



Political Economy Analysis of Significant Roles of MITI in Japan's Industrial Policies During Japan's Post-war Economic Miracle Period

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Abstract. Japan's rapid economic recovery and growth during the post-war period were well-known, and the factors behind the growth varied, including Ministry of International Trade and Industry (MITI). This paper reviewed the literature to figure out a research question regarding the roles of MITI played in Japan's industrial policies during Japan's post-war economic miracle. Through examining the roles of MITI in Japan's post-war industrial policies, the paper will present the positive effects of governmental intervention in the markets. To provide a relatively comprehensive analysis of MITI's roles, this paper analysed 23 articles selected from Google Scholar. The paper focuses four areas within two levels of domestic and international: an intermediary role between government and market; the role of developing future information technologies; the role of promoting domestic tech-industries by loosening restrictions on foreign imports of advanced technologies; the role of initiating the cooperative R&D to boost domestic tech industries. Then, the paper concludes by discussing the political economy of MITI and its possible implications for other developing countries.

Keywords: MITI · Industrial policies · Economic miracle

1 Introduction

In the last century, Japan used to be devastated heavily as the defeated country in World War II. However, after 1945 it recovered smoothly and developed dramatically from a developing country to a developed country. This period of recovery and development has been known as the Japanese Economic Miracle. The rapid and smooth Japan's economic recovery and growth could not be apart from its industrial policies. The industrial policies relied on a significant governmental agency called the Ministry of International Trade and Industry (MITI). The MITI's interventions in the market were questioned in the disputes about the balances between government and market roles at that time. However, a critical journalist of the Asahi used to praise MITI as "an agency accumulated the greatest brain power in Japan" in its control of Japan's industrial policies [1]. This paper will review the significant roles of MITI in Japan's industrial policies during the post-war economic miracle period. Vast majority of documents and articles have examined

the functions of MITI in recent decades from the general market regulation to specific products sectors. However, many of them reviewing MITI as affiliation to other topics rather than comprehensively reviewing MITI's roles as the primary topic. Thereby, this paper will supplement this shortage in research. The paper was composed based on 23 articles in Google Scholar through searching and selecting the keywords of "MITI" and "industrial policies".

2 Examining Roles

MITI's duties were various in order to promote productivity and economic growth, the paper will divide its roles into two dimensions, domestic and international levels, to reflect MITI's comprehensive coordination to accomplish tasks. For the references for the domestic and global dimensions, see Table 1.

First of all, it is worth noting that the devastation in Japan due to the WWII. After the World War II defeat, Japan had overall devastated severely. The destructions ratio of total physical assets, including industrial machinery and household assets, amounted to 25.4% of pre-war level, and national output declined to around 20% level of wartime [2]. Besides, as the defeated country, Japan had to pay the war reparations to the victorious countries and accepted the occupation of allies mainly represented by the United States. Japan also needed to solve a severe inflation issue at the beginning of the post-war period. Considering the price level was 100 in August of 1945, the level had risen to 584.9 in December of the same year [1]. Thereby, the Japanese government later-on created a new administrative institution called the Ministry of International Trade and Industry (MITI) to further recover the national economy but meanwhile nominated MITI with significant roles in industrial policymaking to increase its national productivity and wealth.

2.1 Domestic Dimension

2.1.1 Consolidation

MITI played various roles in the industrial policymaking of Japan, and one of its roles was the intermediary role between the market and the government. MITI did not only include the industrial policy and international trade bureaus but also integrated with various departments overseeing trade policy to resources, manufacturing, and commercial technology, as well as commerce and small business. In other words, MITI's comprehensiveness was helpful for MITI reaching out to multiple production areas to deal with issues [3]. During the United States' occupation of Japan in the post-war period,

Table 1. Analysis of MITI's roles in the domestic and international level

No. of Papers	Context of "the significant role of MITI in Japan's industrial policies"	References
13	Domestic	[1–13]
11	International	[1, 3, 15–23]

the United States made an Anti-Monopoly law in Japan in order to promote Japan's domestic economic democracy. On the other hand, the United States thought a peaceful and democratic milieu would be the key to promoting demilitarization in Japan [4]. The law prohibited direct governmental intervention while the Japanese government aimed at guiding enterprises' developments through governmental-led cartels for being responsive to the economic needs and recoveries of the country [5].

In the spring of 1952, the law was proved to cause a lot of anxiety in numerous industries since the United States—a large consumer of Japan's products—had been trapped in the Korean War, resulting in a sharp reduction in purchasing Japan's products [1]. Then, MITI consolidated the issues between the market and the government for the first time. A famous case was the surplus of production in the textile sector, resulting in unnecessary waste of capital. MITI did not directly meddle in production; instead, it worked as a consultant, advising the textile industry to reduce output in the short term, later-on known as the "administrative guidance [6]." MITI also informally mentioned to about ten related textile enterprises that if the enterprises rejected the guidance, the foreign currency allocations for their next month's supply of raw cotton might not be available [1]. Through the forms of the advisory and the casual mention, the Japanese government and MITI did not directly violate the Anti-Monopoly Law. Still, they successfully helped the textile enterprises deal with their surplus issues [1]. This guidance of MITI was also instrumental in getting the Anti-Monopoly Law [6] so that the Japanese government in 1953 independently revised the Anti-Monopoly law. The amendment of the Anti-monopoly Law facilitated Japan's government-led cartels in further recovering the economy [5].

2.1.2 Picking and Developing Technologies

Another significant role of MITI in the domestic level was the instrumental role of developing future industries like information technologies. After the 1950s' economic recovery and stabilization, Japan had prepared to enter an exceptional era of economic growth during the 1960s [7]. With sufficient capital, Japan shifted its concentration of industrial policies on advanced technologies as "picking winners." Identifying industries with characteristics such as high growth potential and high value-added per worker, providing financial support, R&D support, and other assistance to existing firms and new entrants is known as "picking winners [8]. Then, MITI chose to build businesses in Japan that demand extensive use of capital and technology, industries that, in terms of comparative production costs, should be the least fit for Japan, such as steel and oil refining [9].

In the beginning, MITI was accused by the society of discarding the primary sectors that Japan had been heavily dependent on during the economic recovery. However, in the long run, MITI anticipated the new technologies sector would be the industry with the highest income elasticity of demand, the most rapid technological advancements, and the fastest increases in labour productivity [10]. Thereby, MITI later encouraged the semi-conductor and computer industries developments broadly in Japan [3]. From 1967 to 1971, MITI listed twenty-one various objectives under the themes of "industrial structural reform acceleration" and "encourage new industry," as well as the 1970 Economic

Plan planned to support these enterprises [11]. The Japanese government also implemented encourage policies in terms of favourable tax and financial subsidies programs, like the Fiscal Investment and Loan Program (FILP).

The inclusion of economic and industrial objectives resulted in the "visions" seen by MITI reflecting a focused type of industrial policymaking to achieve the goal [12]. The outcomes were remarkable as its R&D spending on the new technologies was steadily increasing, and the high effectiveness of the Japanese resulted in more patent applications than the U.S. firms [13]. During the 1980s, the flourishing of electronic industries has emerged, such as Matsushita's high-quality electronics and Toshiba's first laptop computer. Besides, the industrial achievements, such as the penetration of world automobile markets, the 256K memory chip, and now the ultimate supercomputer, were planned and organized years in advance by foresightful officials of MITI through working closely with cooperative Japanese business leaders [8].

2.2 International Dimension

2.2.1 Easing Imports of Advanced Technologies

MITI also played a role in increasing the international competitiveness of Japan's technologies through loosening import controls and initiating cooperative research and developments (R&D). At the beginning of the economic recovery during the 1950s, the Japanese government started nurturing their selected infant industries and protecting them from international competition by controlling the imports of advanced technologies and the exchange rates [1]. At that time, the public in Japan viewed the procurement of foreign technologies as possibly harmful to the domestic industries, luring Japanese companies away from developing their own innovations or diverting funds from domestic research [14]. It was also worrisome that foreign companies would exploit their technologies to seize control of Japanese industries [15]. Thereby, during the 1950s, Japan restricted over the imports of technologies unless a specific import was proven beneficial to the significant industries' developments [14].

As Japan joined the General Agreement on Tariffs and Trade (GATT) in 1955 and after almost a decade of domestic recovery and developments of the infant industries, MITI in the early 1960s assumed the pressure from both international and domestic levels regarding amending the restriction on imports of foreign technologies. On the one hand, MITI realized Japan's international obligation to liberalize its market to the globe as Japan joined GATT [16]. On the other hand, with MITI's proliferating attention on information technologies' importance, MITI tried to prevent the overly protection of the domestic industries from losing their competitiveness [17]. Besides, during developing domestic technologies, acquiring the advanced technologies from foreign countries, including the United States and European countries, and adopting them into domestic industries effectively, the advanced technologies imports would be a supplement rather than harmful threats [18].

Thereby, MITI gradually released previous restrictions on foreign technologies imports as Japan joined the Organization for Economic Co-operation and Development (OECD) in 1964. For example, MITI liberalized its imports of significant components on automobiles, including engines, major engine components, and chassis assemblies. MITI

did not aim at immediately surpassing advanced countries or broadly promoting Japan's innovation progress but focused more on "diffusion." In other words, MITI imported technologies into Japan and disseminated them to technologies-related firms for modification [19]. Through MITI's mechanism of "diffusion," the imported technologies and knowledge helped facilitate domestic firms' developments, such as automobiles, including nowadays well-known Toyota and Nissan. Primarily, Toyota utilized the imported technologies to improve its products. Later on, it started exporting enormous automobiles from the 1970s to the 1980s to occupy foreign markets like the United States to the extent of global trade disputes [16]. Nevertheless, the imports of foreign advanced technologies could only increase its international competitiveness in the short term; MITI needed to think of another strategy to deal with low levels, or absence, of R&D in Japanese companies over time in order to be out-standing in global markets [20].

2.2.2 Large-Scale Cooperation

MITI thereby initiated cooperative R&D programs among Japanese firms in the 1960s. The cooperative R&D programs were meant to promote the cooperation of the competing Japanese companies under MITI's diffusion mechanism of the foreign advanced technologies to foster innovation effectiveness [20]. In other words, as the competing firms engage in cooperative R&D under the well-organized projects guided by MITI, they formed a common purpose of working together to learn from advanced technologies to promote the domestic innovation progresses rather than competing internal friction [3]. MITI had viewed cooperative R&D as an effective tool to promote Japanese companies' international competitiveness [20] by creating a unified and stable home market for companies focused on innovation [3].

To stimulate the efforts of cooperative R&D programs, MITI supported the Very large Scale Integrated (VLSI). Participating companies benefited from their research expenses due to this program through the significant number of R&D subsidies, and corporations must create R&D consortia to earn considerable amounts of R&D subsidies [21]. The strategy was sound. During the 1970s, Japan's semiconductor firms encountered severe competition from the international markets; the Japanese government then urged the large-scaled tech companies to integrate to cope with the international competitors. In the beginning, companies including Toshiba, Hitachi, and Mitsubishi reluctantly agreed to join the cooperative research association; nevertheless, they all participated in gaining the governmental subsidies [22]. MITI accumulated almost all national champions of semiconductors and computers to form a cooperative laboratory of R&D. MITI also nominated Tarui from its Electra-Technical Laboratory, well-known in the Japanese semiconductor industry, as a pioneer a supplementary director to guide VLSI [22]. The achievements were eminent as from the 1970s to 1987, Japan's semiconductor production equipment grew its market share from 10% to 35% [23].

3 Conclusion

The whole paper has mainly examined the roles of MITI at the domestic level and international levels. At the household level, MITI played roles in consolidating the government

and market in front of the U.S. Anti-Monopoly Law enforcement by utilizing informal advisory to regulate and guide industries' production. MITI also adjusted the industrial policies from the primary sector to informational technologies regarding long-term economic sustainability. MITI's functions were improving the global competitiveness of Japan's tech-companies international competitiveness at the international level by loosening the imports restrictions on foreign advanced technologies and promoting the cooperative R&D programs to appeal to domestic tech national champions to foster innovation. Examining both levels can prove MITI's contribution to Japan's economic recovery and development.

The facts of MITI's contribution also proved that government intervention and guidance in the market helped promote national growth in Japan's case. However, the points of MITI may not be suitable for every developing country. Before learning the MITI's pattern, it is significant to compare the domestic conditions with Japan's in the post-war period. Under the dominant trend of market liberalization, MITI, as a famous case during Japan's rapid transition from a developing country to a developed country in the Asia region, has been an example of the midpoint between the complete statism and free market. The economic miracle period of Japan has endured for almost four decades until the economic bubble collapsed in the 1990s. MITI flexibly adjusted according to the market's needs and trends. Researchers may examine the transitions of MITI's roles of different timing to figure out the balance between governmental intervention and market-self regulation.

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