Interview with Dr. Ryo Makioka, Lecturer at the Graduate School of Economics and Business at Hokkaido University

EPBM Applied to Export Promotion Policy

By *Japan SPOTLIGHT*

A young scholar talks about his Evidence-Based Policy Making (EBPM) experience in Export Promotion Policy.

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Introduction

JS: Could you please tell us how you got involved in working on EBPM?

Makioka: I have been working on quantitative analysis by using microdata on individuals or business firms with a focus on international trade and foreign direct investment in international economics. To be more specific, I have done work on the effects of export promotion policy and the impact of a business firm's transfers to a developing country upon the host country's labor force. I have done also empirical research using government statistics on the impact of the current Covid-19 pandemic on the Japanese labor market. I got directly involved in the Ministry of Economy, Trade and Industry's (METI) research project on EBPM in my previous job at the Research Institute of Economy, Trade and Industry (RIETI) on export promotion policy.

Method Adopted in EBPM on Export Promotion Policy

JS: In your EBPM analysis on the impact of export promotion, you assume that firms with higher productivity would export more. Is this assumption valid for all business firms?

Makioka: Yes, its validity has been proved in general by many countries' data, including Japan. For example, a RIETI discussion paper shows the pattern using Japanese data (Ryuhei Wakasugi et al, 2008, https://www.rieti.go.jp/jp/publications/dp/08e036.pdf). It is true that there are exceptions with high productivity firms exporting

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nothing, as pointed out by Professor Yasuyuki Todo at Waseda University (https://www.waseda.jp/top/en/news/34931).

JS: Could you elaborate on your econometric analysis on cause and effect relations between policy and the economy?

Makioka: In EBPM, it is necessary to make a distinction between correlation between the two variables and their cause and effect relations. It is true that there is correlation between productivity and exports, but it does not necessarily mean there is a cause and effect relation between the two. What is important in EBPM is to find what data sources are available to clarify cause and effect relations. Regression analysis may show correlation, but not cause and effect.

I used a matching method named "propensity score matching" for my analysis of the effect on export promotion policy (https://onlinelibrary.wiley.com/doi/10.1111/roie.12548). In this analysis, I tried to find the difference in export performance between firms supported by an export promotion policy and those without one. I selected firms with similar characteristics in terms of the number of employees, sales or percentage of workers by department, etc. Among these firms, there are some supported by an export promotion policy and some not supported by one. Then, comparison of those two firms' export performances should lead to clarification of an export promotion policy's impact on their export performance. This is of course not a perfect method, extracting the policy impact only, as a factor such as a firm's intention to globalize its business that cannot be observed by data is only partially reflected. But comparison of companies with similar business characteristics is certainly useful in discovering cause and effect relations.

Role of Information in Determining Export Performance

JS: According to your EBPM analysis, barriers to information about exports can make a difference in export performance, How much do they affect a company's performance?

Makioka: In my analysis, I only detected that barriers to information would be an impediment to exports from the relationship between export performance and an export promotion policy, and that an export promotion policy would work well in mitigating those barriers. Barriers to information are not tangible through data alone and there is a limited number of previous analyses on them. So I cannot tell you how much they would affect export performance. Intuitively, I think barriers to information could more seriously affect the export performance of small and medium-sized enterprises (SMEs), and that's what I observed in my analysis.

JS: Is there any study on how the size of a firm impacts its export performance?

Makioka: It is known that productivity would impact the size of the firm, namely a higher productivity firm would be larger. With high productivity, a firm would have an incentive to produce more and employ more workers and export more eventually.

Data Availability & EBPM

JS: To evaluate the effect of an export promotion policy, comparison of firms' export performances under conditions with other background factors being equal is what you chose in your analysis. What other methods would be useful? How about instrumental variables?

Makioka: In the method of instrumental variables, you select information that could affect a company's decision to have the support of an export promotion policy but that would not directly affect its decision to export, and then detect cause and effect relations between the policy and the performance by using this information. Even if there is observed a positive correlation between utilization of an export promotion policy and export performance, you cannot easily make any distinction between a case where the exporting company tends to use policy support (reverse causality) and a case where an export promotion policy works well in encouraging exports. To overcome this challenge, I used a method of matching rather than the method of instrumental variables, because it was difficult to get data enabling us to use the method of instrumental variables.

JS: EBPM has been adopted today with the increased availability of real time data. In other words, this is an attempt to raise the accuracy of the analysis of a policy impact by taking advantage of such data.

Makioka: Yes, that is true. I think EBPM and a wide range of database accommodations have been in progress simultaneously.

JS: For example, the availability of micro business data on business behavior was fairly limited, compared with data on a nation or a region, but is now much improved.

Makioka: Yes. Business data are much more available today than in the past. In my research on export promotion policy, I used business data from government statistics, as it has been available since the 1990s and also used data from JETRO on their exhibitions or business matching events. My analysis is based on these two kinds of data combined.

JS: The government's data on micro business are of a structural nature and the data available are from several years ago. How should we overcome this time lag in government data?

Makioka: It is true that there is a time lag in government data. At this moment, the available government collected data are for FY 2018 or 2019. It is difficult for us to make a real-time analysis based on them. In my analysis on export promotion policy as well, I felt it difficult to achieve an up-to-date analysis due to this limited real-time data availability. We could have data on an individual company's export performance but it was necessary to observe the confidentiality of the data in light of a firm's privacy protection.

Overall Assessment on Analysis on Export Promotion Policy

JS: How helpful do you think your analysis would be for policy makers?

Makioka: Policy makers could learn about what types of companies could export more with export promotion support. My analysis concluded that JETRO's support, such as through exhibitions, was very helpful in encouraging companies' exports, which grew by 5-10% with this JETRO support, in my estimation. On the question of the types of the companies being the biggest beneficiaries of the policy, in my findings smaller companies would be more encouraged to export with such support.

Another finding is that export promotion support would work better in particular for companies without their own international business section. This is consistent with the assumption that barriers to information on exports are a crucial impediment to exporting. On the question of the difference of policy impact by export destination, export promotion support has been found to encourage exports to nations far from Japan, such as those in Europe or to the United States rather than Asia. JETRO exhibitions or business matching events would work well in matching Japanese exporters with buyers far from Japan.

On the difference by sector, several studies in the literature of export promotion policy show that export promotion support's effect on complicatedly assembled goods like precision machinery is more significant than on the goods like toys and simply assembled goods. It is probably because the former need more difficult business negotiations, given the complicated nature of the goods. Export promotion support could work well in mitigating this. Business matching between exporters and buyers overseas arranged by JETRO would be very helpful in finding business partners.

JS: Would it be useful to expand EBPM analysis on export promotion policy to the economy in general? EBPM seems to be working well in micro policy areas where you can point out precisely the policy's microeconomic impact. But expanding the analysis to the macroeconomy in general by including its secondary effects could end up in confusion, as it will be difficult to distinguish the policy's genuine impact from the impact of other changes in economic situations which are not necessarily directly related to the policy.

Makioka: Yes. Broader impact analysis could make outcomes ambiguous. For example, making a comparison between sectors with more export promotion support and those with less would result in insignificant outcomes, as within each sector there are a small number of firms supported by export promotion policies and a majority of other firms that are not. Analysis of an individual firm rather than a sector would be more meaningful. With more micro data analysis, we would be able to have a clear policy implication.

Future of EBPM

JS: What is your view on the future of EBPM? In the Japanese government, it is now recommended to use EBPM analysis as a means of convincing the budget authority of the utility of the policy. With real-time Big Data available today, EBPM would have great potential as a catalyst for high-quality policy making. But we would need experts on econometrics who could communicate well with non-experts involved in the budget allocation process. This communication skill could be a big barrier to expansive utilization of EBPM.

Makioka: Communication skills in convincing policy makers or practitioners as well as economists of the utility of the policy are crucial for EBPM. In addition, I think the government should keep data open to researchers. At this moment, academics outside the government find it rather difficult to have open access to data belonging to public organizations. On the other hand, it is true that there is a risk of leakage of confidential information or arbitrary use of the data in favor of those academics' preoccupations, if the data are available completely to researchers. Academics and the government officials would have to work and collaborate closely for the purpose of expansive use of EBPM. JS