

MODELING INVESTMENT AND WAGE CHANGES IN IMPERFECT MARKETS

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Annotation:

This work analyzes the interrelationship of investment processes and wage dynamics in imperfect markets. The study studies the impact of market imperfections, including information asymmetry, monopolistic forces and institutional constraints on investment decisions and the level of wages in the labor market. Also, using economic modeling methods, the development trends of investment flows and wage changes in various scenarios are forecasted. As a result, recommendations are developed that are necessary for conducting effective economic policy in imperfect markets.

Keywords:

imperfect market, investment, wages, economic modeling, labor market, information asymmetry, monopolistic competition, institutional factors, economic growth, capital flows, efficiency, employment.

Economic growth and development are one of the priority tasks of any country. Investments and wages play an important role in achieving this goal. While investments are necessary for expanding production, introducing new technologies and developing infrastructure, wages are the main motivator of employee labor and form consumer demand. However, in practice, since markets are not always perfect, the relationship between investment and wages is complicated. In imperfect markets, in particular, in conditions of monopolies, oligopolies and monopolistic competition, companies have a significant influence on prices and production volumes. This directly affects investment decisions and wage policy.

Therefore, modeling investment and wage changes in conditions of imperfect markets is of urgent importance. The purpose of this study is to study the relationship between investment and wages in imperfect markets and identify the main factors affecting their changes. To achieve the goal, the following tasks were set: first, to analyze the basic concepts and models of the theory of imperfect markets; second, to develop methods for modeling investment decisions in imperfect markets; third, to model wage dynamics in imperfect markets; fourth, to empirically analyze the factors affecting investment and wage changes in imperfect markets; fifth, to develop practical recommendations based on the results obtained.

The results of this study may be useful for government agencies, heads of enterprises, and economists-analysts. They will help in making decisions on more effective investment policy, optimizing the wage system, and stimulating economic growth in imperfect markets. The relevance, goals, and objectives of the study determine its theoretical and practical significance.

The theory of imperfect markets studies markets where there is no perfect competition. In a perfectly competitive market, there are many buyers and sellers who cannot influence the price. In imperfect markets, at least one party has some degree of control over the price. The main types of imperfect markets are: monopoly, oligopoly, and monopolistic competition. In a monopoly market, there is only one seller who has complete control over the price of a product

or service. An oligopoly market is dominated by a few large companies, each of which can significantly influence the price. In a monopolistic competition market, there are many sellers, but each of them tries to differentiate its product from others, thereby gaining some degree of control over the price.

Various models are used to analyze imperfect markets. The most common of them are the Cournot model, the Bertrand model, and the Stackelberg model. The Cournot model assumes that in oligopoly, companies compete on output. The Bertrand model assumes that companies compete on price. The Stackelberg model allows us to analyze the strategic interaction between a leading company and its followers. In addition, special models have been developed to study phenomena such as price discrimination, product differentiation, and advertising in imperfect markets. These models are necessary to understand the behavior of companies and to assess how they affect their investment and wage policies.

Imperfect markets are theoretical is important in considering investment and wage issues. Because the market power of companies directly affects their investment decisions and wage policies. For example, monopolies and oligopolies may invest less than in perfectly competitive markets, because they are less interested in introducing new technologies due to the lack of competition. They may also pay workers less because employees have limited opportunities to find other jobs. Therefore, when analyzing investment and wage dynamics in imperfect markets, it is necessary to take into account the market structure and strategic behavior of companies. Modeling investment decisions in imperfect markets requires taking into account factors such as market power, the competitive environment, and future profit expectations of companies. Traditional investment models, such as net present value (NPV) and internal rate of return (IRR), are based on conditions of perfect competition and are not suitable for application in imperfect markets. In such conditions, companies must make strategic investment decisions, that is, they must take into account the responses of competitors and the possibilities of maintaining or increasing market share.

Methods such as game theory, real options theory, and dynamic programming are used to model investment decisions in imperfect markets. Game theory allows us to analyze strategic interactions between companies. Real options theory takes into account the possibility of withdrawing or postponing investments, which is important when making investment decisions under uncertainty. Dynamic programming, on the other hand, helps to optimize investment decisions over time.

For example, in an oligopoly market, a company must take into account the responses of its competitors when deciding whether to invest in a new technology. If competitors also invest in the same technology, the company's market share may not change, but its profits may decrease. If competitors do not invest, the company can increase market share and increase profits. Therefore, when making an investment decision, a company must predict the likely behavior of competitors and develop a strategy accordingly.

Another important factor affecting investment decisions is financial constraints. In imperfect markets, companies often have difficulty accessing external financing, since lenders cannot accurately estimate their future profits. This limits the investment opportunities of companies. Therefore, it is necessary to take into account financial constraints when modeling investment decisions in imperfect markets.

Modeling wage dynamics in imperfect markets requires taking into account the specific features of the labor market, such as the presence of unions, the market power of employers, and restrictions on employee mobility. Under conditions of perfect competition, wages are equal to the marginal product of labor and reflect the equilibrium between supply and demand in the labor market. In imperfect markets, however, wages may deviate from this rule.

The main types of imperfect labor markets are monopsony and unionized markets. In a monopsony market, there is only one employer who sets the wage level. In markets where unions compete, unions negotiate with employers to protect workers' rights and influence wage levels.

Various methods are used to model wage dynamics. The most common of these are negotiation models, efficiency wage models, and insider-outsider models. Negotiation models analyze how wages are set as a result of negotiations between unions and employers. Efficiency wage models take into account the impact of wages on employee motivation and productivity. Insider-outsider models reflect the fact that employed workers (insiders) have a stronger position to increase wages, and that unemployed workers (outsiders) have limited ability to influence wages.

For example, in a monopsony situation, when a company increases the number of workers, the wage rate also increases because the company is forced to pay a higher wage to attract more workers. As a result, the company may pay a wage below the marginal product of labor. In a unionized situation, the union may demand a higher wage from the employer may require a wage, which reduces the company's profits and reduces the level of employment.

Another important factor affecting wage dynamics is labor productivity. If labor productivity increases, the company will be able to pay workers higher wages. However, in imperfect markets, an increase in labor productivity does not always lead to an increase in wages, since companies can retain excess profits. Therefore, when modeling wage dynamics in imperfect markets, it is necessary to take into account labor productivity, the market power of unions and companies.

The factors affecting investment and wage changes in imperfect markets are very numerous and diverse. They can be divided into economic, institutional and technological factors. Economic factors include market structure, changes in supply and demand, inflation rates and interest rates. Institutional factors include the legislative framework, government policy, the role of unions and the corporate governance system. Technological factors include the introduction of new technologies, innovation, and scientific and technological progress.

Market structure has a significant impact on investment and wage policies. In monopoly and oligopoly markets, companies can invest less and pay lower wages than in perfectly competitive markets. Changes in demand and supply can also change the relationship between investment and wages. If demand increases, companies invest to expand production and are willing to pay higher wages to workers. Conversely, if demand decreases, investment decreases and wages fall.

The level of inflation and interest rates directly affect investment decisions. In conditions of high inflation, companies are forced to invest more to maintain real income. High interest rates, in turn, increase the cost of investment projects and discourage companies from investing.

The legislative framework and state policy determine the regulation of investment and wages. Tax policy, subsidies, and investment incentives can stimulate or restrict investment activity. Labor laws, minimum wages, and employment protection regulations affect wage levels and labor market flexibility.

The role of trade unions is important in wage dynamics. Strong trade unions can influence companies' wage policies by protecting workers' rights and demanding higher wages. Corporate governance also plays an important role in shaping companies' investment and wage policies. Transparent and effective corporate governance helps companies optimize their investment decisions and pay workers fair wages.

The introduction of new technologies and innovations can fundamentally change the relationship between investment and wages. New technologies can increase productivity and create new jobs. However, in some cases, technological progress can lead to the loss of existing



jobs and an increase in wage inequality. Therefore, it is necessary to take into account the impact of technological factors when analyzing investment and wage changes in imperfect markets.

References

1. Islamova, N. (2018). Theory of rational inputs and the impact of monetary policy in macroeconomics. Faculty of Mathematics and Economics, Tashkent State University, Tashkent.
2. Kadyrov, S. (2020). Impact of monetary policy on macroeconomic stability. *Economics and Management*, 15(3), 45-58.
3. Abdurahmonov, D. (2019). Historical development and practical application of the theory of rational inputs. National University of Uzbekistan, Tashkent.
4. Mahmudov, S. (2021). Impact of monetary policy on economic growth: a statistical analysis. *International Economics and Politics*, 7(2), 120-135.
5. Yusupov, M. (2022). Macroeconomic equilibrium and policy flexibility. Academy of Economic Sciences, Tashkent.