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Effects of Changes in Technology and Market Power on Disparity

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This study deals with the impact on the labor market using two keywords : technological change and market power. The significant improvement in productivity thanks to technology can lead to enhanced competitiveness for both companies and the national economy, resulting in a greater demand for labor. However, if technological change automates certain tasks previously performed by workers, labor demand may decrease unless such automation results in the creation of new jobs for process advancement. As observed in previous studies on labor and capital, if labor and capital exhibit a complementary nature, even with capital-intensive technological advancements, the resulting improvement in productivity could somewhat enhance labor demand.

Until now, however, there has been no study in Korea that analyzes the routes through which technological change affects the labor market, dividing them into different routes and showing how each route works and how important it is. Such research is essential to better understand the impact of technology on the labor market, and can also be important for broadening future policy horizons. Thus, in order to fill this research gap, this study attempted to systematically analyze the impact of technological change in Korea by applying a methodology for decomposing the impact of technological change on the labor market.

It is difficult to say that there are many analyzes of the impact of market power on the labor market in Korea. The gap between company sizes and the vertical relationship between prime contractors and subcontractors have always been a problem in Korea. Also, the importance of this research topic has increased not just in Korea but internationally due to the trend of an era in which the number of companies whose market power has grown incomparably larger than in the past due to technological development. However, research in this field has not been performed sufficiently due to data limitations. Moreover, it presents greater difficulty because there is no unified measurement method of market power in academia. This study devoted a separate part to defining market power indicators, and analyzed the trend of those indicators in the manufacturing industry and its relationship with the labor market.

This study also discusses policies that have been introduced or proposed so far. Although this study is more interested in technology and market power, these factors eventually lead to labor market outcomes such as inequality through the medium of Korea's labor market environment. Therefore, when dealing with policies, rather than paying attention to the subjects of technology and market power themselves, it would be necessary to examine policies and systems beyond the company level—such as a company's internal personnel system—to minimize the negative impact of these factors on the labor market. Many would think that, while the market power issue is a problem between companies, the technology issue is not. However, technological change sometimes not only eliminates certain processes of companies, but also leads to changes that restructure companies and industries. And, these changes can result in various negative outcomes at a level beyond the company, such as increased outsourcing when the importance of a process weakens or when it becomes technologically feasible, an increase in jobs on the borderline between employees and non-employees, and growing disparities between companies with significant capital resources for pursuing technological advancement and those without.

Diverse policies have been proposed and formulated to mitigate the negative labor market outcomes at a level beyond companies. However, there has been a lack of research that systematically discusses these policies, as the contexts in which they are implemented vary across different policy measures. This study aims to propose how these policies can be systematically structured to alleviate the negative impacts on the labor market from a comprehensive perspective.

In this study, the impact of technological change on changes in labor demand was analyzed using long-term industry-specific time series data. According to the analysis results, although the effect of increasing labor demand owing to productivity growth is the most important, productivity growth has slowed since the late 1990s, and in addition, changes in the actual duties of production work have had an effect on labor substitution, slowing down labor demand. When market power was added, it was analyzed that market power also had a decreasing effect on labor demand, although it was insignificant. The composition effect also led to a decrease in labor demand in the 2000s, but the size was very small. The effect of increasing new labor-intensive tasks was analyzed to be almost non-existent in the manufacturing industry. Although the results were the same for all industries, as mentioned earlier, the impact of each component was slightly different depending on the period due to the inclusion of the service industry.

The higher the proportion of ICT capital, the stronger the labor-substituting character shown by changes in the duties of production work. In addition, changes in the duties of production work had the effect of increasing the share of low-education employment in places where labor-intensive tasks increased, but the stronger the change in labor-substituting character, the higher the share of high-education employment. It has been observed that as labor demand varies according to educational levels, with stronger labor-substituting character shown by changes in duties, the wage gap between high-educated and low-educated individuals widens.

This study measured the degree of market power for each subcategory within the manufacturing industry, focusing on the profit elasticity, and then examined the relationship between these indicators and various performance indicators of the labor market, such as employment and wages. However, those variables in the labor market did not seem to respond sensitively to the level of competition in the market. Unlike the service industry, the manufacturing industry has a high ratio of full-time jobs so even if market situations change, it would not be easy to reduce employment or adjust the number of workers in a flexible manner. Also, for the same reason, wages showed an overall increasing trend regardless of market situations. However, if the relationship is analyzed only for temporary and daily workers, it tends to have a consistent relationship with profit elasticity in almost all markets because their employment can be adjusted more flexibly in accordance with changes in market situations.

As market situations change, it was also confirmed that in a market where companies are actively created and destroyed, the degree of competition indirectly affects employment by controlling the number of companies rather than directly controlling employment. In other words, when the number of businesses increases, competition intensifies and employment increases in line with the increase in the number of businesses. On the other hand, as competition intensifies, some firms are forced out of the market, the number of businesses drops and employment decreases accordingly. Therefore, given that employment is not adjusted according to the degree of competition only within existing firms but the number of firms is affected, which has been identified as a route that impacts the labor market, it is deemed necessary that, in future competition policies, policy consideration is needed to take into account the industrial entry and exit of firms and the resulting effects on employment. This paper also presented policy measures to mitigate the wage gap. It argued that a shift from corporate wages to industrial and social wages is necessary. It also argued that multi-level prescriptions and three-dimensional policies are also required. The problem recognized for the specific system for mitigating the wage gap is that a multi-level approach is needed, including at the company level, industry and sector level, and country level.

Based on this awareness of the above problem, detailed policy tasks were presented. So that the provision of equal pay for equal value of work, which can only be found in the ‘Equal Employment Opportunity Act’, can be more effectively enforced to an expanded target, there is a need to expand the legal provisions to separate laws or sub-articles of the ‘Labor Standards Act’. In order for the provision to actually work, it is also essential to establish a job value evaluation system.

It is also necessary to consider applying the labor relations law to workplaces with less than 5 employees and marginal part-time workers. As for workplaces with less than 5 employees, even if employment cannot be guaranteed due to the smallness of the business, remuneration for actual work, such as overtime pay, should be paid without discrimination; and as for marginal part-time workers, if it is unreasonable to guarantee 100% weekly holiday allowances or retirement allowances, at least it would be appropriate to actively consider remuneration based on working time ratio.

Expanding the concept of employer should also be included in policy consideration. Also, the gap between company sizes does not solely include technological capabilities or competitiveness, but also encompass factors such as market power. In particular, it has been pointed out that the wage gap resulting from the prime contractor-subcontractor corporate structure, which utilizes in-house subcontractors, is excessive without specific criteria or justification. The National Labor Relations Commission ruled in 2021, with regard to the demand of CJ Logistics Corporation's delivery workers to negotiate with the prime contractor, that a parcel delivery company with substantial responsibility for labor conditions has an obligation to engage in negotiations. Furthermore, in certain industries such as construction machinery, regardless of legal provisions, there are cases where the cargo company and transportation company—considered prime contractors—negotiate collectively with truck drivers—dependent self-employed contractors—affiliated with the Korean Cargo Transport Workers' Union (Lee et al., 2021).

It is necessary to consider ways to address the mismatch between the negotiation refusal by prime contractors with payment ability and the negotiation demand of labor unions of subcontractors. There exist examples of expanding the concept of employer. According to the 'Occupational Safety and Health Act', prime contractors (employers) are bestowed with responsibility and obligation as employers for the safety of subcontractor workers. If this legal logic is expanded, prime contractors (employers) may have joint responsibilities (e.g., bargaining, unfair labor practices, etc.) with subcontractors in determining overall working conditions within subcontractor companies.

It would also be helpful to consider establishing a national-level wage policy institution. To effectively reduce the wage gap in the mid- to long-term, it is important to develop, implement, and manage various policies at the national level. If a government-led institution such as a wage commission can be established, it is expected to bring about various positive effects. Above all, it will provide an opportunity to examine the various issues with the current wage system, conduct research on alternative wage policies, and ultimately discuss the possibility of a new wage system.

Secondly, it is possible to pursue a stable implementation of job evaluation based on equal pay for work of equal value, which can be applied to both the public and private sectors. Even if there is an intention to introduce a job value-based wage system that reflects the principle of equal pay for equal value of work, there is a lack of systematic basis due to the scarcity of job evaluation. It would be desirable for a government-led wage commission to independently undertake such a role.

Third, establishing a government-led wage commission can improve not only the remuneration of civil servants or public institutions, but also the remuneration system in the field of private sector entrustment and social services.

Various levels of social dialogue for easing the wage gap are also crucial. Social dialogue at the national level at times results in reaching wage-related agreements, but the actual effect is not great compared to the symbolic effect. Therefore, it is desirable to seek social dialogue in various ways across industries, sectors and regions.

Company-level policies for mitigating the wage gap include collective bargaining of prime contractors and subcontractors; the introduction of wage disclosure systems; and the implementation of profit-sharing programs. On October 12, 2022, Kakao Mobility and the union representing designated drivers (*designated drivers are chauffeurs that pick up customers that cannot drive their own vehicles) became the first in the platform designated driving industry to sign collective agreements. While Kakao Mobility has no legal obligation, it recognized the importance of engaging in dialogue with the labor union to ensure the stable continuation of the platform designated driving business. The union representing designated drivers, on the other hand, saw significant improvements in the welfare of its members as a priority since its establishment, so engaged in prolonged discussions with the company. This case demonstrates that, even without legislative amendments, if prime contractor companies are willing and labor unions cooperate with management, it is possible to negotiate improvements in working conditions.

Improvements are also needed in the wage disclosure system. Through legislative measures, it is necessary to promote transparent and fair wage systems by disclosing wages by gender, employment type, and job category. Additionally, performance-based profit sharing also needs to be improved further. Many large firms have already pursued various types of profit sharing programs under the principles of mutual growth and cooperation. The case in point is SK Hynix. Furthermore, although there is no specific legal basis for profit sharing itself, various types of profit sharing can already be pursued under the 'Act on the Promotion of Mutually Beneficial Cooperation Between Large Enterprises and Small and Medium Enterprises' enacted in 2006. This act is designed to enhance the mutual growth and cooperation between large companies and SMEs, thereby increasing their competitiveness and reducing polarization. In particular, Article 8 of this act specifies various activities by the government to promote the dissemination of performance-based profit sharing, so it should be referenced to design programs that facilitate the sharing of diverse performance benefits.

As policies at the industry level that can help narrow the wage gap, in addition to expanding the effectiveness of collective agreements or supra-enterprise level bargaining, utilizing the Common Welfare Fund can also be a measure to reduce welfare disparities. Supra-enterprise level bargaining can play a role in easing the wage gap. However, the current law narrowly defines employer organizations. It is also necessary to ensure that real negotiations can be conducted with not only employer organizations but also business associations.

Expanding the effectiveness of collective agreements is also worth considering. In comparison to Korea, major European countries are equipped with systems that extend the reach of collective agreements to a significant extent. France, a well-known example, has a unionization rate of only 10%, yet the application rate of collective agreements reaches 90%. This is because once an agreement is signed, it automatically applies to the entire industry based on legal grounds. Countries such as Spain, Italy, Finland, and Belgium are known to have similar systems as France.

It is also necessary to actively introduce the Community Welfare Fund. Inequality in the labor market not only involves the wage gap, but also the wide gap in welfare. In this respect, the Joint Labor Welfare Fund can be evaluated as a meaningful policy. As of 2019, a total of 151 Joint Labor Welfare Fund were established, of which 25 were those composed of suppliers of prime contractors. The number of the Joint Labor Welfare Fund jointly established by prime contractors and subcontractors is relatively small at 5, but the demand for the Fund continues to increase and the number of applications is rising.

Although the Joint Labor Welfare Fund plays a role in improving the welfare benefits of workers in in-house subcontractors or SMEs that do not have in-house welfare funds, there are still low-wage workers who are not included even in this system, mainly temporary workers, dependent self-employed contractors, and platform workers. Therefore, it may be worth considering the "Community Welfare Fund" model by utilizing the Joint Labor Welfare Fund model. In this model, individual workers and local governments contribute funds, and the government does the matching and supports the fund. Unlike the Joint Labor Welfare Fund, the contribution to the fund comes from individuals and local governments rather than large companies or prime contractors, while the central government plays a role similar to the Common Welfare Fund. In addition, this study presents several additional policy tasks for narrowing the wage gap, such as innovation in employment services. It is difficult to have disparity reduction policies that solely target technology and market power. Instead, it would be more desirable to establish an institutional environment that allows such changes to pass through the filter of the labor market system, thereby mitigating negative effects and enhancing positive effects.

References

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