主 論 文 の 要 旨

論文題目	Export Orientation and Economic Growth: Implications for Cambodia's Potential Industries （輸出志向型経済成長に関する研究－カンボジアの潜在的成長産業への含意－）
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論 文 内 容 の 要 旨

1. Problem Statements and Research Objectives

Along with improved market access, Cambodia's export face a number of challenges. First, the diversification has made slow progress. Five main products (apparel, footwear, crude rubber, bicycle, vegetable and fruit) account for more than 70 percent of total exports, with articles of apparel alone sharing more than half, remaining unchanged for the past decade. Second, the country is not able to retain value added in its main manufactures as little of the value chains operate inside the country, where intermediate parts are imported and assembled into finished products which are then exported. In addition, export expansion is critically hindered by trade facilitation constraints such as delayed procedure and costly regulation.

Aspiring to address some of the challenges, the dissertation attempts to achieve three objectives:

1. To specify key sectors with potential for export and industrial connection.
2. To measure potential roles of the key export sectors and policy options for export promotion.
3. To quantify the impacts of trade facilitation on export and economic structures.

2. Research Methodology

For first objective, the study applied the Input-Output framework, based on five approaches: backward and forward linkages, multiplier effects on income, labor intensity, foreign exchange earnings, and hypothetical extraction. Key sectors should rank high in most, if not all, of these indicators.

The second objective focused on export orientation in the potential sectors provided by the findings of the first objective. Using CGE model, the analysis takes into account the impacts of the selected sectors and the plausible domestic policies through a series of counterfactual simulations:

- External shocks: quantity and terms of trade shocks

- Internal shocks: changes in labor productivity and capital demand
- Domestic policies: changes in subsidies and tariffs

The third objective incorporates a trade facilitation framework into the CGE model, in which trade facilitation is represented by tariff equivalents of time to export and import. The study performed three simulation scenarios:

- Improvement of trade facilitation: reduction of time delays
- Trade liberalization: reduction in tariffs
- Investment in transport infrastructure and administration: a cost to improve trade facilitation

3. Summary of Main Findings

The results of the I-O analysis showed that agriculture generates high employment, while food industry has strong linkages, generates substantial income multipliers and requires relatively high labor intensity. Textiles would contribute to the greatest impacts on aggregate output if this sector was closed down, yet possesses weak linkages. Rubber is highly linkage-oriented and moderately significant in other indicators. For services, hotel-restaurant is the top net exporter and is crucial in a few other indicators.

The findings suggested that high intermediate import dependency with the absence of technical inter-industry linkages is a cause of concern for the export industrialization of Cambodia. While the linkage-oriented industries, such as food and rubber, have not been able to realize their full potential in exports, the current largest industry (textiles) is unlikely to contribute enough profit to foster future growth due to the lack of linkages. The limited interaction is evident when net exports are dominated by a few sectors and when most sectors with relatively high connections in both income and labor intensity are neither the net earners of foreign exchange nor the main contributors to output. This underscores that the potential of exports can be realized through the requirements of not only diversification but also linkage creation. According to the findings and the normalization scorings (Table 4.11, page 83), the study proposed that attention should be given to four promising sectors: food-beverage-tobacco, rubber, agriculture, and hotel-restaurant.

Cambodia has a positive prospect to expand its food-processing exports provided the agricultural endowment and significant changes in demand for ready-made food products in Asia. Similarly, rubber cultivation and exports have increased in the recent years due to expansion of production capacity. Despite its potential, agro-industry, other than the milled rice subsector, has received little attention with regard to domestic investment and the creation of the value chains. Moreover, the industry is characterized by SMEs with emerging larger firms, both focus on domestic demand, while breaking into international market has just started, whereas the lack of compliance with quality standards is a key constraint. With these challenges, encouraging investment and value addition and improving the quality standards should be a priority.

Following the findings, chapter 5 performed a series of simulations to measure the impacts of the promising export sectors and the impacts of policy options for export promotion. The potential sectors in focus are agro-processing industry (food and rubber) and agriculture. The results showed that export expansion of these industries brings positive effects on economic growth and employment, broadens production diversification at the sectoral level, and improves welfare at the household level, particularly for the rural poor. The contributions, including the intermediate demand, by agro-exports are larger than that by agricultural exports. Priority should be given to creating production chains from agriculture to processed food and processed rubber, rather than exporting unprocessed agricultural products. This target is also in line with the government's aim to undertake some degree of processing inside the country and to increase the total share of processed agricultural exports, set in the Industrial Development Plan 2015-2025 (Table 5.1, page 89).

The negative impacts resulted from the fluctuation in the world price of the agro-exports is less severe than that of garment exports. The promotion for agro-processing, therefore, is crucial, not only to create the value chains from agriculture but also to reduce too much concentration in the garment to minimize the high economic vulnerability.

The analysis also revealed that the exporting sectors are low skilled and medium skilled-intensive, reflecting an increase in demand for those two groups to keep up with the production and export supplies. Also, higher productivity of these groups would further benefit the economy. Finally, the study found that the provision of export subsidies or a combination of subsidy and protection policy would work as practical tools to promote the export orientation of those sectors and bring favorable impacts on growth and employment.

While direct policies are crucial, the gains from trade cannot be fully realized if barriers associated with trade facilitation are not addressed. The simulation results in Chapter 6 demonstrated that reducing time delays in trade procedure would increase GDP, household income, and welfare. Exports accelerate, which can be explained by the fall in f.o.b costs that traders would be able to save when trade is facilitated, making exports more beneficial, resulting in an increase in output and investment. Notably, saving time costs does not benefit every sector the same way. Agriculture, office equipment, and machinery exports see the most significant impacts, implying that Cambodia would be able to diversify its export and production structures toward such products following trade facilitation reforms.

The reduction in the same proportion of import tariffs resulted in an increase in welfare due to price fall and higher consumption, yet investment decline. This indicates that gains from trade liberalization would be more significant if it is combined with a more efficient trading environment. Finally, an increase in investment to finance trade simplification would further enlarge the economic gains. Not only do agriculture exports improve at a higher level, processed food and rubber exports also soar significantly. The investment to ease border trade barriers would not only boost trade and production diversification but would also upgrade economic productivity and public sector efficiency.

4. Policy Implications

Some policy implications, which can be carried out by the Ministry of Commerce and relevant policy makers, are herein proposed.

- Prioritize three targeted export sectors—processed food industry, rubber industry, and agriculture—by strengthening industrial linkages/clusters by securing supply chains (connection among small and large firms, contracting-system between farmers and manufacturers) and undertaking processing before export.
- Provide subsidies, especially for food and rubber processing: which can be carried out through infrastructure subsidies in relation to Export Processing Zones, tax exemption, protection policy, and promotional expense and market access support.
- Promote the productivity of low-skilled and medium-skilled labor through investment in vocational training in the selected sectors, provision of necessary skills within agro-manufacturing industry and agriculture, and encouragement of hands-on experience exchange between local and foreign specialists.
- Improve trade facilitation through reduction of time delays across borders: minimize transaction costs and procedures, automize customs registration.
- Increase investment in transportation infrastructure and port quality and extend them to rural and border areas. The increase in investment can be achieved through public-private partnership and regional cooperation.
- Increase investment in administration, including the increase in public wages of customs agents to improve work efficiency.

5. Contributions of the Study

Since there is no employment data corresponding to the I-O table, the study generated the employment by sector from the household survey for the analysis. To the best of my knowledge, this is the first study to combine the five approaches to analyze key sectors and to be based on both the traditional linkages and the more current hypothetical extraction method. The normalization scoring for the ranking given to each indicator at the end of the key sector estimation is also a part of the contribution to existing literature.

The study made some modifications to the data and the standard CGE model created by the PEP (Partnership for Economic Policy Networks). First, the household account was reclassified into regions (urban/rural) and living standards (poor/non-poor). Second, unemployment was introduced into the model to capture labor market and employment changes in Cambodia. Last, the study was the first attempt to apply trade facilitation into the model for Cambodian economic analysis of time costs to trade.