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CGE Analysis of the Impact of the 2024 Minimum Wage Increase on the National Economy in Indonesia

Nur Siti Annazah*, Muhammad Fikrie Hazami, Faizal Amir P Nasution, Henriko Tobing, Muhyiddin

Ministry of Manpower - Republic of Indonesia

*Email Correspondences: anazah.siti@gmail.com

Abstract

One of the minimum wage problems is caused by workers/laborers' needing to agree with the wage increase set. The minimum wage increase is still minimal compared to the high worker need. The Labor Organization president called the government to raise the provincial minimum wage (UMP) and district/city minimum wage (UMK) 2024 by 15%. This figure is obtained from the Decent Living Needs (KHL) survey results and other indicators such as inflation and economic growth. On the other hand, the minimum wage increase of 15% is considered by employers to be unrealistic, considering the condition of the national economy is hit by uncertainty. The government said that determining the minimum wage based on PP 36/2021 and considering the welfare of workers/laborers' also looks at the Company's capabilities. This paper aims to see new macroeconomic and welfare conditions due to the increase in the minimum wage by 15%. Using the general equilibrium model of static computing (CGE), the analysis results show that an increase in the minimum wage leads to a decrease in demand for labor, especially in labor-intensive sectors. The increase in wages impacts increasing household income, thus indicating an increase in household welfare. However, inflationary pressures brought about by the minimum wage increase mask the increase in revenue, resulting in a decrease in household consumption budgets. This translates into a loss of net well-being, with a more significant impact on urban households than rural households. The output of most sectors, especially labor-intensive sectors, declined, but nominal GDP increased. The increase in nominal GDP is due to rising prices, not actual economic output.

Keywords: cge, minimum wage, macroeconomics, job opportunities, and household welfare

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1. Introduction

One of the minimum wage problems is caused by workers/laborers' need to agree with the amount of wage increase set. The minimum wage increase is still minimal compared to the high worker need. The desire of workers/laborers to increase wages is felt heavily by the Company in addition to many companies currently in the post-COVID-19 improvement stage. The wage increase will affect the condition of the national economy, so policymaking needs to be done carefully. Based on Table 1, the average condition of the minimum wage increases yearly. Even when economic conditions, especially in Indonesia, are not conducive due to COVID-19, the average minimum wage will still increase in 2021. In 2022, as Indonesia's economic conditions improve, the minimum wage will gradually increase by 1.67%. At its peak in 2023, the average increase in the national minimum wage of 8.70% returns to pre-COVID-19 pandemic conditions.

The minimum wage increase in 2022 is 1.09%. This condition is considered unfair by most workers/laborers. The President of KSPSI said that the wage increase of 1.09% in 2022 was considered very inappropriate and detrimental to workers. This is because several business sectors, such as hospitals, pharmaceuticals, telecommunications, and mining, are growing positively. Meanwhile, the Government's determination of this figure is based on the formula in PP 36/2021 as a derivative of Law Number 11 of 2020 concerning Job Creation. The Government said that determining the minimum wage based on PP 36/2021 and considering the welfare of workers/laborers also looks at the Company's capabilities. The Government said that the regulation carries a fairer concept between workers and companies.

Table. 1 Development of the National Minimum Wage Average 2018-2023

Year	National Minimum Wage Average (Rp)	Growth (%)
2018	2,074,151.08	9.24%
2019	2,265,805.07	8.38%
2020	2,455,662.22	8.82%
2021	2,672,371.00	0.46%
2022	2,684,743.23	1.67%
2023	2,966,901.26	8.70%

Source: Employment Information Data Center, Ministry of Manpower (2023)

In 2024, the President of the Labor Party called on the government to increase the provincial minimum wage (UMP) and district/city minimum wage (UMK) 2024 by 15%. The 15% wage increase was obtained based on the Decent Living Needs (KHL) survey results in 25 industrial cities throughout Indonesia. The survey was conducted in 2022 and 2023, as well as 2024 predictions. In addition, the proposed minimum wage increase of 15% is also based on macroeconomic indicators, namely inflation and economic growth. On the other hand, the Indonesian Employers Association (APINDO) considers the minimum wage increase unrealistic, considering the national economy's uncertainty.

Empirical studies have identified two impacts of minimum wage policies: the distribution effect and the employment effect. Related to the distribution effect, Fields and Kanbur (2007)

found that poverty can decrease, increase, or not change depending on the level of poverty avoidance, the elasticity of labor demand, the ratio of the minimum wage to the poverty line, and the size of profit sharing. Studies of Latin America and developing countries in other regions show that poverty decreases with the increase in the minimum wage (Lustig and McLeod, 1997; Morley, 1995).

Neoclassical theory predicts a negative impact on overall employment, and an increase in average wages directly results from an increase in the minimum wage. The standard two-sector economic model states that raising the minimum wage will reduce employment in covered sectors, create unemployment, and ultimately encourage workers to seek jobs in non-covered sectors, negatively impacting beneficiaries' low salaries. The minimum wage positively impacts employment in the formal sector and negatively impacts employment in the informal sector when inter-regional dependencies (spatial units) are considered in the model (Kurniawati, 2018).

The impact of the minimum wage amid the high informal sector is mixed. Several studies have found that the minimum wage in the formal sector provides a signal or lighthouse effect on the informal sector, leading to an increase in informal sector wages (Boeri, Garibaldi, & Ribeiro, 2010). On the other hand, other studies have found that if minimum wages are only enforced in the urban formal sector with relatively high wages, this is unlikely to help workers in parts of the economy where most people experiencing poverty are in rural areas and the urban informal sector (Gindling and Terrell, 2004; Harrison and Leamer, 1997).

In a literature review of segmented labor markets and differing wages, Boccanfuso and Savard (2011) found that the wage gap between the formal and informal sectors can be partly explained by a minimum wage set above equilibrium levels, trade union activity, and rules and regulations that create rigidity within the labor market. Similarly, Agénor and Aynoui (2003) found that the minimum wage in the formal unskilled workforce can reduce unemployment in the short term and that the adjustment process in the labor market often involves migration from rural to urban and migration to the formal sector. This was also conveyed by Schultz (1982), who found that for low-educated groups, the wage gap is a significant determinant of migration between regions that tend to be urban-biased.

The increase in UMP is expected to increase economic growth because people's purchasing power will also increase. The rise in UMP will also cause household consumption to increase, causing inflation. In addition, the increase in UMP will also cause companies to limit labor recruitment so that the unemployment rate will increase. The government, in this case, the Ministry of Manpower, certainly needs to absorb the aspirations conveyed by workers/laborers related to the increase in UMP by 15%. This aspiration is the basis for the government in determining policies related to the Minimum Wage. Absorbing aspirations needs to be done because the increase in UMP will undoubtedly affect the condition of the national economy.

2. Research Methods

2.1. Data Types and Sources

The type of data used to construct the CGE Model is secondary data sourced from the Input-Output (I-O) Table in 2016 and released by the Central Statistics Agency (BPS). In addition, other secondary data are also needed to support the processing of CGE Model data and the stages of running simulation scenarios originating from the Central Statistics Agency (BPS) and the Ministry of Manpower. Empirical results from researchers or institutions published in reports and journals (national and international) discussing the Minimum Wage do not escape review. Some of these can be used to improve the CGE model's precision and simultaneously confirm this study's findings.

2.2. Scope

The scope of this study is to see the impact of a minimum wage increase of 15% (fifteen percent) on national economic performance. This study focuses on the effects of a 15% increase in the minimum wage on macroeconomic variables, employment opportunities, and household welfare. The limitation of this study is that it only looks at the impact through a modeling approach.

2.3. Analysis Methods

This study used the Computable General Equilibrium (CGE) approach. The CGE model is a general equilibrium model that models the agents involved in an economy and their respective interactions/behaviors. Various economic agents will interact with each other until the establishment of a general equilibrium in the economy (Burfisher, 2011). The advantage of this model lies in the existence of assumptions that relax investment and labor mobility so that the model built is closer to reality. Generally referring to Dixon et al. (1992), the general equilibrium model sees an economy as a complete system based on microeconomic foundations.

CGE models have several advantages over other econometric models. The CGE model has a strong microeconomic foundation that contains complete specifications of supply and demand in all markets so that it can easily interpret simulation results (Robinson, 1989). Compared to the partial equilibrium model, the CGE model includes all transactions between economic actors, both in the factor of production market and commodity markets. Therefore, the impact of a policy will be analyzed quantitatively on economic performance, both macro and sectoral (Harrison, 1997).

When constructing and running a CGE Model, it is necessary to examine the scope of industries and commodities involved, the factors of production composed, the households involved, the system of equations built, and the simulation scenarios prepared. This coverage will provide an understanding of how the CGE Model works and the rationality of its economic transmission.

1) Industry

The CGE model covers 185 industries, each producing a good or service. The number of industries is determined by the number of industries or sectors in Table I-O 2016, where it is assumed that each industry or sector will produce one good or service (commodity). Therefore, the set, industry, or sector will be equal to the commodity set.

2) Commodities

The CGE model contains two types of commodities, namely producer and consumer goods. While producer goods come from domestic and imported sources. All 185 goods produced in principle could be imported.

3) Production Factor

The mobility of factors of production is important in the general equilibrium model. The term mobility is defined as mobility activities between industries rather than geographically. The higher the mobility of factors of production, the better the capacity of the model to respond to economic changes. Therefore, the assumption of the mobility of factors of production becomes a crucial part of modeling the actual state of the economy.

Bidding on the CGE Model uses four primary factors of production, namely land, labor, capital, and other cost groups. Specifically, labor production factors in the CGE Model include nine types of positions, namely managers, professionals, technicians and professional assistants, administrative personnel, service workers and sales personnel, skilled workers in agriculture, forestry, and fisheries, processing and craft workers, machine operators and assemblers, and manual workers. The division of these types of labor positions follows the classification in the Sakernas 2019 issued by BPS. The entire workforce is assumed to be fully mobile among its sectors. Within each sector, it is assumed that the behaviour of Constant Elasticity of Substitution (CES) with production technology will be followed with the principle of diminishing returns to scale.

4) Household

To deepen the analysis of behaviour at the household level, the CGE Model was disaggregated into eight households according to the 2008 Socioeconomic Balance System (SNSE) Table. The classification of such households is as follows:

a. Rural 1: Labor
b. Rural 2: Agricultural entrepreneur
c. Rural 3: Low-class freelance entrepreneurs, TU workers, surround traders, freelance workers of the transport sector, private services, gross labor
d. Rural 4: Not the labor force and the class are not clear

e. Rural 5: Independent entrepreneurs of the upper class, non-agricultural entrepreneurs, managers, military, professionals, technicians, teachers, TU workers and high-end salesman
f. Urban 1: Low-class freelance entrepreneurs, TU workers, surround traders, freelance workers of the transport sector, private services, gross labor
g. Urban 2: Not the labor force and the class are not clear
h. Urban 3: Upper-class free entrepreneurs, non-agricultural entrepreneurs, managers, military, professionals, technicians, teachers, TU workers and high-end salesman

2.4. Research Framework

The research framework begins with the phenomenon of the dynamics of wage problems that exist in society. Demands for wage increases filed by trade unions are due to the need for life always increasing. Unions also consider the alpha variable used in calculating the minimum wage is vague and harmful. The variables of inflation and economic growth that currently use the national average figure are also considered unrepresentative when calculating the minimum wage for both the province and Regency/City. In addition, the union's desire to revive aspects of Decent Living Needs (KHL). The demand for a minimum wage increase of 15% is also because the union sees the Company's condition improving after COVID-19. A more complete Research Mindset is presented in Figure 1.

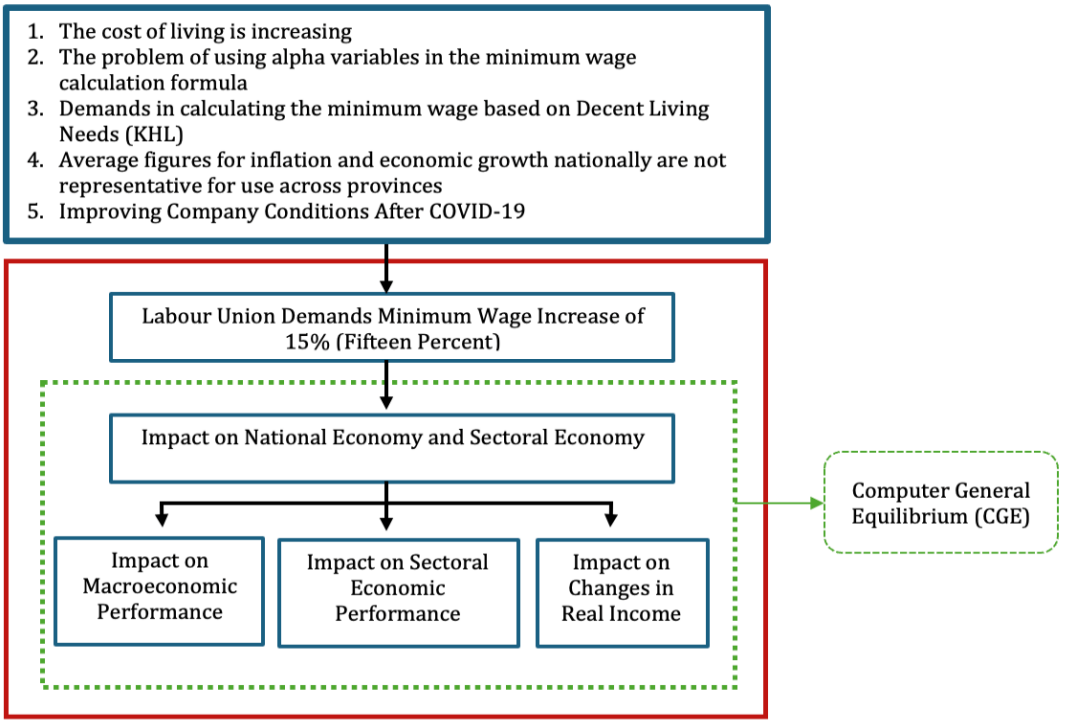

Figure 1. Research Framework

3. Results and Discussion

3.1. Impact of Minimum Wage Increase in 2024 by 15% on Indonesia's Macroeconomic Performance

The impact of increasing the minimum wage on macroeconomic variables is presented in Table 2. The analysis result show that an increased minimum wage policy will expand nominal GDP by 5.69%. However, this observed increase in GDP is more significant due to an increase in the value of prices that increases the value of economic output. If the impact of price changes is considered, real GDP will decline by -0.04 percent because of accommodating the new minimum wage. This is confirmed by the mechanism following the decline in demand for labor (Table 3), which has implications for the contraction of aggregate output formation.

In theory, the potential impact of minimum wage policy on GDP can be calculated from two sides, namely in terms of expenditure and income. The calculation of GDP in terms of expenditure is obtained through the sum of household consumption, government consumption, investment, and net exports (exports minus imports). Meanwhile, in terms of income, the calculation of GDP is carried out through the sum of income from land (return to land), return to capital (return to capital) and wages/salaries of labor (return to labor).

Wage increases due to the minimum wage policy of 15% have the potential to cause inflation (cost-push inflation) because the cost of producing goods and services rises. After all, companies pay more for labor. To offset rising costs, companies must charge more for their goods and services to maintain the same level of profitability. The increase in the price of goods and services caused inflation of 9.21%. Despite the potential inflationary impact, the increase in real household consumption still showed a positive response of 5.06%. The community's purchasing power will increase because of increasing nominal wages that are higher than inflationary pressures. This is represented by an increase in real wages by 5.30%.

Table 2. Potential Impact of Minimum Wage Increase by 15 Percent of Macroeconomic Performance (%)

Macroeconomic Variables	Sim 01
% (Balance of trade)/GDP (change)	-0.57
Consumer price index	9.21
Exports price index	6.93
Average real wage	5.30
Nominal GDP from the expenditure side	5.69
Nominal total household consumption	5.06
Import volume index, C.I.F. weights	6.68
Real GDP from theexpenditure side	-0.04
Export volume index	-3.30

Source: Secondary Data, 2023 (processed)
Note: sim 01: Minimum Wage Increase by 15 percent

In terms of expenditure, the real GDP decline was contributed by a trade balance surplus that decreased by -0.57 percent, which was also equivalent to a decrease in export volume while imports increased. Simulation 1 is predicted to reduce export volume by 6.93 percent due to the decline in export price competitiveness, while imports increased only by 6.68 percent.

3.2. Impact of Minimum Wage Increase in 2024 by 15% on Indonesia's Sectoral Economic Performance

The impact of a 15 percent increase in the minimum wage indicates an increase in labor recruitment costs. Due to the increase in labor recruitment costs, the demand for labor will decrease, especially in labor-intensive sectors such as industry and agriculture. This supports the neoclassical theory of the negative correlation between wages and employment. Based on the results in Table 1, most economic sectors (except the government services sector and the utility sector) experienced a negative impact from the increase in minimum wage, namely a decrease in employment. (Table 3.)

Table 3. Potential Impact of Minimum Wage Increase by 15 Percent of Sectoral Employment (%)

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
Coarse Salt	-12.83	Basic Iron and Steel	-8.34	Professional, Scientific and Technical Services	-7.45
Iron sand and iron ore	-11.10	Knitted Items	-8.15	Publishing Results	-5.99
Grains and Other Foodstuffs	-8.91	Results of Preserving and Tanning Leather	-7.62	Rental Services and Business Support Services	-5.69
Fiber plants	-8.90	Airplanes and Repair Services	-7.37	Provision of Accommodation	-5.31
Soya bean	-8.82	Pesticide	-7.26	Arts, Entertainment and Recreation Services	-4.95
Nickel Ore	-7.63	Generating Machines and Electric Motors	-7.16	Telecommunications Services	-4.55
Crude oil	-7.60	Animal Oils and Vegetable Oils	-7.04	Health Services and Private Social Activities	-4.35
Tin Ore	-6.89	Synthetic Damar, Plastic Materials, and Synthetic Fibers	-7.00	Broadcasting and programming services, films, and sound recordings	-4.25
Bauxite Ore	-6.77	Electrical Machines and Equipment	-6.99	Natural and artificial gas products, supply of steam/hot water, cold air and ice products	-3.98
Other Metal Mining Goods	-6.60	Basic Chemistry Except Fertilizer	-6.95	Computer and information technology consulting services	-3.80
Natural Gas and Geothermal	-5.69	Tire	-6.83	Sea Freight Services	-3.30
Gold Ore	-5.65	Measuring Instruments, Photography, Optics and Clocks	-6.74	Transportation Support Services	-3.27
Sugarcane	-5.62	Non-ferrous Base Metals	-6.72	Real Estate Services	-3.23
Copper Ore	-5.37	Textiles	-6.63	Private Education Services	-3.09
Tobacco	-5.25	Other Rubber Goods	-6.48	Rail Transport Services	-2.72

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
Coal and lignite	-4.68	Trains and Repair Services	-6.43	Banking Financial Services	-2.68
Silver Ore	-4.49	Other chemical items	-6.33	River Lake and Ferry Transport Services	-2.60
Peanuts	-4.46	Ships and Repair Services	-6.26	Other Financial Institution Services	-2.26
Non-Metal Mineral Mining Goods	-4.24	Varnish and Shellac	-6.22	Trade other than Cars and Motorbikes	-2.20
Tea	-4.12	Medical Devices	-5.87	Car and Motorcycle Trading	-2.20
Rubber	-3.87	Crumb Rubber and Fumed Rubber	-5.78	Pension Fund Services	-1.91
Biopharmaceutical Plants	-3.71	Chocolate and Confectionery	-5.74	Insurance services	-1.84
Cocoa	-3.21	Sugar	-5.67	Postal and Courier Services	-1.84
Corn	-3.19	Other Flour	-5.65	Water Supply	-1.63
Cashew	-3.19	Paper pulp	-5.52	Electricity	-1.41
Other mining and quarrying services	-3.17	Processed Tobacco	-5.50	Provision of Food and Drink	-1.27
Coffee	-3.14	Thread	-5.18	Other Services	-1.14
Seaweed and the like	-3.06	Other Metal Items	-5.14	Air Transport Services	-0.76
Other Plantation Products	-3.06	Textile Goods Other Than Cloth and Apparel	-4.98	Land Transport Services Apart from Rail Transport	-0.49
Palm oil	-2.93	Fish Processing and Preservation Results	-4.83	Other Buildings	-0.42
Other tubers	-2.90	Metal casting products	-4.73	Residential and Non-Residential Buildings	-0.35
Clove	-2.77	Results of Processing and Preserving Fruits and Vegetables	-4.69	Roads, Bridges and Harbors	-0.29
Fresh milk	-2.62	Musical Instruments	-4.64	Agricultural Infrastructure	-0.27
Fruits	-2.57	Other Electrical Equipment	-4.48	Car and Motorcycle Repair and Maintenance	-0.16
Livestock and their products except fresh milk	-2.39	Kitchen tools, carpentry, household and office furniture from metal	-4.34	Waste, Waste and Recycling Management	1.12
Vegetables	-2.37	Other machines and equipment	-4.31	Repair of Household and Other Personal Goods	2.10
Results of Other Animal Care	-2.22	Electronic Goods, Communications and Equipment	-4.21	Buildings and Installations for Electricity, Gas, Drinking Water and Communications	6.38
Sweet potato	-2.19	Batteries And Batteries	-4.04	Other Government Services	18.35
Wood	-2.13	Processed Pet Food	-4.02	Government Education Services	19.94
Petroleum and natural gas mining services	-2.13	Other Transportation Equipment	-4.00	Government Health Services	19.98
Cassava	-2.05	Oil and Gas Refinery Products	-3.94	General Government Services	21.00
Agricultural, Forestry and Fisheries Services	-1.98	Motorized Vehicles Except Motorcycles	-3.90		

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
Other aquatic biota	-1.91	Glass and Glass Products	-3.85		
Shrimp and other crustaceans	-1.87	Paper	-3.75		
Coconut	-1.86	Leather Goods	-3.74		
Other Forest Products	-1.65	Plastic Items	-3.71		
Fish	-1.57	Electrical Appliances For Households	-3.66		
Other Nuts	-1.47	Footwear	-3.65		
Excavated Goods of All Kinds	-1.34	Metal Building Materials	-3.51		
Poultry and its Products	-1.28	Fertilizer	-3.44		
Paddy	-0.33	Play equipment and children's toys	-3.43		
		Items Made of Paper and Cardboard	-3.42		
		Machines for office and accounting purposes, and parts and equipment therefor	-3.24		
		Processed Coffee	-3.23		
		Sawn and Processed Wood	-3.16		
		Pharmaceutical products	-3.01		
		Plywood and the Like	-2.93		
		Alcoholic beverages	-2.87		
		Results of Meat Processing and Preservation	-2.86		
		Sports Equipment	-2.81		
		Rugs, Ropes and Other Floor Coverings	-2.77		
		Barang-barang Lainnya Dari Kayu, Gabus, Bambu dan Rotan	-2.70		
		Food and Drinks Made from Milk	-2.66		
		Dried Fish and Salted Fish	-2.40		
		Household and Office Furniture Other than Metal	-2.19		
		Items from clay, ceramics and porcelain	-2.18		
		Jewellery	-2.10		
		Processed Tea	-2.05		
		Motorcycle	-1.68		
		Traditional medicine	-1.56		
		Other Goods from Non-Metal Materials	-1.48		
		Cosmetics	-1.46		

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
		Apparel	-1.19		
		Animal Slaughter Results	-1.16		
		Soap and cleaning agents	-1.00		
		Cigarette	-0.84		
		Maintenance and repair services for manufactured metal products, machinery and equipment	-0.64		
		Goods resulting from other processing industries	-0.58		
		Cement	-0.57		
		Noodles, Macaroni and the like	-0.53		
		Bread, Biscuits and the like	-0.47		
		Wheat flour and machine flour	-0.45		
		Non-Alcoholic Beverages	-0.43		
		Other Foods	-0.39		
Maximum	-0.33		-0.39		21.00
Minimum	-12.83		-8.34		-7.45
Average	-4.11		-4.02		-0.07

Source: Secondary Data, 2023 (processed).
Note: sim 01: Minimum Wage Increase by 15 percent

The data findings validate that increasing the minimum wage leads to declining output in most sectors. This impact is transmitted through added value (labor and capital) and production costs. In Table 4, output decreases in all sectors where demand for labor is reduced, especially in labor-intensive industrial sectors. Reduced demand for factors of production results in a decrease in sectoral value added and then sectoral output. Output of all sectors declined, except public-sector government services.

Table 4. Potential Impact of Minimum Wage Increase by 15 Percent of Sectoral Output (%)

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
Poultry and its Products	-0.3815	Bread, Biscuits and the like	-0.0537	Government Education Services	18.4098
Other aquatic biota	-0.4045	Noodles, Macaroni and the like	-0.0611	General Government Services	17.0684
Sweet potato	-0.4362	Other Foods	-0.0756	Government Health Services	16.8939
Other Forest Products	-0.4689	Cement	-0.0979	Other Government Services	15.3847
Fish	-0.5081	Cigarette	-0.2031	Buildings & Installations for Electricity, Gas, Drinking Water and Communications	2.2682

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
Shrimp and other crustaceans	-0.5289	Non-Alcoholic Beverages	-0.2089	Repair of Household and Other Personal Goods	1.3964
Coconut	-0.5923	Goods resulting from other processing industries	-0.2845	Waste, Waste and Recycling Management	1.2562
Vegetables	-0.7482	Soap and cleaning agents	-0.2908	Air Transport Services	0.3248
Excavated Goods of All Kinds	-0.8053	Cosmetics	-0.6082	Electricity	0.1532
Petroleum and natural gas mining services	-0.8192	Apparel	-0.7195	Car and Motorcycle Repair and Maintenance	0.1399
Fruits	-0.8376	Animal Slaughter Results	-0.7378	Land Transport Services Apart from Rail Transport	0.0902
Wood	-0.8635	Processed Pet Food	-0.8672	Agricultural Infrastructure	0.0406
Other tubers	-0.8866	Traditional medicine	-0.9217	Other Buildings	-0.0315
Agricultural, Forestry and Fisheries Services	-0.9315	Other Goods from Non-Metal Materials	-0.925	Roads, Bridges and Harbors	-0.0419
Cassava	-0.9474	Processed Coffee	-0.9961	Residential and Non-Residential Buildings	-0.0634
Livestock and their products except fresh milk	-1.1906	Motorcycle	-1.0726	Water Supply	-0.0763
Clove	-1.2254	Processed Tea	-1.2647	Maintenance and repair services for manufactured metal products, machinery and equipment	-0.125
Natural Gas and Geothermal	-1.2607	Other Items From Wood, Cork, Bamboo and Rattan	-1.3573	Real Estate Services	-0.3928
Results of Other Animal Care	-1.3403	Plywood and the Like	-1.3625	Provision of Food and Drink	-0.4709
Corn	-1.3441	Food and Drinks Made from Milk	-1.3664	Insurance services	-0.5024
Fresh milk	-1.4034	Jewellery	-1.4399	Postal and Courier Services	-0.8018
Cocoa	-1.4311	Copra	-1.4521	Other Services	-0.8847
Other Plantation Products	-1.5113	Household and Office Furniture Other than Metal	-1.4657	Other Financial Institution Services	-0.9049
Cashew	-1.5673	Dried Fish and Salted Fish	-1.4941	Trade other than Cars and Motorbikes	-0.9527
Palm oil	-1.5692	Chocolate and Confectionery	-1.5715	Natural and artificial gas products, supply of steam/hot water, cold air and ice products	-1.009
Coffee	-1.7072	Sawn and Processed Wood	-1.5986	Car and Motorcycle Trading	-1.0558
Other mining and quarrying services	-1.7761	Items from clay, ceramics and porcelain	-1.6016	Pension Fund Services	-1.092
Crude oil	-1.7958	Results of Meat Processing and Preservation	-1.7096	River Lake and Ferry Transport Services	-1.1155

Agriculture & Mining Sector	Sim 01	Industrial Sector	Sim 01	Service Sector	Sim 01
Biopharmaceutical Plants	-1.8069	Fertilizer	-1.7663	Banking Financial Services	-1.1421
Seaweed and the like	-1.8829	Rugs, Ropes and Other Floor Coverings	-1.7998	Sea Freight Services	-1.29
Tea	-2.1257	Animal Oils and Vegetable Oils	-1.8009	Transportation Support Services	-1.3546
Peanuts	-2.1698	Sports Equipment	-1.8724	Computer and information technology consulting services	-1.4632
Coal and lignite	-2.3974	Items Made of Paper and Cardboard	-1.8971	Private Education Services	-1.551
Rubber	-2.4578	Oil and Gas Refinery Products	-1.9529	Arts, Entertainment and Recreation Services	-1.5726
Tobacco	-2.7377	Paper	-2.0679	Health Services and Private Social Activities	-1.5873
Copper Ore	-2.8359	Play equipment and children's toys	-2.1472	Telecommunications Services	-1.5887
Non-Metal Mineral Mining Goods	-3.0675	Machines for office and accounting purposes, and parts and equipment therefor	-2.1921	Broadcasting and programming services, films and sound recordings	-1.6614
Silver Ore	-3.0984	Metal Building Materials	-2.2466	Provision of Accommodation	-2.0781
Sugarcane	-3.3953	Alcoholic beverages	-2.2747	Rail Transport Services	-2.206
Gold Ore	-3.7148	Plastic Items	-2.3872	Rental Services and Business Support Services	-2.949
Bauxite Ore	-3.7892	Pharmaceutical products	-2.4309	Publishing Results	-3.0577
Other Metal Mining Goods	-3.9107	Motorized Vehicles Except Motorcycles	-2.7519	Professional, Scientific and Technical Services	-3.2036
Tin Ore	-3.9461	Glass and Glass Products	-2.8007		
Fiber plants	-4.1628	Metal casting products	-2.8153		
Nickel Ore	-4.2014	Results of Processing and Preserving Fruits and Vegetables	-2.8305		
Grains and Other Foodstuffs	-5.1441	Other Transportation Equipment	-2.8513		
Soya bean	-5.6393	Electrical Appliances For Households	-2.8824		
Iron sand and iron ore	-8.1106	Electronic Goods, Communications and Equipment	-2.9204		
Coarse Salt	-9.7436	Leather Goods	-2.945		
Average					

Source: Secondary Data, 2023 (processed).

Note: sim 01: Minimum Wage Increase by 15 percent

3.3. Impact of 2024 Minimum Wage Increase by 15% on Changes in Real Income

Changes in real household income are one of the essential variables that confirm the potential of minimum wage policy in macroeconomic and sectoral constellations. The minimum wage policy can provide benefits for all households. However, the dynamics of change are reflected between household groups, where the existence of the average real income of household groups in rural areas tends to dominate compared to household groups in urban areas.

Table 5. Potential Impact of Minimum Wage Increase by 15 Percent Change in Household Income (%)

Household	Nominal Income	Inflation	Real Income	Real Household Consumption
1 rural1	12.88	9.21	3.67	0.31
2 rural2	12.65	9.21	3.44	0.11
3 rural3	12.61	9.21	3.41	0.08
4 rural4	12.55	9.20	3.35	0.03
5 rural5	10.36	9.22	1.14	-1.93
6 urban1	12.38	9.21	3.17	-0.13
7 urban2	11.34	9.21	2.13	-1.05
8 urban3	12.24	9.22	3.02	-0.26

Source: Secondary Data, 2023 (processed).

Note: sim 01: Minimum Wage Increase by 15 percent

The increase in the minimum wage puts inflationary pressure on the economy, as it leads to an increase in the price of goods and services. There is a trend of price increases although disproportionate in all classifications of goods and services. The increase in household income indicates an increase in household purchasing power along with an increase in rural and urban household consumption budgets. However, rising prices that pushed up the average consumer price index caused real consumption to decline, especially for rural groups 5 and urban groups 1-3. In other words, the inflationary impact of minimum wage increases reduces its positive impact on income, so that if price changes are considered, the budget available for household consumption decreases in real terms, thus indicating a loss of well-being. Based on Table 5, the decline in real household consumption budget is more pronounced in urban households than rural households, thus showing higher welfare losses in urban areas than in rural areas.

4. Conclusion and Recommendations

The minimum wage increase of 15 percent aims to improve the welfare of workers and reduce poverty in Indonesia. The study used a static computational general equilibrium model (CGE) to analyze the macroeconomic and welfare impacts of the new minimum wage. The results show that the increase in the minimum wage leads to a decrease in demand for labor in most sectors and creates opportunities for industries to replace capital with labor. The increase in salaries

impacts increasing household income, thus indicating an increase in household welfare. However, inflationary pressures (price increases) caused by the increase in the minimum wage mask the increase in income so that household consumption budgets decrease. This translates into a loss of net well-being, with a more significant impact on urban households than rural households. The output of most sectors, especially labor-intensive sectors, declined, but nominal GDP increased. The increase in nominal GDP is due to rising prices, not actual economic output.

Labor Union considers the alpha variable used in minimum wage calculations incorrect. This is because the alpha value can't yet be described, which makes the minimum wage value smaller. In addition, inflation and economic growth variables using the national average value are also considered less representative if applied in the province. The union also considered the high necessities of life a reason for the union to demand an increase in wages. Meanwhile, through the local workforce office, the Government also believes that the alpha variable causes new problems in the field because it causes debate. The Municipal Representative of the Manpower Ministry (Disnaker) wants the alpha determination to be determined at the center so that it no longer needs to be discussed to minimize the occurrence of debates between the Government, employers, and unions. In addition, employers consider that a 15% wage increase makes the company's conditions quite tricky because the costs incurred are higher. This condition is mainly experienced by labor-intensive companies such as garments.

References

Agenor, P. and Aynaoui, K. (2003) Labor market policies and unemployment in Morocco: A quantitative analysis. World Bank Policy Research Working Paper No. 3091.

Burfisher, M. E. (2011). Introduction to computable general equilibrium models. Introduction to Computable General Equilibrium Models. https://doi.org/10.1017/CBO9780511975004

Boccanfuso, D. and Savard, L. (2011). A Segmented labor supply model estimation for the construction of a CGE microsimulation model: An Application to the Philippines.

Fields, G. and Kanbur, R. (2007). Minimum wages and poverty with income-sharing. Cornel University ILR School collection. Retrieved from: http://digitalcommons.ilr.cornell.edu/articles

Gindling, T. and Terell, K. (2004) The effects of multiple minimum wages throughout the labor market. IZA Discussion paper No. 1154.

Harrison, A. and Leamer. E. (1997). Labor markets in developing countries: an agenda for research. Journal of Labor Economics 15(3): 1-19.

Kurniawati, Ardhian. (2018). Dampak Upah Minimum Terhadap Employment: Pendekatan Difference in Spatial Difference. Jurnal Ketenagakerjaan: Vol. 13 No. 2 (2018)

Lustig, N. and McLeod, D. (1997). Minimum wages and poverty in developing countries: Some

empirical evidence. In Edwards, Sebastian and Nora Claudia Lustig eds. Labor Markets in Latin America, Brookings Institution Press, Washington D.C.

Morley, S. (1995). Structural adjustments and the determinants of poverty in latin America.

Shultz, T. P. (1982). Effective protection and distribution of personal income in Colombia. In trade and employment in developing countries, ed. A. O. Krueger. Chicago: University of Chicago Press.

Wittwer, G. (1999). WAYANG: A General Equilibrium Model adapted for the Indonesian Economy. Edition prepared for ACIAR Project No. 9449. CIES, University of Adelaide (in association with RSPAS, ANU, CASER, Bogor, and CSIS, Jakarta).