined, the MVP can help explain how minimum wages can affect employment prospects for workers in different markets as well as under varying conditions of inflation or deflation.

Employers consider the marginal value product they may receive if they hire another worker by first considering that worker's likely marginal (additional) contribution to the productivity of the enterprise, or the worker's potential marginal physical product. Let us assume that an employer has a hamburger franchise that produces and sells 1,000 hamburgers per week. The employer calculates that if another worker were hired, the franchise could produce 1,100 hamburgers per week. Thus, an additional worker's marginal physical product (MPP) would be 100 hamburgers per week. If the hamburgers sold for \$4 each above the costs of raw materials, the additional worker would generate \$400 per week in additional (marginal) net revenues so the employer could potentially pay a new employee up to \$10 per hour for a 40-hour week and still break even. (The additional employee's MVP equals the MPP times the MR, or, in this case, \$400 per week). However, that is only part of the story. It assumes that the hamburger franchise could sell the additional 100 hamburgers at the same price as the first 1000. In many markets, such as agricultural markets that might be true—since all bushels of corn, etc., tend to trade at the same price due to the large size of agricultural markets. However, a hamburger franchise

serves a local market. Thus, in order to sell the additional hamburgers, the franchise manager might have to cut prices to attract more customers from farther away or to induce existing customers to buy more.

The marginal revenue generated by the potential new employee, then, is the change in the total net revenue (above variable costs) that the franchise would earn if the employee were to be hired. In this case, assume that the franchise would have to cut the hamburger price to \$3.90 each in order to sell the total production after another employee is hired. Thus, the marginal increase in revenues equals \$390 for the additional hamburgers produced and sold minus \$100 for the 10 cent price cut on the 1,000 hamburgers that would otherwise be sold. Thus, the marginal revenue product of the new worker would be \$290 when both the additional production and the price cut required to sell all the product were taken into account. In a forty-hour week, the employer could only afford to offer a potential new employee only \$7.25 per hour.

If the minimum wage were only \$7 per hour the franchise would find it profitable to hire a new employee. However, if the minimum wage were to rise to \$10 per hour, the franchise would not want to hire another employee, and would only be tempted to do so if the franchise felt it could sell all additional production without cutting prices.

However, in the presence of inflation, business owners might find that the effective demand for their products had increased. For instance, they might find they could sell 1,000 hamburgers per week at \$4.50 and 1,100 hamburgers per week at a price of \$4.40. In that case, the new worker would produce hamburgers worth \$450 per week if no price concessions were necessary and would produce a marginal value product of \$340 per week even after prices were cut by 10 cents in order to ensure that all the product could be sold (in the last case the new production would sell for \$440 but the price cut on the previous 1,000 hamburgers would reduce revenues by \$100, so the MVP would be \$340). In that case, a potential new worker could be paid up to \$8.50 per hour and the franchise could still make additional profits by hiring a new worker. (Of course, this simple example ignores the related overhead costs and fringe benefit costs associated with hiring a new employee). In the event of inflation, then, even if the minimum wage were to rise from \$7 to \$8 the employer would still find it profitable to hire a new worker.

Conversely, if the economy suffered a downturn, possibly only locally, the price of hamburgers might fall to \$3.50 over raw material costs. In that case, if the employer had to reduce prices by 10 cents in order to sell 100 more hamburgers, a new employee's marginal value product would fall to \$240 per week so the employer would not want to hire any more employees even if the minimum wage were \$7 per hour. Thus, it is easy to see that when minimum wages exist, inflation makes employers more willing to hire new workers and when deflation exists, minimum wages make it more difficult for potential workers to find a job.

These comments reflect a political dynamic. During hard times, potential employers vigorously fight potential increases in the minimum wage. However, during good times they are less opposed since they will often be voluntarily willing to pay new workers more than the minimum wage. Thus, when the economy is booming, many politicians seek to earn accolades from labor unions and others who generally want politicians to increase minimum wages so they can argue that their workers deserve a higher premium over the minimum wage. As a result, minimum wages across the country tend to increase during boom times. Unfortunately, once a recession occurs, even locally, because of the higher minimum wage, workers will find it more difficult to find job openings.

The fact that minimum wages are more likely to be favored by politicians in local markets or in economic times when consumer demand is strong and prices are generally rising may make it hard to discern the immediate effect of minimum wage hikes—as minimum wages may rise at the same time that economic forces such as inflation are already making employers more willing to pay up to hire more workers. It is only when recessionary times occur that the effect of minimum wages can be readily seen to reduce employment opportunities. The downward inflexibility of wage contracts is often cited as one reason that the Great Depression was as severe as it was.