

# 主論文の要約

## (Abstract of Dissertation)

論文題目 : Designing Industrial Policies for Growth, Equality,  
and Poverty Reduction in Indonesia

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論文内容の要約 :

Indonesia's government recently positioned industrial development as one of the important policy instruments in its efforts to develop inclusively: not only to promote national economic growth, but also to reduce disparity among the regions. This development aim has been clearly stated in medium-term national development plan. However, there are some challenges to overcome when creating an inclusive industrial policy design, especially in terms of finding the right policy mix as well as targeting the right industry(s) and location(s). Given past experiences and today's development challenges, this dissertation attempts to foresee the future designs for industrial policy that could bring about economic growth, equality, and poverty reduction in Indonesia.

By combining both classical and emerging quantitative research methods, this dissertation has sought to provide answers to the following set of questions:

- What is the role of the manufacturing sector in development and challenges of making inclusive industrial policies in Indonesia?
- What are the major drivers of deindustrialization and how can the country reindustrialize?
- Which region should be prioritized when attempting to reduce the disparity among the regions and whether industrial development can accelerate regional convergence?
- What kind of linkages have been present between regions and industries in order to boost economic growth as well as reduce poverty?

In this dissertation, all these questions are addressed and based on the analyses in Chapters 3 to 7, several main findings are formulated.

The historical evolution of industrial development and its policy paradigms in Indonesia since independence were presented in Chapter 3 of this dissertation. Industrialization was initiated and driven by trade liberalization, high rates of investment, and sequential industrial development strategies, including import-substitution industrialization, export promotion and promotion of strategic industries. The results of this chapter highlight several points. First, the implementation of industrial policy as an instrument to reduce interregional disparities is still weak. Secondly, the importance of the manufacturing industry in supporting high economic growth in Indonesia has decreased since the early 2000s. Therefore, in the future, Indonesia needs a strong industrial policy that translates into stimulus, regulation, and, most importantly, strict and clear application regarding the export-led industry.

Chapter 4 introduced a recent devised quantitative approach, the Auto Regressive Distributed Lag Bound-Error Correction Model, to analyze the symptoms of deindustrialization in Indonesia. Three hypotheses – the secular hypothesis, Dutch disease hypothesis and trade hypothesis – are tested as determinants of deindustrialization, and simulations have been conducted to analyze possible strategies for reindustrialization. Some highlighted findings in Chapter 4 are as follows. The Dutch-disease and trade hypotheses best explain the decline of the value-added manufacturing share of GDP. In addition, the simulation results suggest that proper management of the Rupiah, export stimulation and reduction in demand for imported manufacturing goods, could be an effective policy that would boost manufacturing sector performance.

To address the inclusiveness of equality, Chapter 5 evaluated the club convergence pattern of income per capita in 34 provinces from 2001 to 2017 to identify which region should be prioritized to reduce the interregional disparity. Furthermore, using an ordered logit model regression method, Chapter 5 analyzed the argument whether industrial development can still play an important role as a growth escalator at the provincial level. The result highlights several main findings. First, the results identify four convergence clubs, highlighted with two important patterns, which are the tendency of a slowdown in the growth of per capita income in some rich natural resources provinces and some of the poorest regions experience stagnation of income per capita growth. Secondly, these convergence clubs identify some spatial agglomeration of the poorest provinces in the eastern Indonesia. Lastly, the result also supports the argument that industrial development can still play an important role as a growth escalator in Indonesia.

Chapter 6 of this dissertation is aimed at addressing the issue of connectivity by evaluating the spatial linkages between regions in Indonesia as well as regional sectoral using an inter-regional input-output table at three different periods: 2005, 2010 and 2015. Several findings are provided as follows. First, the eastern parts of Indonesia depend much more on the other regions as purchasers. In contrast, the Java-Bali region depends on the other areas as suppliers. Secondly, the analysis based on the 10 biggest contributors to the economy in each region shows that most of the strong backward and forward sectors are found in the manufacturing industries. This argument supports the evidence that Java-Bali is more developed compared with the other regions since the bulk of the manufacturing industries is concentrated in the Java-Bali regions.

In the final analysis of Chapter 7, this dissertation tries to analyze the industrial agglomeration as well as the manufacturing industry linkages in Indonesia, focusing on 16 selected manufacturing industries. Chapter 7 reveals several main findings as follows. First, most of the manufacturing industry is agglomerated in the Java-Bali region. Secondly, employment in the manufacturing industry outside Java-Bali region is concentrated in agriculture resource intensive manufacturing, while within the Java-Bali region, the Food- and Beverage-Processing and Textile sectors have a high capacity to absorb employment. Third, the development of the manufacturing industry indicates that the Sumatra region, which is dominated by resources-based intensive-manufacturing industries, and the Java-Bali region, which is dominated by labor-, capital- and machinery-intensive manufacturing, had each experienced a decline in linkages over the period 2005-2015. Fourth, the Java region dominates in all the selected manufacturing sectors, particularly the Textile industry and those classified as capital-intensive, such as Petrochemical and Basic Metal industries, and machinery-intensive such as Metal Processing and Transport Equipment industries. Meanwhile, in the regions

outside Java, the dominant manufacturing industries are Mineral-Intensive and Agriculture-Intensive. Lastly, the study concluded that the Food- and Beverage-Processing and Wood-Processing sector is the industry with the best potential for development, particularly in eastern Indonesia.

By combining the main findings in each chapter, this dissertation comes with several policy recommendations. First, for designing industrial policies for growth, the analysis has concluded that investment uncertainty becomes the main obstacle to industrial development after the Asian Financial Crisis of 1997/1998. Therefore, the government should deliver certainty and confidence business climate to encourage investment and promote industrial development and growth. In addition, some policies should involve coordination among governments at every level, and cooperation between government and the business sector. In order to promote economic growth, the government should revive the manufacturing sector by promoting manufacturing exports and developing domestic manufacturing industries. Moreover, a proper management of the Rupiah should be conducted to avoid pre-mature appreciation and overvaluation.

The Java-Bali and Sumatera regions should be the focal points for industrial development locations to promote growth. Both regions have more well-developed infrastructure and more skilled workers. The Java-Bali region should be concentrated on developing capital-intensive manufacturing and machinery-intensive manufacturing industries. These sectors have high complexity export products which potentially can be promoted for product diversification, expansion and upgrading. For the Sumatera region, the Palm Oil Processing, Rubber Processing and the Pulp and Paper sectors have the potential to be promoted. The government could optimize the role of state-owned enterprises related to these industries to boost the export of its products as well as to increase the value chain with other industries.

Secondly, for designing industrial policies for equality, the government should change the paradigm of industrial policy, not only focusing on promoting high economic growth but also aiming for reducing interregional disparity. Any policy design for manufacturing promotion should be supported by integrated infrastructure development, particularly in less developed regions. In addition, connectivity should be improved by reforming the bureaucracy and simplifying trade regulations to reduce logistics costs and barriers.

From the interregional equality perspective, any industrial development plan designed by the government should focus on the poorest regions and provinces experiencing slowdowns in economic growth. For the regions that still have a potential mineral endowment, developing the mining processing industry to increase the value-added should be prioritized. This policy should also be accompanied by creating domestic demand in downstream industries. For eastern Indonesia, Agriculture Resource Intensive Manufacturing should be prioritized in any future strategic plan for industrial development. To do this, the government should provide subsidies for the development of these industries.

Lastly, designing industrial policies for poverty reduction. In order to create pro-poor industrial development, one should keep in mind that job creation is a key part of industrial policy. Therefore, the government should promote the development of labor-intensive manufacturing industries. Developing labor-intensive manufacturing industries will not only create jobs directly within industries, but also increase the labor productivity, helping to lift the workforce out of poverty. The

government should also address the labor-skill mismatch by promoting the universities and industry collaboration as well as vocational schools and industry, in order to prepare better-skilled workers.

For the pro-poor industrial policy, the Agriculture Resource Intensive Manufacturing should be promoted, because an indirect effect of growth in this sector is the promotion of the agricultural sector and increasing the productivity of its workforce. In addition, these manufacturing industries can absorb unskilled workers at a relatively higher rate than other types of manufacturing. In some regions, the design of pro-poor industrial policy should be focused on promoting the textile industry, even though this sector continues to experience declining industrial performance. It has a potential for development in the future, especially considering the huge potential domestic demand for product diversification based on national and local characteristics.