

The influence of Japanese industry towards Economy Miracle

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Abstract. As the country that has lost World War 2 (WW2), Japan's economy has become into a disaster for decades. However, currently, Japan is the world second largest economy country in the world. How did a defeated country recover from war so fast? In this article, our argument is that industry is the reason why Japan has created their economic miracle. To support our argument, we break down Japan's development history into three periods, and by analysis these time periods and Japan's political policy, we can support our hypothesis that Japan's economic miracle was caused by their industrial power.

Keywords: Economy, WW2, Japan's economy, Japan's economy miracle, Japan's Industrial power, Politics, Industrial policy.

1. Introduction

In 1945, Japan's economy collapsed because of their lose in WW2. Japan's industrial output has collapsed to almost 30% of prewar period. The lack of food, inputs, and energy has led to economic inflation, making it much harder for Japan to recover from the war. After WW2, Japan's economy has become into a total disaster. Industrial and mining production has lost almost 90% compared to pre-war period. Food crisis and inflation has been spread throughout the country. During 1940s, which is right after WW2, Japan's economy has dropped dramatically. However, within a couple years, Japan's economy has started to increase in an incredible speed and eventually catch up to the top level of economy.

In this article, our argument is that industry is the reason why Japan has created their economic miracle. Currently, Japan's industrial production is on the top of the world's list, and many of their products can be seen worldwide. Electronics like Sony, automobiles like Toyota and Honda, has now helped Japan's economy to grow dramatically. Since 1955, the Japanese economy has entered a period of rapid growth.

2. Organization of the Text

2.1 War period (1941-1945)

During the year between 1941 and 1945, Japan has entered the war period, which has caused not only Japan's society downturn. The population has declined dramatically, with 1.85 million people has lost their life. Material and other resources have also faced a huge loss. 25% of national wealth has been lost, causing Japan's economy crisis. In 1945, Japan's industrial output has collapsed, which has lost 90% of prewar period. All of this disaster, including the lack of food, inputs, and energy has led to economic inflation, has made it much harder for Japan to recover from the war. In order to catch up with this collapse of economy, Japanese government has made a decision to print more money to finance subsidies, while imposing the price control over the market. However, this strategy did not work well, which further increased the inflation during this period.

2.2 Post-War recovery period (transition period 1945-1970)

By the year of 1946, living standards has reached its lowest. Shortage of food has made many people starting to starve to death, while another serious problem has also raised, which is unemployment. 10 million people has lost their jobs. This mass unemployment and huge food shortage caused Japan's devastation period. During this period, U.S. occupied Japan and starting to force democratization and demilitarization in the country. A new constitution has been made in order to guide Japan's economy to get back on track. Many key factors have been involved in the path of Japan's economic recovery.

First, when U.S. occupied Japan since 1945, they forced democratization and demilitarization. When democratization has been implemented to Japan's political and economic system, heavy industry has been allowed to grow. More and more heavy industry has been created, which has become into a milestone for Japan's future industrial power. As for demilitarization, the cost of military has been cut down and government has put those wages into society usage, which on the other hand, gives a hand to Japan's society to recover from the war. Japanese government mainly targeted the production of coal and steel, leading the economy to start to recover slowly.

Another big action that has been done during this period is land reform. During this period between 1945-1947, many people have lost their job and Japan's economy has faced inflation, which has made life much more difficult for people to live. U.S. has enforced labor contracts and increased social welfare in order to help these people to sustain their life, and further, supported Japanese society's economy at the time. In 1946, U.S. has ordered a land reform that aims to rise residential owned lands. Policies on land ownership has been forced to transfer, making lots of people that are well educated lost their job. The result of this action is that owned land has been increased by almost 40%, which further lead Japan's agriculture back to small family farming.

The third action that U.S. took was to implement new labor laws. By the year of 1947, U.S. has applied three major labor laws to Japan's society, which includes Labor Union Act, the Labor Relations Adjustment Act, and the Labor Standards Act. These three-labor law contains some features like the prohibition of public servant and unemployment benefits. After the economic environment in Japan has been improved, the U.S. started to shift its focus to helping Japan to rebuild its economy.

To solve Japan's severe financial crisis, under the General Headquarters (GHQ) of the Allied Forces in Japan led by General MacArthur, the Japanese government began to research the issue of property tax collection. In November 1946, Japan's 90th Imperial Conference approved the Property Tax Law. According to the regulations, all people, not matter what their classes are, must pay property tax. The rate of this tax was extremely high, which the highest tax has reach to 90%. Even the royal family of Japan must pay this high rate of taxes. 90% of the royal family's property was confiscated, and the remaining 10 percent was labeled as "national property" in Japan's new constitution. The Emperor of Japan has almost nothing except the imperial palace, the three ancestral artifacts, and clothing and daily necessities. And even now, the Japanese royal family can be regarded as the "poorest" royal family in the world compared to the property owned by royal families in other countries such as Britain and Spain. The implementation of the property tax completely wiped-out lots of big landowners in Japan at that time. However, even though this action seems to be unreasonable for those landlords, it had an important contribution in the redistribution of wealth and the democratization of the economy for future Japan's economic recovery. By the mid-1950s, the Japanese economy has returned to its prewar level.

2.3 Post-War recovery period (transition period 1945-1970s)

The world experienced an oil crisis in the 1970s, which caused the price of crude oil to soar. In 1979, the second oil conflict hit, and within two years, the price of crude oil had jumped from \$12 to \$40. Oil prices after World War II stayed at \$2 for a very long period of time, the \$40 oil price meant a 20-fold rise. This was followed by a dramatic increase in the cost of gasoline, kerosene, electricity, and other goods, which struck industrialized nations in Europe and the United States with a

devastating blow, particularly the heavy industries that primarily rely on oil. The worst affected nations are those that relied heavily on the import of raw commodities, such Japan, and the United Kingdom. Since then, the British economy has been in a protracted period of stagnation, but Japan's economy has grown, opposite to the trend. And when the oil crisis impacted the entire world, Japan defied the trend and attracted everyone's attention. Japan embarked in its heyday in the 1980s. The United States was no longer the world leader in automotive manufacture in 1980. Stock values are rising as the economy is flourishing. At their height, Japanese corporations made up close to half of the global enterprise value. The cost of housing has also soared. In 1990, the cost of an apartment in the Tokyo area was 20 times greater than the average yearly per-capita income, while such cost in Tokyo's outskirts was 10 times greater than the yearly per-capita income.

3. The Characteristics and Effects of Japan's Industrialization Development

Japan is still a powerful manufacturing nation today. China now has more patent applications than Japan, but Japan still outperformed China in terms of quality and significance, and Japan continues to lead the world in a variety of disciplines, including biomedicine, novel materials, robots, resource repurposing, and ecological environmental conservation. Why is Japanese industry so successful? The answer to this issue may be broken down into five fundamental factors, which will be the focus of the authors' major arguments from the perspectives of historical heritage, dynamic evolution, and social culture.

First and foremost, Japan's manufacturing economy is built on an emphasis on education and developing professional expertise. Japan made education development a top priority after losing the Second World War in order to bolster the economy and close the gap with European and American nations. The compulsory schooling duration for those of school age was increased from six to nine years in 1947 as Japan amended its basic education law and school education law. After that, the country concentrated on popularizing high school education. Nowadays, Japan is regarded as one of the nations with the greatest level of education in the entire world. The expansion of the industrial sector has benefited greatly from the prominence of vocational education, which is a significant component of the Japanese educational system.

Second, the foundation of a robust Japanese manufacturing sector is a concentration on technological advancement and high-quality goods. In order to encourage businesses to adopt cutting-edge foreign technology, Japan has created and enacted the "foreign investment law", aiming to reduce its significant economic gap with countries such as European and American countries. Japan has imported twice as much foreign technology throughout the time of fast economic growth. Businesses have developed and innovated these technologies, which enable them to make goods that meet market demands at the time and further, hastening Japan's pace of trying to catch up with Europe and the United States. A study by the Organization for Economic Cooperation and Development has found that technical advancement was mainly responsible for Japan's economic growth rate being faster than that of the United States from the 1960s to the mid-1980s. The impact of technology introduction in Japan rapidly diminished as their degree of technological advancement and economic might increase, and therefore its technological growth started to shift toward independent research and development. Industrialization of achievements and technological innovation frequently resulted in increased product performance and additional value. However, it is challenging to accomplish the original objective of innovation if the product quality cannot be ensured during the production process. Cutting-edge Japanese products have been synonymous with the high quality that consumers throughout the world seek due to the formation and preservation of this attitude, which has encouraged the high-quality development of the Japanese manufacturing industry.

Third, the Japanese government has provided advice and policy support to its businesses with the purpose of fostering a positive institutional framework. A variety of industrial policies in accordance with the various phases of domestic industrial development, directs the production and operational strategies of businesses, and offered assistance in the areas of finance, finance, taxation, and

technology to support the modernization of the industrial structure were legislated and executed by the Japanese government. Japan adopted the "inclined production mode" in the early post-war era, which utilized the scarce resources in a coordinated manner and progressively expanded to other industries after tilting to the coal industry. In order to encourage business financing, Japan developed governmental financial institutions in the 1950s, including the Japan Development Bank, the Export-Import Bank of Japan, and the Financial Public Treasury for Small and Medium-Sized Enterprises.

Fourth, Japanese businesses have prioritized on-site training and the development of strong working relationships. Important policies that the Japanese enterprise management system has suggested since the war include the lifelong employment system and the annual merit sequence system. Because of the secure employment connection, businesses frequently make long-term investments in their staff in order to develop and enhance their skill bases, on-the-job competencies, and overall quality. Typically, business managers begin at the ground up. They have a deeper grasp of the base level since they have gone through job rotation and advancement level by level, and they typically implement practical solutions in accordance with the scenario. This "beginning from scene" scenario is now a crucial component of the Japanese manufacturing sector's formation of a global comparative advantage. Additionally, Japanese businesses put a lot of effort into creating strong and long-lasting cooperation relationships. For instance, several small and medium-sized businesses cluster around larger ones to manufacture for them and supply them with raw materials and parts; businesses of all sizes collaborate to create both upstream and downstream industrial processes and accomplish shared progress. As Japan's economy changes and structural reform is continually pushed, more and more small and medium-sized businesses are venturing into new industries. This increased industry factory and manufacturing force competition has significantly boosted the Japanese economy.

Last but not least, the inherent shortcomings of national resources and markets have been compensated for by firms' operations on a global scale. Japan places a high priority on the growth of international trade due to its limited resources and market. The growth rate of Japan's export was still higher than the growth of the economy in general, the trade surplus was increasing, and the country's position as the world's top manufacturer was stable despite the yen's appreciation against the US dollar. This was made possible by the country's ongoing industrial structure upgrades and the steadily improving export competitiveness of manufactured goods. The firms have handled raw material concerns through the growth of foreign commerce, increased the sales of products abroad, and established a pattern where the growth of industry and external trade were dependent on and supported by one another. With the economic development and the increasing strength of enterprises, overseas direct investment has become an important part of the internationalization strategy of Japanese enterprises. At present, the overseas production ratio of Japanese manufacturing industry has reached 25%, especially in the transportation machinery industry such as automobiles, and there is a trend of "localization" of sales.

Therefore, both local and foreign forces, conventional and constructive aspects, political and cultural factors, as well as both macro- and microeconomic ones, were responsible for Japan's ability to experience rapid economic growth following the war. Capital, manpower, technology, institutional context, resources, and markets were significant elements that affect economic growth, according to the theory of economic growth and the experience of industrial prosperity in different countries and regions.

4. Post-war Japan, politics, economic and industrial policy

After Japan surrendered when the Second World War ended, American General MacArthur took control of the Japanese governing authority on August 29, 1945, and the period known as the Allied Occupation of Japan [5]. Under MacArthur's rule, under the influence of New Deal policies, the legal controls of the incumbent bureaucrats were preserved, socialist politicians were rehabilitated, and a socialist Prime Minister – Katayama - was able to form a government [6]. However, Japan started to face crisis with low production outputs, food shortage, high unemployment and inflation, and rampant

trade in the black-market. Japanese voters elected a conservative Prime Minister Shigeru Yoshida in 1948 who struck down the state-planning apparatus and brought in capitalist-orientated policies [6,7]. The key economic policy implemented before 1948 was called “priority production scheme”, which means directing crucial economic resources like coal to critical sectors like steel [6]. Nevertheless, the scheme ended up failing due to the government set the coal price below the cost of producing coal with only partial compensation for the price difference resulting in huge losses for mining firms and caused high inflation [6-7].

Figure 1. Japanese general elections result.

Party/Elections	Share of vote			
	1946 General Elections	1947 General Elections	1949 General Elections	1952 General Elections
Liberal (right)	25.4%	26.5%	44.4% (as the Democratic Liberal Party)	48%
Socialist (left)	18.2%	26.3%	13.5%	22.6% (12.8% for right-wing socialists and 9.8% for left-wing socialists)
Democratic (right)	-	26.3%	15.8%	-
Progressive (far-right)	20.3%	-	-	-
Communist (far-left)	3.8%	3.7%	9.8%	2.5%
Cooperative (centre)	6.3%	7%	3.4%	18.8% (merged into the Reform Party)
Independents	14%	6.6%	6.2%	6.4%
Others	12%	3.5%	6.9%	1.7%

Figure 2. left versus right comparison in terms of share of votes in Japanese general elections, 1946-55, authors’ illustration

Political “camps” based on ideology	Share of vote					
	1946 General Elections	1947 General Elections	1949 General Elections	1952 General Elections	1953 General Elections	1955 General Elections
Left-wing (socialist, communist, etc.)	22%	30%	23.3%	25.1%	28.4%	31.2%
Right-wing (Democratic, Liberal, Democratic Liberal, etc.)	45.7%	52.8%	60.2%	48%	48.3%	63.4%
Center	6.3%	7%	3.4%	18.8%	18%	-
Others	26%	10.1%	13.1%	8.1%	5.3%	5.4%
Right vs Left vote ratio	2.077	1.760	2.584	1.912	1.701	2.032

Other policies that were enacted during the Occupation period (1945-1951) including breaking-up companies that were accused of fueling militarism, new labor laws guaranteeing workers' right on organizing labor unions, collective bargaining, and basic dignified working conditions; land reform – farmland exceeding certain limits that owners were not actively farming on were confiscated and sold to farmers [7]. The new constitution was enacted in 1947, in which it featured clauses such as “sovereignty rests with people”, renunciation of war, guaranteeing human rights, and the separation of power among legislative, administrative, and judicial branches [7].

The authors believe that during the Occupation period, the “tug-of-war” between statist planning and market-orientated policies, political instability as Japan saw 5 Prime Ministers over the three years between 1945 and 1948 [8] hindered economic and industrial development of Japan during the said period. On the other hand, with the new constitution in place and reforms in land ownership and labor rights, they gave the precedence of political and societal stability in Japan for the decades to come and to facilitate economic and industrial growth.

In the 1949 election, after the Liberal Democratic Party won a majority government for the first time in Japanese history after ousting the unpopular socialist government led by Yakatama, the political chaos started to settle and stabilize. In order to gain power, both the socialists and the conservatives began to consolidate their power by merging with smaller parties with similar ideologies, and this process was completed by the 1955 elections despite external pressures faced by both camps, for example, the businesses and the labor unions [9].

From 1955 onwards, the vote share of the Liberal Democratic Party versus that of the socialists was approximately 2:1 in every subsequent election, thus securing stable Liberal Democratic majority governments for the decades to come [9]. The dominant party system is known as the 1955 system [9]. The authors also conclude from figure 2 that Japanese voter had been heavily favoring right-wing conservative parties during the first six elections in the post-war period, gaining on average 2.011 times higher share of votes more than the left-wing parties. This result yields very similar result as right/left share of votes ratio under the 1955 system in the 1958 election and thereafter [9]. The authors consider that voters' preferences directly contributed to the establishment of the dominant-party 1955 system in a democratic way. Moreover, the majoritarian electoral system used in Japan during the period – single non-transferable vote, could lead to one party winning all seats in a constituency [10]. Also, due to intra-party competition, the candidates who could bring government projects to the constituency would be more popular, combined with the governing party have an advantage in bringing in projects, the electoral system indirectly made the Liberal Democratic Party even more dominant and paving the way for corruption [10].

The political stability, with quasi one-party rule and policy consistency from 1955 onwards was able to bring rapid industrialization and economic development, as the total employment increased from 36 million to 50 million, employment in the secondary (industrial) sector increased from 21.9% to 33.6% between 1950 and 1980 [10]. The government launched industrial policies in 1956 that promoted competition but at the same time protection from excessive competition and bankruptcy, thus allowing enterprises to take adventurous actions [9]. In the 1960s, the government passed industrial policies initiatives to the private sector.

5. Suggestions of Industrial Development Models

The authors suggest that from the determinants of Japan's successful example of economic and industrial development, Japanese policymakers should continue to focus on the five factors that were previously mentioned - education and professional training, technological progress, government policies that guide and support enterprises, onsite practice and maintaining cooperation, and the development of the foreign trade. For the political side, from 1955 to today, the Liberal Democratic Party ruled for most of the time while other parties ruled less than a decade in total, the political stability and policy consistency that facilitated Japan's industrial and economic development have

been largely preserved. However, the authors will not give any political suggestions because the political situation in Japan and the governing party lie in the votes of the Japanese people.

The successful story of Japan could also be found on other Asian countries, once or still, essentially ruled by one party or had an outright dictatorship. For example, Singapore and South Korea. Singapore also features a majoritarian electoral system so that the People's Action Party can win overwhelming majorities in the legislature, thus guaranteeing stable governments and consistent policy over the decades. Perhaps what contributed more to make the governance easier and more effective is that Singapore has a unicameral legislature while Japan has a bicameral system [11]. Stable governments in Singapore yielded substantial economic growth just like post-War Japan.

6. Conclusion

In conclusion, Japan's success story of post-war economic and industrial development was a result of policy guidance from US influence and more importantly, domestic industrial policy making and political stability. However, it should be noted that special historical circumstances like the Allied Occupation of Japan would not be repeated elsewhere, and political stability would heavily be depending on specific situations of the country in question. As such, for policy makers from other countries, Japan's example of domestic policy making should be taken note of. Japanese policy makers were also able to make policies that fit into the circumstances of the country at a certain time, the global trend, and the advancement of technology. It is considered crucial that policy makers understand the current domestic and international economic, industrial, trade, and even geopolitics to make the best decision for the time being. For example, Japan was able to take advantage of the Korean War, a major geopolitical event in the region at the time.

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The authors would like to note that this paper could have included more extensive data and analysis, with also more detailed case examples of Singapore and South Korea. Considering the extremely tight time frame available and authors' other academic commitments, the authors were unable to include these contents into this paper.

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