THE EFFECTS OF AGGREGATE DEMAND MANAGEMENT AND AGGREGATE SUPPLY POLICY ON SACRIFICE RATIO IN INDONESIA (2006-2014)

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ABSTRACT: This research is intended to know: (1) How much the influence of government expenditure, spending on education and health, bank credit, regional minimum wage and property price index on the sacrifice ratio, both directly and indirectly through manufacturing productivity, trade openness, economic growth and educated unemployment in Indonesia; (2) How much the influence of manufacturing productivity on the sacrifice ratio, both directly and indirectly through trade openness, economic growth and educated unemployment in Indonesia; (3) How much the influence of trade openness on the sacrifice ratio, both directly and indirectly through economic growth and educated unemployment in Indonesia; (4) How much the influence of economic growth on the sacrifice ratio, both directly and indirectly through educated unemployment in Indonesia. The data used are secondary data that obtained from Central Bureau of Statistics and Bank of Indonesia. The unit of analysis are the panel data from 31 provinces in Indonesia (2006-2014). The method of analysis employed is the estimation method of simultaneous equation. The research findings indicate that government expenditure, manufacturing productivity and educated unemployment have a negative impact on the sacrifice ratio in Indonesia. Meanwhile, bank credit, regional minimum wage, property price index and trade openness have a positive impact on the sacrifice ratio in Indonesia. Finally, spending on education and health and economic growth have no impact on the sacrifice ratio in Indonesia.

Keywords: sacrifice ratio, manufacturing productivity, trade openness, economic growth, educated unemployment and macroeconomic policy

1. INTRODUCTION
Disinflation will always require the sacrifice of excess unemployment from the natural rate. The magnitude of such excess is then known as the sacrifice ratio. The natural rate here is defined as the non-accelerating inflation rate of unemployment/NAIRU [1-7]. Monetary policy authorities to curb inflation by reducing money growth would lead to economic growth fell away from its natural level. This then led to rising unemployment and the sacrifice ratio [8]. Purchasing power, aggregate demand and inflation then falls [9].

Furthermore, while maintaining and controlling the sacrifice ratio at a certain period until inflation fell more than the decline in money growth, purchasing power and aggregate demand then gradually increased. This opens up a space revival of economic growth. The ultimate effect of these cases, the unemployment rate fell and unemployment due to the sacrifice of disinflation can be covered [10]. Again, disinflation will lead to costs in the form of rising unemployment. However, with a good control on the sacrifice ratio for a certain period, the disinflation costs can be covered. The problem that then needs to be examined is how much and for how long the duration of the sacrifice ratio to be borne? How did the influence of macroeconomic policy on this scale?

2. MATERIALS AND METHODS
The data used in this research is secondary data obtained from Bank Indonesia and the Central Bureau of Statistics (BPS), in which the financial data obtained from Bank Indonesia. Estimation, analysis and research carried out using panel data that is combined time series (yearly from 2006 through 2014) and the cross-section (31 provinces in Indonesia) with the location of the research is the Indonesian territory as a whole.

Simultaneous Equation Model (SEM) in this research can be seen in the following functional equation:

\[ y_1 = a_0 + a_1 x_1 + a_2 x_2 + a_3 x_3 + a_4 x_4 + a_5 x_5 + \mu_1 \]  
\[ y_2 = a_6 + a_7 x_1 + a_8 x_2 + a_9 x_3 + a_{10} x_4 + a_{11} x_5 + \mu_2 \]  
\[ y_3 = a_{12} + a_{13} x_1 + a_{14} x_2 + a_{15} x_3 + a_{16} x_4 + a_{17} x_5 + a_1 + \mu_3 \]  
\[ y_4 = a_{18} + a_{19} x_1 + a_{20} x_2 + a_{21} x_3 + a_{22} x_4 + a_{23} x_5 + \mu_4 \]  
\[ y_5 = a_{24} + a_{25} x_1 + a_{26} x_2 + a_{27} x_3 + a_{28} x_4 + a_{29} x_5 + \mu_5 \]  
Where, \( y_5 \) is sacrifice ratio, measured in ratio; \( y_4 \) is educated unemployment rate, measured in percent; \( y_3 \) is economic growth, measured in percent; \( y_2 \) is trade openness, measured in ratio; \( y_1 \) is manufacturing productivity, measured in rupiah/person; \( x_1 \) is government spending, measured in rupiah; \( x_2 \) is education and health spending, measured in rupiah; \( x_3 \) is bank credit, measured in rupiah; \( x_4 \) is provincial minimum wage, measured in rupiah; \( x_5 \) is property price index, measured in ratio; \( a_0 \), \( a_1 \), \( a_2 \), \( a_3 \), \( a_4 \), \( a_5 \), \( a_6 \), \( a_7 \), \( a_8 \), \( a_9 \), \( a_{10} \), \( a_{11} \), \( a_{12} \), \( a_{13} \), \( a_{14} \), \( a_{15} \), \( a_{16} \), \( a_{17} \), \( a_{18} \), \( a_{19} \), \( a_{20} \), \( a_{21} \), \( a_{22} \), \( a_{23} \), \( a_{24} \), \( a_{25} \), \( a_{26} \), \( a_{27} \), \( a_{28} \), \( a_{29} \) are each as parameters to be estimated; \( \mu_1 \), \( \mu_2 \), \( \mu_3 \), \( \mu_4 \) and \( \mu_5 \) are random error terms.

The reduced form based on Equation 1-5 can be presented in the following equation:

\[ y_1 = a_{26} + \xi_1 x_1 + \xi_2 x_2 + \xi_3 x_3 + \xi_4 x_4 + \xi_5 x_5 + \mu_6 \]  
\[ y_2 = a_{30} + \xi_6 x_1 + \xi_7 x_2 + \xi_8 x_3 + \xi_9 x_4 + \xi_{10} x_5 + \mu_7 \]  
\[ y_3 = a_{31} + \eta_1 x_1 + \eta_2 x_2 + \eta_3 x_3 + \eta_4 x_4 + \eta_5 x_5 + \mu_{11} \]  
\[ y_4 = a_{32} + \theta_1 x_1 + \theta_2 x_2 + \theta_3 x_3 + \theta_4 x_4 + \theta_5 x_5 + \mu_{12} \]  
\[ y_5 = a_{33} + \delta_1 x_1 + \delta_2 x_2 + \delta_3 x_3 + \delta_4 x_4 + \delta_5 x_5 + \mu_{13} \]  
Where, \( a_{26} \), \( \xi_1 \), \( \xi_2 \), \( \xi_3 \), \( \xi_4 \), \( \xi_5 \), \( \mu_6 \), \( \mu_7 \), \( \mu_{11} \), \( \mu_{12} \), \( \mu_{13} \), \( \eta_1 \), \( \eta_2 \), \( \eta_3 \), \( \eta_4 \), \( \eta_5 \), \( \theta_1 \), \( \theta_2 \), \( \theta_3 \), \( \theta_4 \), \( \theta_5 \), \( \delta_1 \), \( \delta_2 \), \( \delta_3 \), \( \delta_4 \), \( \delta_5 \), \( \mu_{14} \), \( \mu_{15} \), \( \mu_{16} \), \( \mu_{17} \), \( \mu_{18} \), \( \mu_{19} \), \( \mu_{20} \), \( \mu_{21} \), \( \mu_{22} \), \( \mu_{23} \), \( \mu_{24} \), \( \mu_{25} \), \( \mu_{26} \), \( \mu_{27} \), \( \mu_{28} \), \( \mu_{29} \), \( \mu_{30} \), \( \mu_{31} \), \( \mu_{32} \), \( \mu_{33} \), \( \mu_{34} \), \( \mu_{35} \), \( \mu_{36} \), \( \mu_{37} \), \( \mu_{38} \), \( \mu_{39} \), \( \mu_{40} \) are constants; \( a_{30} \), \( \eta_1 \), \( \eta_2 \), \( \eta_3 \), \( \eta_4 \), \( \eta_5 \), \( \theta_1 \), \( \theta_2 \), \( \theta_3 \), \( \theta_4 \), \( \theta_5 \), \( \delta_1 \), \( \delta_2 \), \( \delta_3 \), \( \delta_4 \), \( \delta_5 \) are each as parameters to be estimated; \( \mu_{14} \), \( \mu_{15} \), \( \mu_{16} \), \( \mu_{17} \), \( \mu_{18} \), \( \mu_{19} \), \( \mu_{20} \), \( \mu_{21} \), \( \mu_{22} \), \( \mu_{23} \), \( \mu_{24} \), \( \mu_{25} \), \( \mu_{26} \), \( \mu_{27} \), \( \mu_{28} \), \( \mu_{29} \), \( \mu_{30} \), \( \mu_{31} \), \( \mu_{32} \), \( \mu_{33} \), \( \mu_{34} \), \( \mu_{35} \), \( \mu_{36} \), \( \mu_{37} \), \( \mu_{38} \), \( \mu_{39} \), \( \mu_{40} \) are random error terms.
The direct effect of government spending on the trade openness shows a significant and negative effect. This means that increase in government spending will decrease economic growth. These results inconsistent with the theory [15] which states that government spending is positively correlated with the economic growth.

The direct effect of government spending on the educated unemployment shows a significant effect. This means that change in government spending will not affect the educated unemployment. These result is not consistent with the theory [11] which states that education and health spending is negatively correlated with the educated unemployment.

The direct effect of government spending on the manufacturing productivity showed a significant and negative effect. This means that increase in education and health spending will decrease manufacturing productivity. These results inconsistent with the theory [16] which states that education and health spending is positively correlated with the manufacturing productivity.

The direct effect of government spending on the sacrifice ratio shows a positive and significant effect. This means that increase in government spending will increase the sacrifice ratio, vice versa. These results are not in accordance with the initial hypothesis which states that government spending negatively impact directly and significantly to the sacrifice ratio unemployment. Moreover, this result is also not in accordance with the theory [11] which states that education and health spending is negatively correlated with the sacrifice ratio.

The direct effect of education and health spending on the sacrifice ratio shows a significant effect. This means that increase in education and health spending will increase the educated unemployment. These results consistent with the theory [13] which states that education and health spending is positively correlated with the educated unemployment.

The direct effect of education and health spending on the economic growth showed a significant and negative effect. This means that increase in education and health spending will decrease economic growth. These result inconsistent with the theory [14] which states that education and health spending is positively correlated with the economic growth.

The direct effect of education and health spending on the educated unemployment shows a significant and positive effect. This means that increase in education and health spending will increase the educated unemployment. These results inconsistent with the theory [15] which states that education and health spending is negatively correlated with the educated unemployment.

The direct effect of education and health spending on the economic growth showed a significant and negative effect. This means that increase in education and health spending will decrease economic growth. These result inconsistent with the theory [14] which states that education and health spending is positively correlated with the economic growth.
to the sacrifice ratio unemployment. Moreover, this result is also accordance with the theory [17] which states that bank credit is negatively correlated with the sacrifice ratio. The direct effect of bank credit on the manufacturing productivity showed a significant and positive effect. This means that increase in bank credit will increase manufacturing productivity. These results consistent with the theory [18] which states that bank credit is positively correlated with manufacturing productivity. The direct effect of bank credit on the trade openness shown a significant and negative effect. This means that increase in bank credit will decrease the trade openness. These result inconsistent with the theory [13] which states that bank credit is positively correlated with the trade openness.

The direct effect of bank credit on the economic growth showed a significant and positive effect. This means that increase in bank credit will increase economic growth. These result consistent with the theory [13] which states that bank credit is positively correlated with the economic growth. The direct effect of bank credit on the educated unemployment shown a insignificant effect. This means that change in bank credit will not affect the educated unemployment. These result is not consistent with the theory [19] which states that bank credit is negatively correlated with the educated unemployment.

The direct effect of minimum wage on the sacrifice ratio shown a significant and negative effects. This means that increase in minimum wage will decrease unemployment sacrifice ratio. These results accordance with the initial hypothesis which states that minimum wage negatively impact directly and significantly to the sacrifice ratio unemployment. Moreover, this result is also accordance with the theory [20] which states that minimum wage is negatively correlated with the sacrifice ratio.

The direct effect of minimum wage on the manufacturing productivity showed a significant and positive effect. This means that increase in minimum wage will increase manufacturing productivity. These results consistent with the theory [21] which states that minimum wage is positively correlated with the manufacturing productivity. The direct effect of minimum wage on the trade openness shown a significant and positive effect. This means that increase in minimum wage will increase the trade openness. These result inconsistent with the theory [22] which states that minimum wage is negatively correlated with the trade openness.

The direct effect of minimum wage on the economic growth showed a significant and positive effect. This means that increase in minimum wage will increase economic growth. These result consistent with the theory [23] which states that minimum wage is positively correlated with the economic growth.

The direct effect of minimum wage on the educated unemployment shown a significant and positive effect. This means that increase in minimum wage will increase the educated unemployment. These result is not consistent with the theory [24] which states that minimum wage is negatively correlated with the educated unemployment.

The direct effect of property price index on the sacrifice ratio shown a significant and negative effects. This means that increase in property price index will decrease unemployment sacrifice ratio. These results accordance with the initial hypothesis which states that property price index negatively impact directly and significantly to the sacrifice ratio unemployment. Moreover, this result is also accordance with the theory [25] which states that property price index is negatively correlated with the sacrifice ratio. The direct effect of property price index on the manufacturing productivity showed a significant and negative effect. This means that increase in property price index will decrease manufacturing productivity. These results consistent with the theory [25] which states that property price index is negatively correlated with the manufacturing productivity. The direct effect of property price index on the trade openness shown a significant and negative effect. This means that increase in property price index will decrease the trade openness. These result inconsistent with the theory [26] which states that property price index is positively correlated with the trade openness.

The direct effect of property price index on the economic growth showed a insignificant effect. This means that change in minimum wage will not affect economic growth. These result inconsistent with the theory [27] which states that property price index is positively correlated with the economic growth.

The direct effect of property price index on the educated unemployment shown a significant and negative effect. This means that increase in property price index will decrease the educated unemployment. These result consistent with the theory [25] which states that property price index is negatively correlated with the educated unemployment. The direct effect of manufacturing productivity on the sacrifice ratio shown a significant and positive effects. This means that increase in manufacturing productivity will increase unemployment sacrifice ratio. These results is not accordance with the initial hypothesis which states that manufacturing productivity negatively impact directly and significantly to the sacrifice ratio unemployment. Moreover, this result is also not accordance with the theory [28] which states that manufacturing productivity is negatively correlated with the sacrifice ratio.

The direct effect of manufacturing productivity on the trade openness shown a significant and positive effect. This means that increase in manufacturing productivity will increase the trade openness. These result consistent with the theory [22] which states that manufacturing productivity is positively correlated with the trade openness.

The direct effect of manufacturing productivity on the economic growth showed a insignificant effect. This means that change in manufacturing productivity will not affect economic growth. These result inconsistent with the theory [29] which states that manufacturing productivity is positively correlated with the economic growth.

The direct effect of manufacturing productivity on the educated unemployment shown a insignificant effect. This means that change in manufacturing productivity will not affect the educated unemployment. These result inconsistent
with the theory [21] which states that manufacturing productivity is negatively correlated with the educated unemployment.

The direct effect of trade openness on the sacrifice ratio shown a significant and negative effect. This means that increase in trade openness will decrease unemployment sacrifice ratio. These results is accordance with the initial hypothesis which states that trade openness negatively impact directly and significantly to the sacrifice ratio unemployment. Moreover, this result is also accordance with the theory [26] which states that trade openness is negatively correlated with the sacrifice ratio.

The direct effect of trade openness on the economic growth showed a insignificant effect. This means that change in trade openness will not affect economic growth. These result inconsistent with the theory [30] which states that trade openness is positively correlated with the economic growth.

The direct effect of trade openness on the educated unemployment shown a significant and negative effect. This means that increase in trade openness will decrease the educated unemployment. These result consistent with the theory [31] which states that trade openness is negatively correlated with the educated unemployment.

The direct effect of economic growth on the sacrifice ratio shown a insignificant effects. This means that change in economic growth will not affect unemployment sacrifice ratio. These results is not accordance with the initial hypothesis which states that economic growth negatively impact directly and significantly to the sacrifice ratio unemployment. Moreover, this result is also not accordance with the theory [8] which states that economic growth is negatively correlated with the sacrifice ratio.

The direct effect of economic growth on the educated unemployment shown a insignificant effect. This means that change in economic growth will not affect the educated unemployment. These result inconsistent with the theory [32] which states that economic growth is negatively correlated with the educated unemployment.

4. CONCLUSION

The conclusion of the research as follows:

- The minimum wage policy is also very effective in reducing the sacrifice ratio and also serve to encourage the real sector in Indonesia.
- The price stabilization policy also successfully reduce the sacrifice ratio in Indonesia. However the role of this policy still needs to be improved, particularly in boosting the real sector.
- The role of the manufacturing sector in reducing the sacrifice ratio is still low. Similarly, the role of the real sector in Indonesia.
- The international trade have a positive impact on workers in Indonesia, particularly of skilled manpower. However, the role of international trade on the domestic economy is still low.
- Economic growth in Indonesia has not been qualified. Proven with no effect to employment.

5. REFERENCES


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