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The minimal wage effects in the behavior and neoclassical economic theory

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Abstract: *In various countries, the minimum wages have been increased to raise the lowest wage line and generate more social benefits. However, different economic theories expressed different views on the minimum wage rise. There has been controversy over whether to continue raising the minimum wage or abolish it in the future. This paper will compare the minimum wage effect of the behavior economy with that of the neoclassical economy on the labor demand side like firms and the labor supply side like workers, by comparing this social cost and benefit to illustrate that minimum wage is beneficial to the society.*

Keywords: *minimal wage effects; behavior economy; neoclassical economy*

1. Introduction

By comparing behavior economy with Neoclassical economy, there will be a deeper understanding of one policy. Behavior economy is often used to question the neoclassical economic assumption in public policy by measuring the policy effect on an individual's behavior, such as the rationality and optimal market setting (Chetty, 2015) [1]. The new method of evaluating broadens the area of the core research problem. It helps researchers to focus on the policy question rather than the feasibility of the assumption of the economic model. Chetty (2015) argues that the evaluation of the certainty of the economic model is more helpful than the assumption of the economic model. In other words, the behavior economy not only questions the neoclassical economy but also improves the prediction of the policy effect and outcomes by involving different factors. Also, the new welfare implication created by the behavior economy has considered the bias of the difference like physical character and the contrast of the welfare outcomes for the policymakers and the agent, which is more precise to measure the actual utility gain from the implication of policy (Chetty, 2015). The behavior economy is a helpful tool to evaluate the minimum wage effect because there are various agents, including employers and employees, in the labor market. These agents will differently response to the policy because of the unequal preferences. So, the minimum wage rise influences them differently and may generate economic loss and welfare gains. To better determine the effect of this policy, behavior economy is necessary to be included.

2. Neoclassical economic and Behaviour economic view on the minimum wage

Neoclassical and behavioral economists have different views on the market and explanations of agent preferences in the labor markets. Brozova (2018) [2] states that the neoclassical assumption is based on a competitive labor market. There is an effective equilibrium of labor supply and labor demand located at the point where the marginal cost of hiring one extra worker equals the marginal revenue that the worker produces. The price is as same as the added value. Agents make decisions based on their preferences to maximize an individual's utility and under the constraints like the maximal hours they can work per day. Besides, people own identical preferences, and the preferences are independent of the other's effect, experience, previous consumption, future consumption, and so on, which means they are rational to make decisions. Based on this assumption, the market will automatically clear, and the market-equilibrium wage will maximize the utility of the supplier and producer (Brozova, 2018). However, the behavior economists point out that the labor market is not fully competitive, and market power like monopsony and oligopoly exists in some industries. With market power, the equilibrium is not effective anymore because firms can decide the wages and employ fewer workers to receive higher profits. The information asymmetry takes the bargaining power of the employees (Brozova, 2018). Also, the market rules are not only determined by the industries but also

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the union and the government through policy, which influence the employee's hiring, promotion, retirement, and so on. In terms of the agents, behavior economists state that the individual preferences are not constant and affected by the psychological and social changes, which influence the working performance and wage rate they can achieve. The fundamental difference between the neoclassical and behavior assumption on the labor market is that neoclassical excluded the effect of the social factor and lacked consideration of the real-life market.

Because of the further analysis of the neoclassical and behavior economy, the minimum wage effect on society is different. For neoclassical economics, Brozova (2018) shows that the minimum wage is ineffective if higher than the equilibrium wage with the increasing unemployment rate of low-skill workers and the young workers without enough working experience and the decreasing aggregate employment. The minimal salary decreases the working opportunities of the low-skill and young workers, which arise the involuntary unemployment. The minimum wage policy is designed to redistribute the wealth to the low-income family from the high-income family to reduce the poverty of the low social class. But it is contradictory to the Pareto optimal criteria that define that it is socially optimal to increase one people's utility without decreasing others (Brozova, 2018).

Also, the wage is not paid according to the value produced by the employees, which means the labor market bears the cost of protecting the employees. However, the empirical data illustrated that the minimum wage didn't increase aggregate and involuntary unemployment. Behavior economists point out that the minimum wage effect influences the perfect and imperfect competition markets differently. There is a positive correlation between the unemployment rate and the minimum wage rate in a perfect competition market. But in the monopsony market, the minimum wage is negatively related to the unemployment rate because the market cannot protect the working conditions and salary of the employee. The minimum wage is needed to prevent the exploitation of workers (Brozova, 2018). The equilibrium price only covers the time cost but not the actual labor capital cost, including the potential health cost. It is more appropriate to use various insights like behavior economics to evaluate the minimum wage effect and determine the future application of this policy by analyzing the gain and losses of different agents.(As shown in figure 1)

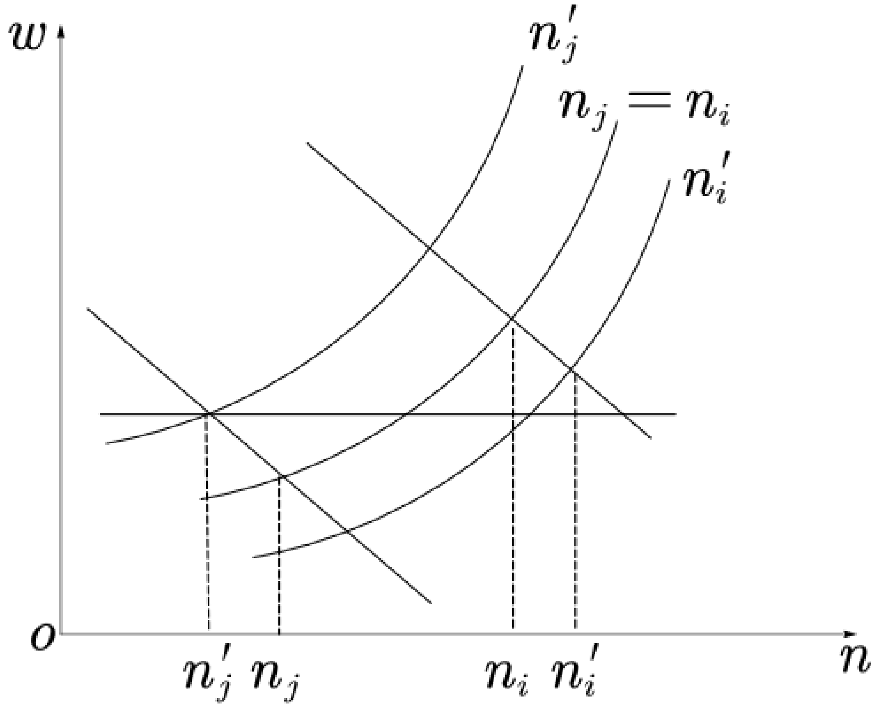

Figure 1: The spatial effect of the minimum wage

3. Minimal wages effects on the different types of agents

The economic market is complex and composite of different types of agents, such as companies, workers at higher education levels, female workers, etc. Firstly, minimal wages may harm the welfare through the response of the firms (Yu et al., 2021). The authors have concentrated on the welfare of

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workers in the USA. Firms can adjust other approaches like working schedules to respond to the rise of the minimum wage, which significantly affects employees' welfare. They have selected highly detailed scheduling data from a US national retail store and compared the scheduling data in the states with different minimal wages to check the effect on the employee schedule. The minimal wage effect on the total working hours is nearly zero based on the dataset. Although the aggregate working hours have been unchanged, firms are willing to hire more part-time workers to increase the total number of workers. With the increasing portion of the part-time work, firms can respond quickly to the unexpected shocks by hiring and laying off. In other words, the average weekly working time per worker has decreased, which means the total earnings per minimum wage worker dropped simultaneously (Yu et al., 2021). Also, the companies cut off the number of employees who are eligible for benefits. The reduced employee benefit is used to compensate for the loss created by the increasing labor costs. Furthermore, with the increase of the minimum wages, the work schedule is more inconsistent, and there are more fluctuations in the working time and the shift of timing. For workers, these fluctuations make it difficult to achieve a balance in their personal lives, the multiple jobs, and the long-run stability of finance. The minimum wage increase may be harmful to the employees because of decreased working time, reduced welfare, and inconsistent working schedule. The firms may be indifferent to the policy because of the compensation effect (Yu et al., 2021). In other words, a separate minimum wage without other mechanisms to ensure employee welfare increase is likely to decrease the welfare of the employees.

Secondly, the increase in the minimum wage affects teenage workers and adult workers differently. As the neoclassical theory mentioned before, the minimum wage growth may lead to fewer working opportunities for young workers with less working experience. Giuliano (2009) [3] argues that minimum wage increases the productive teenagers' labor participation rate, then raises the aggregate demand of teenagers under the moral hazard model because the average productivity increases. The author uses data from large American retail firms and considers the geographic differences to estimate the effect on the employment of the federal minimum wage policy in 1966. Also, in this company, the teenage workers receive a lower salary than the adult workers, so it is clear to show the different wage and employment effects of the other age groups. The empirical results illustrate that the neoclassical model is not the best tool to analyze this market because the labor demand varies with the participation of the labor market (Giuliano, 2009). The increasing minimum wages have a small but negative effect on total employment, which is consistent with the theory of the neoclassical model. However, in the firms where the relative salary of teenage workers increases after the implication of the policy, the teenager employment has increased. More and more teenagers choose to participate in the labor market for the higher payoff, increasing the overall industry employment level. At the same time, the increasing labor supply lowers the firms' searching costs because it is easier to fill the vacant position and motivates firms to generate more job vacancies. Also, the hazard model can be used to illustrate the outcome. The information asymmetry of the model makes it hard to offer wages based on productivity and cannot offer higher salaries to attract employees with higher quality. Under this assumption, the minimum wage may increase the labor demand because the average productivity of applicant's increases for more high-quality workers decides to enter the labor markets. The critical point to make the policy effective is whether it effectively raises the relative wages of teenagers, which policymakers should think about.

Thirdly, according to the "Minimal wage policy guide" published by the international labor organization in 2016, the minimum wage policy can reduce the pay gap between males and females. The minimum wage policy is designed to improve the income of a particular group, especially the low-income group, which means it is used to narrow the gap between the different groups. The minimal wage works in the gender inequality problems due to the differences in occupational distribution between men and women, which is caused by the long-run gender discrimination (International labor organization, 2016). Female workers are more likely to stay in fields where average wages are lower because they must put much more effort to get a well-paid job, but men do the opposite. It is necessary to change the current situation because injustice happens almost all over the world, which means female workers globally suffer from this unfair trend. However, to maximize the minimum wage effect, the wage policy and the labor market institutions should promote equal treatment of vulnerable groups and other groups of workers. For example, the policymakers cannot set a relatively lower minimum wage rate in the sector where women work.

4. Evaluation of minimum wage policy

By researching the minimum wage effect on the different types of agents, it is clear that neoclassical economic theory is not fully complete to evaluate the effectiveness of the policy. The

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neoclassical economist don does not consider the real-life labor market. It has an overly conceptualized and idealized understanding of agent decisions, and behavior economics made up for it by involving market differences and individual bias. So, diversity insight is essential for the progress of the policymaking and estimation of the policy effect. Besides, the minimum wage policy only effectively improves the welfare of the specific groups with corresponding supplementary policies. To prevent firms changing the working schedule and reducing the employee benefit in response to the increasing labor cost, the government needs to introduce other laws to protect employees' rights. To increase the overall employment of the teenage workers by improving the total labor demand of the teenager workers, the policy must make sure the relative wage of the teenager employees increases. Also, to effectively reduce the gender pay gaps, policymakers should treat the vulnerable group's workers and other groups equally. The minimum wage policy is not enough to maximize the social welfare gains, but it can be socially beneficial through more thought and refinement.

The purpose of minimum wage policy is to protect the interests of vulnerable labor groups in the labor market, and the effectiveness of the policy also depends on many factors. First is the extent to which the minimum wage system provides protection for workers in the employment relationship, i.e., the coverage of the minimum wage policy, whether it includes occupations in all industries in the economy and whether it includes vulnerable groups such as married women, young workers and mobile workers, regardless of whether these workers have labor contracts; second is whether, under the existing economic conditions, the minimum wage level can be set and adjusted to meet maintain the basic livelihood security of workers and their families; and finally the effectiveness of minimum wage policies also depends on the extent to which employers in labor relations comply with minimum wage regulations.

As a labor market policy regime, the economic impact of minimum wage policy is quite controversial. Proponents of minimum wage policy argue that the policy is both an effective means of social protection and an important factor in economic and social development. The primary purpose of minimum wage policy is to protect workers from excessively low wages, can help low-skilled workers enjoy the fruits of social production fairly, provides a minimum subsistence wage level for all workers who need minimum wage protection, and also reduces poverty and inequality by promoting the right to equal pay for work of equal value. The range of workers targeted by the minimum wage system is different from the range of workers targeted by collective. [4]

The range of workers targeted by a minimum wage system differs from the range of workers targeted by a collective bargaining wage, in that the minimum wage system targets low-skilled workers with disproportionately low income levels that are typically at the tail end of the overall worker income distribution, while a collective bargaining wage is a method of wage protection that builds on the existing minimum wage threshold and targets nearly all employed workers in a collective. Second, minimum wage policies also create a favorable environment for workers to improve their skills, for enterprises to innovate and develop sustainably, and for regional industries to optimize and upgrade their structures. An increase in the minimum wage on the one hand motivates enterprises to hire more productive workers to replace less productive ones, which may in turn motivate more low-skilled workers to actively acquire new labor skills to improve their probability of successfully finding a job; on the other hand, in the long run, enterprises will be more inclined to increase capital and technology investment to enhance workers' productivity by improving production technology. At the macro level, on the one hand, an increase in the minimum wage can attract more workers to enter the labor market and raise the level of labor participation; on the other hand, enterprises continue to upgrade their technology and low-productivity production capacity is gradually eliminated, which is beneficial to promote the upgrading of the local industrial structure.

Opponents of minimum wage policies argue that minimum wage policies undermine the competitive environment in the labor market and may even cause developing countries to lose their competitive advantage. First, a higher minimum wage may lead to a reduction in employment opportunities for low-skilled workers. For example, according to Chinese economist Zhang Wuchang, there is a large shift from agricultural to non-agricultural labor in China, and a large proportion of these workers are low-educated and low-skilled laborers. A higher minimum wage may make it difficult for agricultural workers to find non-agricultural jobs, and they will have to continue to work in agricultural-type labor, which is even less productive. Second, the supply of low-skilled, low-paid jobs is also likely to decline as the minimum wage increases.[5]

The supply of low-skilled, low-paid jobs is also likely to decline as the minimum wage rate increases. For workers with low labor skills, they will face a serious risk of unemployment, and high social unemployment will lead some people to lose their livelihood and engage in various criminal acts,

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which will seriously affect social stability. Again, for developing countries, cheap labor is their important competitiveness in the synergistic development of the world economy. A high minimum wage may lead to the loss of the advantage of low labor costs in developing countries, which in turn may lead to the reduction of net foreign investment with the main purpose of reducing labor costs. Scholars have also found that higher minimum wages in the United States do not help poor or low-income households, but rather middle-income households benefit more from a higher minimum wage. Rather, the teenage labor force in middle-income households benefits more, which also undermines the policy goals of the minimum wage.

5. Conclusion

With the comparison of the neoclassical economics and behavior economics view on minimal wage, single economic considerations cannot fully determine the effectiveness of the policy. A minimum wage increase reduces the equilibrium quantity of employment; in the buyer's monopoly market model, a moderate minimum wage increase instead increases the equilibrium quantity of employment and the equilibrium wage level; in the multiple labor market theory, a minimum wage increase has different effects on employment, labor supply, and wage income for the formal and informal sectors, and for high-skilled and low-skilled workers; in the endogenous search model, the The effect of a minimum wage increase on employment depends on the elasticity of labor supply and labor demand with respect to the minimum wage, raising wages near the minimum wage but lowering the income of workers who want the job most and increasing income inequality. Besides, with the cases of the minimum wage effect of multiple agents, a single policy setting cannot achieve the goal of maximizing social welfare. For policymakers, the optimal strategy is to evaluate one policy from various insights and set up an additional policy to solve the problems.

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