

Vietnam's Industrial Policy Formulation

To Become a Reliable Partner in Integral Manufacturing

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The Vietnam Development Forum (VDF) is a joint research project of the National Graduate Institute for Policy Studies (GRIPS) in Tokyo and the National Economics University (NEU) in Hanoi. It is part of the 21st Century Center of Excellence (COE) Program of GRIPS funded by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT). One of the most important objectives of VDF since its establishment in early 2004 has been to support industrial policy innovation by Vietnam's Ministry of Industry (MOI). For this purpose, VDF has organized a large number of workshops and research weeks, published books and research papers¹, and staged VDF-MOI joint missions to Thailand, Malaysia and Japan. VDF has also directly assisted the drafting of motorbike and supporting industry master plans and commented on the overall, electronics, and automobile master plans of the Vietnamese government. This paper presents a broad conclusion drawn from our policy research. It was originally addressed to Vietnamese policy makers. By re-presenting it to researchers in development and aid studies, we hope to receive their comments and suggestions as well.

1. The need for new industrial policy

Vietnam is deeply committed to global and regional integration, and no one doubts the seriousness of this commitment. Vietnam has already taken many steps to realize this goal, including the completion of the AFTA process, the conclusion of the bilateral trade agreement with the United States, intense negotiation for WTO accession, and preparation for other free trade areas (FTAs). Work is also progressing in the legal area as the government doubles its effort to create or amend a large number of laws for consistency with international practices. All this is highly commendable.

However, diplomatic and legal preparations are not enough. In order

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¹ See particularly Ohno and Thuong, eds., (2005) and VDF (2006b).

for Vietnam to truly enjoy the fruits of international integration, its real sector must also be prepared. Vietnamese firms need to be competitive enough to survive and even prosper in the new open environment where import protection and special favors are, in principle, no longer allowed. This is the area in which Vietnam's preparation is the weakest.

Free-market advocates may argue that, once the economy is open and free, the market mechanism will activate the ingenuity of the Vietnamese people and the national economy will grow and become more efficient. This argument is too naïve, as the majority of Vietnamese policy makers already know. The fact is that the balance of power between large advanced economies and latecomer developing countries is lopsided. Vietnamese firms cannot at present compete squarely with Toyota, Panasonic, LG or Intel in the global market. Instead, they must work with these multinational corporations (MNCs) to improve their abilities and become crucial suppliers in their global value chain. A good policy is needed to encourage and support this effort.

But what kind of policy is needed, more concretely? The days of planning are over. Vietnam can no longer use rigid control to maintain international isolation. The strategy of *infant industry promotion*, adopted by Japan and Korea in the early postwar period, is also out of the question. Under this strategy, domestic industries were protected and nurtured until they became sufficiently competitive. But Vietnam cannot introduce such protection because of its commitments to WTO and various FTAs.

Even the strategy of FDI-led growth, exercised by ASEAN4 in the 1970s–90s, is no longer applicable to latecomers like Vietnam. Although Malaysia, Thailand, Indonesia, and the Philippines vigorously absorbed FDI, they were slow to remove their tariffs, import restrictions, and localization requirements. In these countries, FDI promotion and industrial protection coexisted for at least a few decades. External barriers were lifted only after they achieved significant industrial agglomeration. Vietnam, however, is asked to remove barriers *now*, before such agglomeration occurs.

For this reason, Vietnam's industrial policy in the 21st century must be new and different from those of other countries in the past. It must reflect the fact that even newcomers must open up very fast. Globalization is inevitable, and Vietnam must position itself to become a meaningful player in the global

arena, making sure that its contribution to East Asia and the world will rise over time. What kind of policy can that be? That is the key question for the Ministry of Industry (MOI) in particular and the Vietnamese government in general to consider. That is also the question we address in this paper.

2. Weaknesses in Vietnam's policy formulation

To design and implement industrial policy in the age of strong globalization pressure, Vietnam must overcome two methodological problems. At present, master plans are designed and drafted by a small group of officials assigned for the task. They work very hard but cannot produce desired results because crucial information and cooperation are lacking. More concretely, the weaknesses of Vietnam's industrial policy stem mainly from the following two missing links.

- (i) The lack of cooperation with *stakeholders* (i.e., concerned groups) in the entire drafting and implementation process. In the case of industrial master plans, the most important stakeholder is the business community.
- (ii) The lack of inter-ministerial coordination within the government in deciding concrete action plans.

These problems are unique to Vietnam; they are not observed in other high-performing East Asian countries. In our missions to Thailand, Malaysia, and Japan, no serious problems were reported in either government-business cooperation or inter-ministerial coordination in formulating industrial policy.

The main problem caused by the lack of cooperation with stakeholders is that *policy is not supported by the business community and therefore is not implementable*. This problem is particularly acute in sectors dominated by private and FDI firms, such as motorbikes, automobiles, and electronics, which are not under MOI's direct supervision. Even where state-owned enterprises (SOEs) used to play key roles, in such areas as steel and cement, the share of private and FDI production is rising. The drafting process must involve all key players, especially private and FDI firms. Without solid channels to absorb their information and concerns, policy remains ineffective.

Another problem caused by the lack of stakeholder involvement is

that *information and analysis are neither to-the-point nor up-to-date*. Even if MOI drafters are intelligent and hard working, it is difficult for a small team to gather all relevant information. This is particularly true with external information such as global industrial trends or the latest strategies of MNCs. Such information should be obtained through close and continuous contact with the business community. A good policy cannot be built on outdated information.

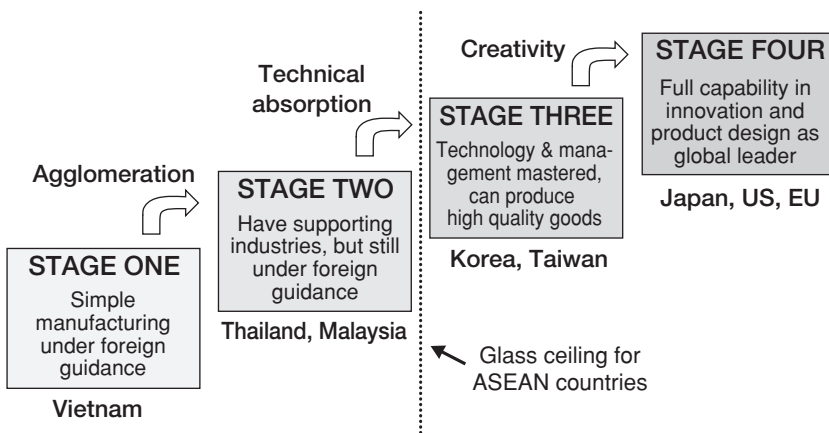
As for the lack of inter-ministerial coordination, the main result is that *supporting measures are simply mentioned without details*. Measures outside the authority of MOI, such as tariffs and tax incentives or a reform of technical schools and universities, are especially hard to prescribe in detail, since there is no mechanism to discuss and agree on policy measures among related ministries in close consultation. At present, ministries interact only superficially through commenting on mutual drafts and exchanging basic information. This is another reason why timely and effective policy implementation is so difficult in Vietnam.

3. Good policy, modest results

Thailand, Malaysia, and Japan have all constructed effective channels for stakeholder involvement and inter-ministerial coordination in industrial policy making. Thailand has set up industry-specific institutes and official committees to link the government, businesses, and experts. Malaysia has a three-layer structure consisting of the Industrial Planning Committee, the Steering Committee, and technical resource groups, which together mobilize several hundred people to draft an industrial master plan. In Japan, deliberation councils and industry associations have long been the key instruments for sharing information among all stakeholders at any time. The functions of these institutions are explained in detail in VDF (2006b).

The experiences of these countries make it clear that Vietnam is far behind them in industrial policy formulation and that it has much to learn from them. It must be admitted that Vietnam's policy making method is in the early stage of development. It is still primitive and defective, and inherits many characteristics of the planning days which are no longer valid. Another crucial fact is that the way to achieve good involvement and coordination is not one, and

Figure 1. Breaking the Glass Ceiling



Source: Ohno, 2005.

that Vietnam should design a mechanism that is most suitable for its situation and needs. This means that Vietnam must selectively import the good practices of neighboring countries, with necessary revisions and additions, to suit its circumstances. Since institutional evolution is difficult to forecast or plan with any precision, the adaptive process will inevitably be a long one with many trials and errors.

However, a negative lesson from Thailand and Malaysia is also worth attention. While industry-led growth of Thailand and Malaysia has been remarkable by the standards of developing countries in general, it falls short of East Asia's high performance criteria. These two countries are still unable to break through the "glass ceiling" after several decades of industrialization. The glass ceiling here refers to the difficulty in moving from the second to the third stage in the path of industrialization that I have described on another occasion (Ohno, 2005).

A developing country in the catch-up process typically starts with simple assembly to fulfill foreign orders (stage 1), builds industrial agglomeration and supporting industries (stage 2), graduates from foreign guidance to master technology and management (stage 3), and finally achieves innovative,

original design capacity (stage 4). I argue that none of the ASEAN countries has graduated from foreign dependency despite their quantitative achievement. They still rely heavily on foreign managers and engineers to run their factories and maintain quality. Since core competence and value creation are not internalized, a risk is always present that industries will shift to China or elsewhere when circumstances change.

The governments of Thailand and Malaysia are acutely aware of this problem and trying to remedy the situation as a matter of top national priority. Specifically, this requires strengthening small and medium enterprises (SMEs) and creating linkages among them, developing industrial skills, promoting supporting industries, stimulating R&D, and other efforts in human resource development. Nevertheless, local capability of Thailand and Malaysia still falls short of the high requirements of Japanese manufacturing FDI. This is a problem that has been recognized for a long time--at least for two decades--but remains unresolved.

At the risk of over-simplification, we may even say that Thailand and Malaysia are the countries whose governments have succeeded in offering good policy frameworks but whose domestic businesses remain less dynamic than expected. The gap between good policy and modest results is especially striking when we look at the performance of Taiwan and Korea. From the situation of war devastation and dire poverty, they emerged as leading manufacturers of high-quality products in a few decades. They received foreign technical assistance at first, but the time they spent for learning was relatively short. As soon as they mastered technology, they sent foreign advisors home. R&D, product design, enterprise management, and factory operation are now carried out entirely by locals. They invest vigorously abroad to expand production networks, and have become Japan's formidable competitors. And Taiwan and Korea achieved all this in no more than the time it took for Thailand and Malaysia to reach their current levels.

Why did Taiwan and Korea move up so fast, while Thailand and Malaysia learned more slowly? Is the reason difference in national character, or is it the difference in policy quality? If Taiwanese and Korean people are genetically more suitable for high-quality manufacturing than Thai and Malaysian people, the government cannot do much to change people's DNA. But if indus-

trial policies adopted by Taiwan and Korea have been superior in matching national aspiration with needed actions, we are compelled to study much deeper into policy design and implementation to improve the industrial policy framework and content of Vietnam².

Vietnam at present is a country of weak policy formulation. However, Vietnamese people are frequently praised as skillful, diligent, and persistent in comparison with other peoples in the region. This points to a possibility of greatly upgrading the industrial capability of Vietnam once policy weaknesses are removed.

4. Coping with China

How to cope with China, with its enormous size and rapidly expanding manufacturing capacity, has become one of the most urgent issues for countries all over the world. China has large numbers of managers, scientists, engineers and unskilled workers, ample industrial materials, a relatively high level of technology backed by a long history of industrialization drive, and a thick network of overseas Chinese businesses. The China challenge looms large in the industrial policy debates of Thailand, Malaysia, and Japan. It must also be a top issue in formulating Vietnam's new industrial policy.

It is clearly unwise to directly compete with Chinese products in the global market. To avoid this, a country must differentiate its products from Chinese ones and position itself as a producer complementary to China rather than competing with it. If this is done successfully, the country can form a production partnership with China and use Chinese low-cost inputs to its advantage. The crucial question is how to do this concretely. The proper positioning requires a clear understanding of the fields in which China excels and the fields in which it does not.

Since China is a big country, it is not easy to find industrial categories

² Two facts complicate such a study. First, the policies adopted by Taiwan and Korea were very different in that the former promoted dynamism of SMEs while the latter featured large business groups (*chaebols*) supported by large banks. Second, the state-led industrialization strategy adopted by Korea, in particular, is no longer available to today's latecomer countries under the pressure of globalization.

in which it does not produce. One needs to go into the level of individual products and even different grades of the same products to find a niche. Even then, there is no guarantee that China will not produce that product next year. Many countries want to promote “high-tech” industries to upgrade their skills and compete with China. However, the popularity of this strategy must be evaluated against the following precautions: (i) there is a significant gap between national aspiration and actual capability; (ii) no differentiation will occur if all countries adopt this strategy; and (iii) China is also targeting such areas.

Thus, finding a niche in terms of specific products, including “high-tech” products, has certain limits. The better way to distinguish oneself is to analyze China’s strengths and weaknesses from the viewpoint of business architecture, as explained below.

5. Integral manufacturing

We propose one concrete industrial strategy for Vietnam in order to overcome the difficulties addressed in earlier sections. The strategy is targeted at building domestic capability in assembly-type manufacturing, such as electronics and electricals, motorbikes, and automobiles, and the production of parts and components for these industries³. Although assembly-type manufacturing industries differ from one another in some aspects, they are common in the sense that (i) they extensively use metal, plastic, and rubber parts; (ii) product quality depends heavily on the quality of these parts; (iii) they also require labor-intensive assembly with precision; and (iv) innovation and model changes are quick and frequent. For this reason, assembly-type manufacturing industries can to a large extent share the same supporting industries and human resources. That is why they should be grouped together in strategic planning.

Vietnam’s workforce is particularly suited to labor-intensive assembly with precision, (iii) above, and that is why such FDI inflows are accelerat-

³ Assembly-type manufacturing has been the driving force of economic transformation of Japan, Taiwan, Korea, ASEAN4, and China, and it is also expected to play the same role in Vietnam. For other industries, such as garment, footwear, food processing, software, energy, industrial materials, construction, logistics, trade, telecom, finance, and tourism, other strategies must be sought; the argument in this section is not applicable to them.

ing in recent years. However, Vietnam must also learn and internalize the other aspects, (i), (ii), and (iv) above, to fully take advantage of the strength of assembly-type manufacturing. If this is done successfully, assembly-type manufacturing will surely become the main pillar of Vietnam's industrialization, providing jobs, improving skills, and raising national income.

Even without any further policy reform, FDI will probably continue to come to Vietnam and, given sufficient time, the country will reach the income and industrial levels of Thailand and Malaysia today. However, as argued above, these ASEAN neighbors remain heavily dependent on foreign technology and management. Despite many decades of supporting industry and SME promotion, their human resources and local parts makers remain too weak to break through the "glass ceiling" and reach the level of Taiwan or Korea. If Vietnam does not have a good policy, it is also likely to stop at the level of Thailand and Malaysia today.

Another important consideration noted earlier is that Vietnam is required to integrate much more quickly than ASEAN4. Thailand and Malaysia absorbed large amounts of FDI, but they were not "open" in the sense that they kept high tariffs, localization requirement, import restrictions, and so on for a long time. They used these measures for at least a few decades to develop and protect their industrial base. Vietnam, in contrast, must open up now, before building such an industrial base, and face global competition. Vietnam's industrial strategy must therefore be different from and bolder than those of Thailand and Malaysia.

Let us now propose a new manufacturing strategy for Vietnam based on the above considerations.

- (1) Vietnam should liberalize its trade and investment regimes unconditionally and more decisively than ASEAN4 did in the past, create the most free and low-cost business environment in East Asia, and attract a large amount of FDI without selectivity⁴. This decisive openness should be the strongest selling point in FDI marketing.

⁴ The only permissible reasons for rejecting FDI are environment, cultural indecency, and national security. This rule should be applied sparingly under transparent criteria.

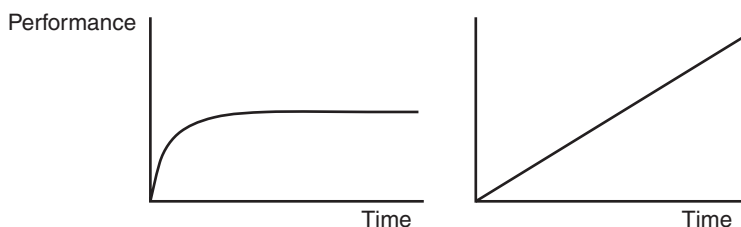
- (2) Linkage between domestic firms and foreign multinationals should be promoted as a matter of highest priority. Vietnamese firms should double efforts to become suppliers of FDI manufacturers and foreign buyers, and improve their capabilities. The government should support their effort.
- (3) Vietnam should learn the *monozukuri*⁵ spirit of Japan's *integral manufacturing*, as explained below, as quickly as possible. Vietnam should aim to become a reliable developing country partner in high-quality manufacturing with Japan and other developed countries producing integral products.

Professor Takahiro Fujimoto of Tokyo University and his research team have come up with a business architecture theory to explain the differences among the manufacturing industries of major economies such as Japan, China, the United States, Korea, Taiwan, and ASEAN countries. This theory has a significant implication for Vietnam's industrial strategy. According to Prof. Fujimoto, there are two basic architectural types in manufacturing: modular architecture and integral architecture. In modular architecture, the modality of interaction among components is standardized for easy connection. For example, desktop computers are a typical modular product in which globally common components from various companies are freely combined. By contrast, in integral architecture, the complexity of interaction is happily accepted, and improvements are achieved through numerous trials and errors. For example, automobiles must be manufactured with integral architecture if multiple objectives such as performance, comfort, fuel efficiency, and safety are to be attained simultaneously. Generally speaking, modular architecture is suitable for obtaining quick results at low cost while integral architecture is appropriate for the pursuit of ever-higher quality in the long run.

⁵ *Monozukuri* literally means "making things" or "manufacturing."

Figure 2. Modular versus Integral Manufacturing

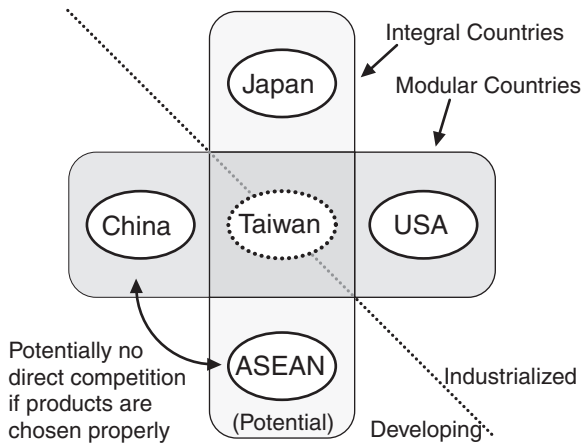
	Modular manufacturing	Integral manufacturing
Parts interface	Parts are common and can be used for any model	Each product has unique parts, specifically designed
Merits	Quick results and flexibility	Endless pursuit of quality
Demerits	No differentiation, excess entry, low profit, lack of R&D	Much energy and time needed to achieve results
Institutional requirements	Openness, quick decision making, flexible outsourcing	Long-term relations, building internal skills & knowledge



Correspondence between products and business architecture is not fixed; it evolves dynamically with the business strategy of each firm or country, technical progress, and consumer tastes. In addition, business architecture often has structural layers in which, for example, modularization may proceed in final assembly while integration may deepen in components.

Japan is a country of integral architecture, intensely interested in efficient factory operation and product integrity. By contrast, the United States excels in modularization and is good at slicing the supply chain of a product into appropriate elements, standardizing them, and making profits by the novelty of combination. China is also a country of modular architecture, but its comparative advantage lies in labor-intensive modular products rather than knowledge-intensive modular products as in the case of the United States. Professor Fujimoto considers China to be a country of quasi-modularity since its manufacturing features mass production of products with copied design and technology rather than original innovation.

Since the United States and China are both modular countries with different development levels, they are complementary production partners. The

Figure 3. Production Alliances Based on Business Architecture

Source: Professor Takahiro Fujimoto's explanation to the joint VDF-MOI mission in Tokyo, June 2005.

former can supply technology and capital while the latter can offer cheap labor to produce modular products. Meanwhile, Japan is a country of integral manufacturing with high technology, high wages, and an aged population looking for a developing country partner. Using cheap unskilled labor in China and ASEAN is not enough to fully exploit the potential of integral manufacturing. If ASEAN, the traditional destination of Japanese FDI, learns to become a manufacturing partner with long-term vision and strong aspiration for high quality, Japan and ASEAN can form a strategic alliance in manufacturing integral products that are differentiated from Chinese products. However, this alliance remains merely a possibility because no ASEAN country has acquired the necessary skills and attitude for Japanese-style manufacturing. As noted above, Thailand and Malaysia are currently struggling to become full-fledged manufacturing countries. They still need Japanese managers and engineers to stay, and they depend heavily on FDI parts producers.

To become a partner in integral manufacturing requires ability to design and operate factories efficiently; maintain, adjust and repair machines; design parts; produce precision molds and dies; educate highly skilled industrial *Meisters*, and so on. These requirements are not new. But the point is that they

must be accomplished well with purpose and tenacity. This will enable ASEAN to graduate from simple assembly by foreign orders to participation as indispensable players in the global manufacturing network. This will also upgrade the Japan-ASEAN economic relationship to a higher level.

Among ASEAN countries, Vietnam and Thailand are top candidates for this feat. Vietnam should set a clear goal with appropriate action plans, and the Japanese government and business community should actively provide technical assistance and business cooperation for this purpose.

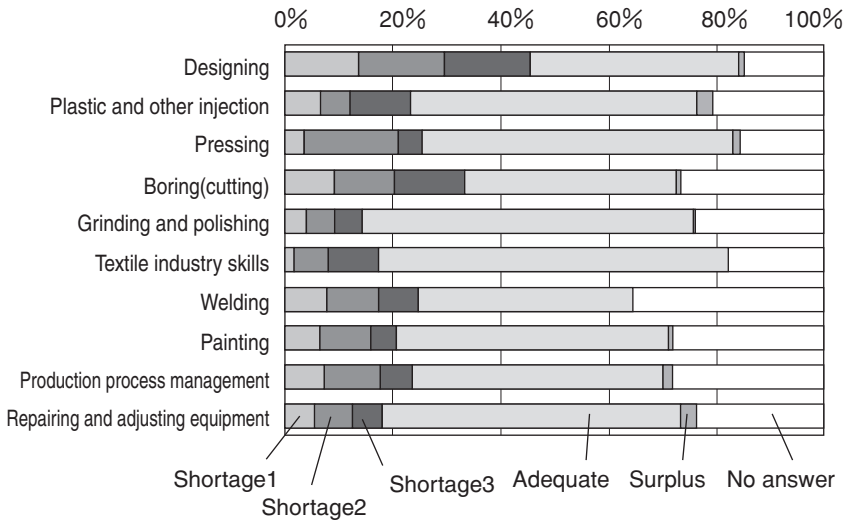
This perspective explains why supporting industries (especially high-quality plastic and metal processing industries) and human resource development (especially high-level production managers and engineers) are so crucial for Vietnam. They are needed to significantly raise domestic manufacturing capability and to differentiate Vietnam from China and other ASEAN countries. Copying China's manufacturing style or receiving Chinese technical assistance is not desirable for Vietnam because these lead to low-price, low-quality competition yielding little profit, as well as a direct clash with Chinese products.

6. Anticipated skill shortages in Japan

Japan desperately needs a developing country partner in integral manufacturing but has found none so far. It needs such a partner because its wages are too high and its population is aging, making it very difficult to find young engineers and production managers in sufficient number and quality inside Japan. The highly skilled postwar baby boomers, born 1947–49, will reach retirement age soon. Those born in 1947 will turn 60 years old in 2007 and will begin to leave factories. This is called the “2007 problem.” Their skills must be transferred to the next generation but Japan lacks a sufficient number of successors.

According to the *White Paper on Monozukuri*⁶, the number of monozukuri workers in Japanese manufacturing was 1.93 million in 2005.

⁶ Ministry of Economy, Trade and Industry; Ministry of Health, Labor and Welfare; and Ministry of Education, Culture, Sports, Science and Technology, *White Paper on Monozukuri*, 2005. Data in the text were obtained from a survey by the Ministry of Health, Labor and Welfare on enterprises with five or more regular employees.

Figure 4. Shortages and Surpluses of Monozukuri Workers in Japan

Note: These are the survey results on the ten basic industrial skills with the largest numbers of workers in 2005. Shortage 1, 2, and 3 are shortage in quantity, shortage in quality, and shortage in both quantity and quality, respectively.

Source: Ministry of Economy, Trade and Industry; Ministry of Health, Labor and Welfare; and Ministry of Education, Culture, Sports, Science and Technology, *White Paper on Monozukuri*, 2005.

When asked if the “2007 problem” (retirement of skilled workers) was a serious concern, 30.5% of the manufacturing firms responded yes. Among them, the main reasons for their concern included the long time required for skill transfer (68.5%), lack of younger engineers with enthusiasm (64.5%), and difficulty in communication between teacher and student due to a large age or skill gap (41.9%).

Figure 4 shows the worker shortages for the ten largest basic industrial skills in Japan. As of 2005, worker shortages are not yet severe, with only 25.6% of the respondent firms reporting skill shortages in quantity or quality (or both), 47.9% reporting adequacy, and 1.7% reporting surpluses (these numbers are averages for the ten skills). However, as time progresses, skill shortages are likely to worsen. Many firms are expected to retain skilled workers beyond the retirement age, and although this will delay the impact of the 2007

problem for several years, Japan will inevitably face skill shortages unless fundamental solutions are found.

I have highlighted Japan as a principal monozukuri partner for Vietnam because Japan is the only country in East Asia that has achieved a high level of integral manufacturing. In addition, Japan is already the most important manufacturing investor in Vietnam. Moreover, if Vietnam masters integral manufacturing, it can also cooperate more effectively with, for example, German automobile producers or Italian machinery companies. That is why I sincerely hope that high aspiration for assembly-type integral manufacturing will be incorporated as one of the strategic pillars of Vietnam's overall industrial master plan.

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