

EXECUTIVE SUMMARY

Schumpeterian creative destruction or, in other words, innovation is the integral part of a country's economic growth. For developing countries, it would not be an exaggeration to say that the challenges of economic development have been regarded by policymakers as synonymous with the challenges of innovation: how to make indigenous firms acquire new technologies and produce new products that they could not previously. Therefore, understanding the process and determinants of innovation is unarguably a research and policy issue of vast importance.

At the same time, a vast amount of previous studies have examined the causes and as well consequences of globalization. These studies have shown, although with some controversies remaining, that trade and/or investment liberalization has a positive effect on growth and productivity of firms, industries, and countries involved.

Then, how is globalization related to innovation? Is globalization a cause of innovation, or is innovation a cause of globalization, or both? Does increased trade and investment liberalization lead to more innovation, or does it depress innovation activity? In either case, what are the exact mechanisms? These are some of the most important questions that this report aims to address. These are some of questions that this report attempts to answer.

This report, of course, is not the first that explores globalization-innovation linkage. In fact, this topic is at least decades old. Previous studies on trade and growth have examined at least the following main channels through which trade affects growth: knowledge spillovers, increased competition, and larger market size. And these channels are either directly or indirectly related to firm's innovation activity. Traditional argument goes that, for example, if trade or investment liberalization facilitates knowledge spillovers, this will reduce the cost of research and development (R&D) or raise the rate of return to such activity, leading to increased innovation. Increased market size associated with trade raises the rate of return to innovation activity. Enhanced competition through trade may exert pressure on firms to innovate, or it could hurt the incentive to innovate by squeezing out the ex-post profit from a successful innovation. There are numerous empirical studies that examine these

channels in detail. In this regard, this report is, in some sense, a revisit to an old issue.

This report collects many interesting findings based on the papers/studies done to cover many countries in East Asia region. Along with its wide international coverage, this project utilizes micro-level data at plant, firm, or product level. While innovation may be an old topic, there have not many studies in the literature that utilize data at this micro level, addressing the innovation linkage to globalization, and focusing on the most rapidly growing region in the world. There are, therefore, rich insights that one can draw from all papers in this report.

In terms of key findings, there are many papers that confirm the positive impact of exporting on firm innovation activities and performance. While almost all papers in this report provide evidence for this, there are three papers that specifically show this evidence in the context of the role of innovation in the exporting-productivity relationship. In particular, the evidence supports to the existence of ‘learning-by-exporting’ behavior, which is one possible explanation for this relationship. The Japanese case study on this subject shows that the first-time exporters indeed increase their R&D expenditure immediately after they export, albeit the increase depends on the export-market destinations. One of the Korean studies and the Australian study also support the positive exporting-innovation relationship. The former shows that exporting promotes the creation of new product while the latter reveals the behavior that exporters in services sector do indeed increase their process-innovation activities. All of these studies, in addition to establishing the positive exporting-innovation linkage, also show that the positive impact is further translated to superior firm performance.

Firm’s R&D activities are the focus of the other three chapters in the report. As input of innovation outcome, R&D activities provide useful information about the extent of knowledge creation. Key findings within this subject are related to the role of foreign ownership in affecting firm innovation. The first is multinational enterprises (MNEs) tend to import their technology from their parent companies, resulting in rather low innovation activities of these MNEs in their host countries. The Thai and Chinese studies highlight this observation. This rather discouraging finding, however, does not mean that there is no positive effect of MNE presence on R&D or innovation process. In fact, as indicated by the Thai study, as well as the Indonesian study, the presence of MNEs is suggested to stimulate locally owned firms to conduct R&D. In other words,

there exist what so-called the ‘R&D spillovers’ from MNEs presence.

The Indonesian study also finds an interesting fact of a positive relationship between the acquisition of new machinery and the extent of R&D expenditure. In other words, at least for Indonesia in this case, the ups and downs of firm innovation output are closely related to the ability of the firm in acquiring new machinery.

Other chapters examine the impact of globalization on innovation through competition link. The Philippines and Vietnamese studies address this subject. The Philippines study finds that trade reforms increases the extent of competition in domestic markets. Reduction in tariff is related to reduction in profitability. This study further finds that higher competition stimulates R&D. Thus, overall, trade liberalization positively affects R&D through product market competition channel. All these findings are generally the same even after it takes into consideration the firm selection impact as a result of much tighter competition (i.e., firm entry and exit). Consistent finding on the impact of competition is shown by the Vietnamese study. Tight price competition is found to increase the likelihood of Vietnamese small and medium enterprises (SMEs) to engage in R&D.

Globalization and knowledge creation and absorption is closely related. Another Korean paper shows that positive innovation premium can be accounted for by both the utilization of existing knowledge and active investment in new knowledge. The degree of importance for each of these knowledge sources, however, is different, depending on the characteristics of the global activity that a firm involves in. Investing in new knowledge seems to be more important than utilization of existing knowledge in explaining the premium of the non-MNE exporters and domestic MNE parents with export participation. In contrast, foreign MNE affiliates that participate in export markets seems to utilize existing knowledge more than investing in new knowledge in generating their positive innovation premium. The paper utilizing the Malaysian innovation survey, meanwhile, attempts to draw whether there is relationship between various aspect of organization and innovation. This study finds it to be a complex one. Different types of internal and external knowledge flows are likely to be driven by different organizational variables. For example, while knowledge flows from other companies within the same group are determined by whether or not the firm is a subsidiary. Meanwhile, examining the impact of international research collaboration

involving patent registered in Korea, China, and Taiwan, another study in this report finds that international co-inventions are strongly associated with more science linkage, with higher quality of patent, and larger group of research team.

The research conducted by all papers in this project asserts that globalization encourages firm-level innovation. This policy implication is very important in the context of the usual approach that countries rely on R&D subsidies. The key message coming out from this research, therefore, is the existence of an alternative way for a country to promote innovation, which is done by, and through, maximizing the benefit from globalization.

There are more specific policy-implications implied by this broad message. First, policy to promote exports encourages firm innovation; hence, policy to assist firms to export more, as well as to make more firms to engage in exports, seems warranted. A number of findings on the positive relationship between exporting and innovation activities and/or performance support this policy implication. Second, policies for higher foreign involvement should be encouraged. The justification of this comes mostly on the evidence on the existence of ‘R&D-spillovers’ impact on domestically owned firms, from the presence of MNEs.

Third, keeping in track with ongoing trade liberalization and maintaining a relatively open trade regime is suggested. A high degree domestic market competition drives firms to always engage in innovative-enhancing activities, through the ability of the competition to create a contestable market situation. The findings from the Philippine study provide some evidence to support this. Having a liberalized trade regime could even be more beneficial if it is put in a framework of deepened integration of a country in Southeast and East Asia regions. The case study of Thai manufacturing in this report underlines this in the context of linking firms the already-established international production networks in these regions. The Thai study finds positive relationship between participation in the production networks on greater R&D activities by firms.

Fourth, findings from the research suggest that globalization seems to also benefit SMEs – not only large firms. This is encouraging given the common perception of unfavorable impact of globalization on SMEs. But there is more on this; how does one devise policies to materialize this benefit? The Australian study in this report suggests

that, at least conceptually, the policy is to gear SMEs to learn more about process innovation – rather than product innovation – from utilizing globalization forces.