

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study aims to estimate the effect of economic growth, financial development, trade openness and energy consumption in Indonesia on CO₂ emissions using annual data from 1980-2020. The stationary test results stated that all variables were stationary at the first difference level. As well as the cointegration test shows that the independent variable has a long-term equilibrium relationship with CO₂ emissions. This data has fulfilled all the diagnostic tests the researchers conducted and has been considered stable, as seen in the CUSUM and CUSUMSQ tests. According to the results of ARDL estimation, the conclusions in this study are:

1. Economic growth has a positive and significant effect on CO₂ emissions. This happens because, in the efforts for economic growth carried out in Indonesia, the environmental impact still needs to be considered. Meanwhile, in the short-term, economic growth also has a positive significant effect on CO₂.
2. Financial development in Indonesia has a significant and negative influence on CO₂ emissions. This is in accordance with the expectations of previous researchers who also conducted research in Indonesia (Shahbaz et al., 2013), where CO₂ emissions can be reduced with the help of financial development. In Indonesia's case, the financial sector's role in reducing CO₂ emissions is done by

issuing green bonds. Green bonds are funding for the corporate sector that is environmentally sound. The environmentally friendly corporate sector is projects related to renewable energy or green buildings.

3. Trade openness variable in this study has a negative and significant effect on CO₂ emissions both in the short and long term. This also indicates that trade openness participates in reducing CO₂ emissions. This happens because export and import activities in Indonesia have been selective in choosing environmentally friendly technologies and goods. For export activities, along with other countries' efforts to mitigate climate change by requiring environmentally friendly products. Indonesia also produces environmentally friendly technologies and products for export to compete internationally (Ministry of Home Affairs).
4. Energy consumption variable has a significant and positive influence on CO₂ emissions both in the long and short term. This study also concluded that energy consumption is the main cause of increased CO₂ emissions compared to other variables.

5.2 Recommendation

Based on the research results presented in the conclusion above, the author can make the following recommendations:

1. Based on the results of the research, economic growth and energy use in Indonesia still influence increasing CO₂ emissions. So policymakers still

face a dilemma between increasing economic growth without simultaneously destroying environmental quality. This can be overcome by providing capital from the financial sector to companies to encourage the use and adoption of environmentally friendly technology from developed countries.

2. In the energy sector, reducing CO₂ emissions can be done by utilizing renewable energy and developing clean energy-based industries.
3. In addition, the government must take strict action against individuals or companies still causing environmental damage. This can be done by confirming the application of carbon taxes that have been designed beforehand. The application of a carbon tax is aimed at changing industrial behavior so that they switch to green economic activities with low carbon emissions. The imposition of a carbon tax can increase state revenues and reduce the number of carbon emissions in Indonesia. In addition, the revenue generated by the carbon tax can be redirected toward green investment efforts.
4. For future researchers, the researcher hopes to conduct research at a smaller scope, such as at the provincial level, in order to be able to provide more specific policies. To support this, researchers also hope that there will be the development and availability of data that will be used for research in each region.