



INTERNATIONAL TRADE REVIEW OF ASIAN TIGERS COUNTRIES (2000-2020)

Tuba BOZKURT^{1*}, Çağatay KARAKÖY²

¹Sivas Cumhuriyet University, Faculty of Economics and Administrative Sciences, Department of International Trade and Logistics, Sivas, Turkey, tubanilahub06@gmail.com

²Sivas Cumhuriyet University, Faculty of Economics and Administrative Sciences, Department of International Trade and Logistics, Sivas, Turkey, ckarakoy@cumhuriyet.edu.tr

Abstract: East Asian countries have a significant share in world trade and production. Taiwan, Hong Kong, Singapore, and South Korea, also known as Asian Tigers, stand out among other East Asian countries. These countries have come to a position that directs world trade in the last quarter-century with their growth rates, competitive advantages they have achieved in their markets, and the level they have reached in the field of technology. From this point of view, this study investigated the foreign trade activities of the Asian Tigers countries (Taiwan, Hong Kong, Singapore, and South Korea) for the 2000-2020 period and to determine the countries with which the Asian Tigers trade the most. The data used in the study were obtained from the "World Trade Organization" and "Trademap" sites. The Asian Tigers have had a financially solid and successful period every year. They have a successful economic policy that can quickly overcome crisis periods with minor damage. It has been seen that they are among the best countries in foreign trade with their export-based foreign trade policies and technology infrastructure investments.

Keywords: International trade, Asian Tigers, Export, Import, Economic Policy, Trade Balance

Original scientific paper

Received: 01.04.2022

Accepted: 19.04.2022

Available online: 11.05.2022

1. Introduction

The term "Tiger" in the expression "Tigers of Asia" is dedicated to the Southeast Asian countries that experienced a period of tremendous and rapid economic growth from 1965 to 1995. The countries in question, called Tigers, are Taiwan, Hong Kong, South Korea, and Singapore. Asian Tigers countries have brought themselves to the position of developing countries with the reforms they have implemented in the economy and education. The Asian Tigers, which found themselves in the top ten of the best economies in international trade, stood out from other Southeast Asian countries with these achievements. It draws a financial and social policy model that supports the country's development, such as technology and export-oriented financial policies, maintaining an import-substitution approach, state-supported economy approaches,

* Corresponding author

training its employees on imported new technology, and switching to knowledge-intensive production.

Asian Tigers member countries can accurately identify the changing consumer needs every period and shape their production activities according to these needs. Like this; With their flexible and adaptable structure, they achieved high success in both domestic and foreign trade in a short time. In this study, foreign trade data (total exports, total imports, export exchange rate, import exchange rate, foreign trade balance) for the period of 2000-2020 were examined by giving information about Asian Tigers countries. In addition, the countries with which these countries have the most foreign trade have been revealed. According to the results obtained from the data, Asian Tigers member countries have achieved a technology and export-oriented growth model. It is seen that these East Asian countries, which have adopted the knowledge-intensive production model with their investments in education, have become developing countries by developing themselves both financially, technologically, and socially. The study results showed that other Asian Tigers member countries are among the top five trade partners with which these countries have the most foreign trade.

2. Asian Tigers Literature Review

With the study carried out by Montenegro in 2018, it aims to examine the public policies and strategies in Singapore, Taiwan, Hong Kong and South Korea, which are called East Asian Tigers, within the scope of entrepreneurship and to determine the effects of these policies on the development of the entrepreneurial ecosystem. The study was analyzed through the data of global entrepreneurship indices. It has been determined that the results obtained from the analysis are of great importance in the progress of the entrepreneurial ecosystem, the facilitating and encouraging role of the state in the Asian Tigers countries. In addition, it has been stated that being integrated with technology networks and state-sponsored policies and incentive supports in the field of entrepreneurship have positive effects on ecosystem entrepreneurship (Karadağ, 2018). In another study, it was investigated how Taiwan became one of the countries producing information technology today. The results are presented to the service of science. The source scanning method was used to reach the data in the research. According to the findings obtained as a result of the research, it has been seen that the government has given significant support to labor-intensive sectors and education services in Taiwan's reaching the position of being an important country producing information technology. In addition, it has been stated that factors such as primitive Taylorism, Fordism, and flexible specialization are effective with the support it provides (Arslan & Ayhan, 2018).

Külünk (2018), in his study, examined the economic growth dynamics of East Asian countries Taiwan, Singapore and South Korea and the growth dynamics of the Turkish economy. It aimed to reveal the similarities by comparatively explaining the examples of countries that have successfully realized the technology and export-oriented growth model over the same period. In the study, the economic growth processes of the East Asian countries were examined. The growth processes of these countries are based on their unique break or rise periods, and the variables affecting their economic growth were investigated with panel data analysis. Granger Causality Test was used to determine the effect direction of the variables in the analysis. Taiwan, Singapore, South Korea and Turkey for the period 1996 – 2014; As a result of the panel data analysis, it was stated that the dependent variable GDP was explained by 70% of the independent variables R&D expenditures, Trademark applications, Savings and Exports (Külünk, 2018). Kirca's (2021) study examines the relationship between R&D expenditures and per capita income for the Asian Tigers (Hong Kong, South Korea, Singapore, China) and Turkey. In the study covering the period 1998-

2016, the data (1998-2016) were used. The bootstrap panel causality test was used to analyze the relationships between the variables related to the subject examined in the study. Konya developed the test in question in 2006. According to the findings obtained as a result of the research, it is stated that the coefficients of causality relations are positive. It is seen that there is a one-way causality relationship from R&D expenditures to per capita income in Hong Kong and South Korea. In addition, it was stated that there is a one-way causality relationship from income per capita to R&D expenditures in China and Turkey (Kırca et al., 2021).

3. Foreign Trade Review of Asian Tigers Countries

In this section, the economic development process of Asian Tigers countries will be explained and their situation in foreign trade will be revealed with tables and graphics within the 2000-2020 period data.

When the growth rates of the Asian Tigers countries (Taiwan, Hong Kong, South Korea, Singapore) are examined, it is observed that all four countries recorded almost continuous and positive growth until 1995. On the other hand, the great Asian financial crisis in 1996 (which started in the Thai Stock Exchange in July 1997) affected many East Asian countries until the collapse of their currencies and stock markets (Historical Events.) somehow dropped it. However, the Asian Tigers managed to overcome this great crisis very quickly. This situation has caused many economists to refer to the issue as the “Asian Miracle” (Jones, 2007). Factors underlying success include moving the workforce from less productive areas to more productive ones. It is said that Asian tiger countries have achieved this movement since the 1990s (McMillan et al., 2014). The main features of the states in the East Asian region are that they are states with a developmental structure. The main reason behind the success of South Korea and Taiwan is that they have selective industrial policies because they implement an open policy programmed to create thriving export industries (Öniş & Şenses, 2007). Behind the rapid growth success of Asian Tigers countries; High-saving structures, giving importance to infrastructure investments, having determinative effects of governments in the market, and allowing financial flows have been effective (Stiglitz, 1996).

The main factors that lead to the rapid and sustainable economic growth of the Four Asian Tigers can be grouped into four items (Kaplan, 2015: 74):

These:

- Initial conditions,
- Natural resources and geography,
- Government policies,
- Demographic factors.

The economic policy that affects economic growth has been seen as openness in trade. The Four Tigers were among the world's most open-to-trade countries during the 1965-1990 period. As an example of the basic policies taken to allow international trade;

- Reducing tariffs for both import and export goods,
- Reducing trade restrictions,
- Removal of barriers to international capital inflows can be granted (Akyıldız, 2021).

Asian Tigers; They have invested heavily in areas such as education and infrastructure to support their country through high-level people such as skilled workers, engineers, and doctors. This policy was generally successful and brought their countries to the level of high-income

industrialized developed countries (Taban & Kar, 2006). In the period following the implementation of these policies, Asian Tigers countries experienced a period of rapid growth. It is seen that this period was a period that adopted the modern and western education system. During the Second World War, they were directly or indirectly influenced by the characteristics of the Western education system through colonial countries (Yardımcı, 2006). Asian Tigers countries have made social studies and reforms that increase the welfare level of both the economy and society. Thus, it has been separated from other East Asian countries by showing a continuous and rapid growth.

In the future parts of the study, the member countries of the Asian Tigers are examined in order. First of all, information about Taiwan, one of the Asian Tigers member countries, is given, and detailed information on Taiwan's economy is presented with tables and graphics.

3.1. Taiwan

During the Geographical Explorations, European countries opened up to the oceans to find new trade routes. Taiwan was first discovered by the Portuguese and was called "Formosa" (Jacobs, 2014). In 1949, Taipei was declared the capital and the Republic of China was established (Morris, 2004). Taiwan is an island country located in the Pacific Ocean, 160 km off the southeast coast of mainland China (Ankara Chamber of Industry). Taiwan has the distinction of being the first Asian Tiger member state. The country was liberated from Japanese rule in 1945. Until the 1950s, Taiwan had an economy based on agricultural production and exports, with very limited natural resources. In the following process, while agricultural production is being developed, on the other hand, a two-pronged economic policy based on industrialization through import substitution has been planned (Aydın, 2014). Import substitution policies were introduced in the early 1950s. In this case, customs tariffs were increased, quotas were placed on some goods, and these policies were successful in the late 1950s. From the 1960s, incentives began to be given to exporters. The Export Oriented Production Zones (IYÜB), which is unique to Taiwan, constituted the most striking example of the policies of opening up. After the oil crisis, Taiwan started to move from capital-intensive areas to technology-intensive areas since the 1970s. In 1986, the 10-year Science and Technology Plan was approved. Thus, the share of R&D expenditures in GNP was increased to 2% in 1995. The share of the private sector in R&D expenditures was also increased by 60% (Yülek, 1998).

Taiwan has extensive trade relations with China and is its largest export market. China occupies a significant place in Taiwan's exports, especially in electronic products. In order to benefit from the cheap costs in China, Taiwanese exporters produce in China and export them to EU countries, Japan, and the USA through re-export. At the beginning of Taiwan's most exported products;

- Electronic integrated circuits,
- Petroleum oils and oils obtained from bituminous minerals,
- Liquid crystal equipment, lasers, other optical devices, and instruments are available.

Most export goods contain imported inputs. For this reason, besides the increase in exports, there was also a significant increase in imports. There has been a steady increase in the imports of raw materials such as petroleum and mineral ores. Taiwan, in the years when the harvest was not productive in agriculture; Imports of basic foods such as soybeans and corn have also increased. The most imported products of Taiwan are as follows;

- Electronic integrated circuits,
- Crude oil,

- Petroleum oils and oils obtained from bituminous minerals (Ankara Chamber of Industry).

Foreign trade data of Taiwan, one of the Asian Tigers countries, for the period 2000-2020; Total exports, total imports, and foreign trade balance are given in Table 1.

In addition, Taiwan's export exchange rates and import exchange rates are also given in Table 1.

Table 1. Foreign Trade Data for Taiwan 2000-2021 (Billion Dollars)

Taiwan/ Year	Total Exports	Export Exchange (%)	Total Imports	Import Exchange (%)	Foreign Trade Balance
2000	151,357		140,642		10,715
2001	125,900	-16.82%	107,944	-23.25%	17,956
2002	135,080	7.29%	113,331	4.99%	21,749
2003	150,298	11.27%	128,130	13.06%	22,168
2004	182,432	21.38%	169,250	32.09%	13,182
2005	198,432	8.77%	182,614	7.90%	15,818
2006	224,017	12.89%	202,698	11.00%	21,319
2007	246,677	10.12%	219,252	8.17%	27,425
2008	255,629	3.63%	240,448	9.67%	15,181
2009	203,675	-20.32%	174,371	-27.48%	29,304
2010	274,601	34.82%	251,236	44.08%	23,365
2011	308,257	12.26%	281,438	12.02%	26,819
2012	306,409	-0.60%	277,324	-1.46%	29,085
2013	311,428	1.64%	278,010	0.25%	33,418
2014	320,092	2.78%	281,850	1.38%	38,242
2015	285,344	-10.86%	237,219	-15.84%	48,125
2016	280,321	-1.76%	230,568	-2.80%	49,753
2017	317,249	13.17%	259,266	12.45%	57,983
2018	335,909	5.88%	286,333	10.44%	49,576
2019	330,622	-1.57%	287,164	0.29%	43,458
2020	347,193	5.01%	288,053	0.31%	59,140

Source: WTO (World Trade Organization)

Table 1 presents Taiwan's foreign trade data for the period 2000-2020. According to Table 1, Taiwan's economy contracted in total exports and total imports during the 2001 crisis. The exchange rate of exports decreased to -16.82% and the rate of exchange of imports to -23.25%. In 2009, a decrease was observed in the total import and export figures. Exchange rates, on the other hand, fell into negative. Taiwan's economic growth rate declined between 2008 and 2009. It can be said that the reason for this is the global crisis that took place in 2008 and affected all developing countries. (*The 2008 economic crisis started in the US mortgage market in mid-2006 and soon affected the US and European markets. It is a finance-based crisis, and as of the end of 2008, all world economies began to be adversely affected by the crisis*) (Ateş, 2011). There was a contraction in foreign trade in 2010-2016, and growth rates declined in this period. Growth rates declined during this period, but Taiwan's economy recovered in 2018. It is seen that the economy started to decline again in 2019 with the COVID-19 epidemic that loomed throughout the world. In Table 1, a contraction is observed in all of Taiwan's 2019 foreign trade values. In 2020, it is seen that this

negative progress has improved. Taiwan's foreign trade data (total exports, total imports, foreign trade balance) for the period 2000-2020 are presented graphically.

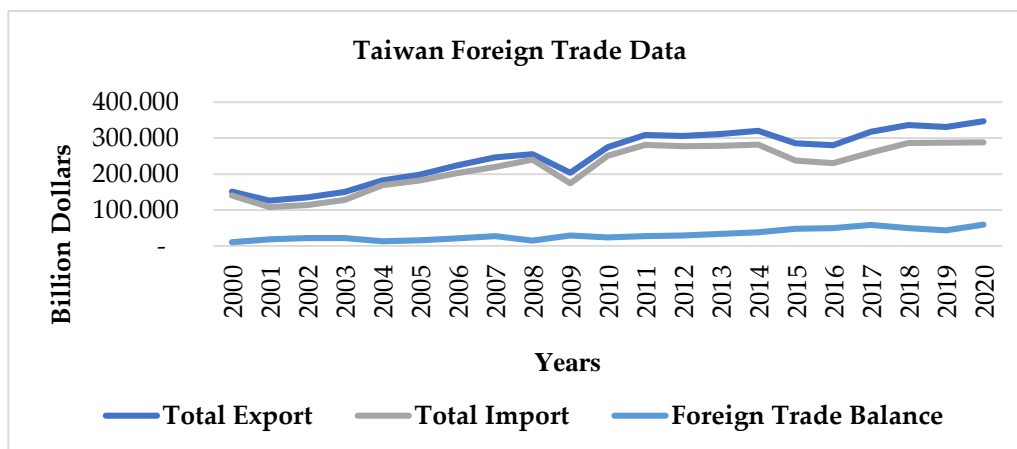


Figure 1. Taiwan Foreign Trade Data
Source: WTO (World Trade Organization)

Graph 1 shows Taiwanese foreign trade for the period 2000-2020. With the economic reform implemented in China from the 1980s to the present, a continuous development and economic growth has been recorded. According to the data in Chart 1, Taiwan's foreign trade was adversely affected in 2008, and the upward progress in foreign trade was replaced by the economic crisis. The 2008 crisis led to a contraction in the export-oriented Taiwanese economy. As of 2010, this negative effect has started to recover. According to Chart 1, the lowest level of foreign trade (export-import) in the 2000-2020 period was around 100 billion dollars in 2001, and the highest level was 350 billion dollars in 2020.

The future section provides information about Hong Kong, one of the Asian Tigers member countries.

3.2. Hong Kong

Hong Kong is a Chinese metropolitan area and particular administrative region located in the Pearl River Delta on the South China Sea coast. Officially, it is the Hong Kong Special Administrative Region of the People's Republic of China. Hong Kong, which industrialized rapidly in the second half of the 20th century, has evolved into a service-oriented economy at the end of the century. The region has one of the largest manufacturing economies in Asia during the second half of the colonial period. However, with the relocation of the manufacturing industry to the mainland of China in the 2000s, the service sector has grown even more. For this reason, the Hong Kong economy is now dominated by the service sector. Currently, more than half of employment is provided by the service sector. Prominent commercial areas are trade, logistics, finance, maritime, tourism and textile sectors. Due to its geographical structure, it is pretty mountainous, and its lands are small, so it is unsuitable for agricultural production and is very poor in terms of raw materials. The country imports most of its food products and raw materials. Except for some unprofitable mines, the only and most important natural resource is the port of Hong Kong, and it is dependent on foreign sources even in terms of water, even though it rains all year (T.R. Ministry of Commerce).

According to 2018 data, Hong Kong ranks eighth in world import and export and seventh in terms of total foreign trade volume. The most important partner of Hong Kong in foreign trade is the People's Republic of China, and China meets more than half of the foreign trade. Other prominent countries in this sense are the USA, Japan, South Korea, and Singapore (Department

of Statistics Singapore) The prominent countries in Hong Kong's exports are China, the USA, India, Japan, and Thailand. In terms of imports, the main countries are China, Taiwan, Japan, Singapore, South Korea, and the USA (Trademap). The products that Hong Kong exports the most.

- Electronics, machine spare parts, nuclear components,
- Pearls and precious stones,
- Optical materials,
- Plastic products and watches.

The prominent products in the import are

- Electronic products,
- Mineral oils and fuels,
- Cosmetics,
- Food products (Trademap).

Hong Kong's 2000-2020 foreign trade data is given in the table below.

Table 2. Hong Kong Foreign Trade Data (Billion USD)

Hong Kong/ Year	Total Exports	Export Exchange (%)	Total Imports	Import Exchange (%)	Foreign Trade Balance
2000	202,683		214,042		-11,359
2001	191,066	-5.73%	202,008	-5.62%	-10,942
2002	201,928	5.68%	207,969	2.95%	-6,041
2003	228,708	13.26%	233,249	12.16%	-4,541
2004	265,543	16.11%	272,893	17.00%	-7,350
2005	292,119	10.01%	300,160	9.99%	-8,041
2006	322,669	10.46%	335,754	11.86%	-13,085
2007	349,386	8.28%	370,132	10.24%	-20,746
2008	370,242	5.97%	392,962	6.17%	-22,720
2009	329,422	-11.03%	352,241	-10.36%	-22,819
2010	400,692	21.63%	441,369	25.30%	-40,677
2011	455,573	13.70%	510,855	15.74%	-55,282
2012	492,907	8.19%	553,486	8.35%	-60,579
2013	535,546	8.65%	622,277	12.43%	-86,731
2014	524,130	-2.13%	600,765	-3.46%	-76,635
2015	510,486	-2.60%	558,770	-6.99%	-48,284
2016	516,635	1.20%	546,520	-2.19%	-29,885
2017	549,865	6.43%	588,913	7.76%	-39,048
2018	568,456	3.38%	626,616	6.40%	-58,160
2019	534,887	-5.91%	577,834	-7.78%	-42,947
2020	548,773	2.60%	569,769	-1.40%	-20,996

Source: WTO (World Trade Organization)

According to Table 2, there was a decrease in both exports (191.066) and imports (202.008) in the Hong Kong economy, which was adversely affected, although not much, by the 2001 crisis. It is observed that the exchange rates of imports and exports have decreased to negatives. This situation did not last long, and it recovered in a short time, and as of 2002, there was a continuous

increase in exports and imports until 2008. The export rate of Hong Kong, which was also affected by the 2008 global financial crisis, decreased from 370 billion dollars to 329 billion dollars in 2009, and its import rate decreased from 392 billion dollars to 352 billion dollars. Thanks to its strong economy, Hong Kong has a structure that can easily overcome crises. Based on the data in Table 2, it is possible to say that the negative effects of the COVID-19 epidemic period, which swept the whole world in 2019 and negatively affected the economy, recovered rapidly as of 2020.

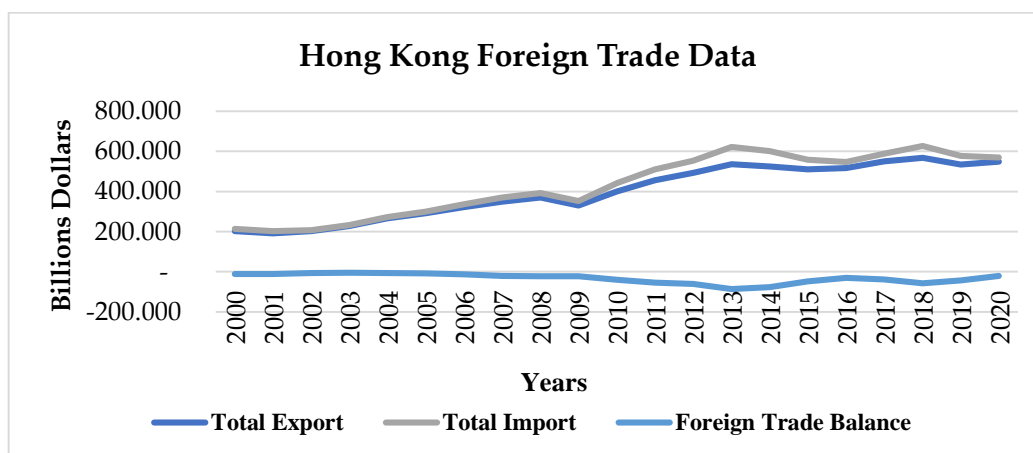


Figure 2. Hong Kong Foreign Trade Data
Source: WTO (World Trade Organization)

Hong Kong foreign trade data with total export, the total import, and foreign trade balance values are presented in Chart 2. When we look at the global crisis periods, it is seen that there is a decrease in the total export and total import values. The level of imports and exports, which reached 400 billion dollars before the 2008 crisis, decreased to 370 billion dollars after the crisis. There were contractions in foreign trade in 2009. As of the end of 2009, Hong Kong's foreign trade has seen a continuous and rapid increase. Imports and exports reached the level of 600 billion dollars. In the next section, information about South Korea, one of the Asian Tigers member countries, is given.

3.3. South Korea

The Paris Peace Conference was signed in 1945. With Truman's suggestion, weak countries were given the right to determine their own future. With this decision, South Korea declared its independence like many other countries (Sung, 1992).

The Korean War, which lasted between 1950 and 1953, had a very negative impact on the country and made South Korea one of the poorest countries in the world. With the support of the United States of America, it improved its economy in the 1953-1961 period. The main economic policy of South Korea has been to maintain an import substitution approach and to focus on education investments (Çakmak, 2016). The South Korean Government started the tax reform by liberalizing the price controls and some restrictions on imports in the 1980-1982 period. Due to the decrease in investments in 1981 in the country where tight monetary and fiscal policy was implemented, this tight monetary policy was relaxed. The South Korean government continued to borrow externally to finance imports and investments during the 1980-1982 period. Despite this, it achieved high growth rates in the 1983-1984 period. This has led to an increase in domestic savings. Thus, it also reduced the need for external debt (Colins, 1990).

Another factor in South Korea's rapid recovery is the favorable external conditions for the country. This is due to the appreciation of the Japanese currency yen in late 1998. Many of the Japanese and South Korean goods are competitors in the market. In this case, external conditions

gave South Korea an advantage. In addition, thanks to the intense demand of the USA and Western Europe for electronic products, there was a great increase in production in South Korea. The results of this situation had a positive impact on the South Korean economy (Öz, 2008). South Korea, one of the Asian tiger countries, has an economy that provides growth by entering export markets with a good performance. It is one of the East Asian countries where the living standards of the population rise to high levels. Asian tiger countries have successfully taken part in the global economy. In particular, one of the most important factors affecting the development of South Korea is the change in the supported sectors in each period. They always produce in a way that responds to the needs of consumers shaped according to the conditions of the time. Their understanding of the importance of this brought success (Arıcioglu, 2012).

By 2000, the rapid increase in oil prices negatively affected South Korea, which met more than half of its energy needs through imports, due to the deterioration in terms of trade (OECD, 2001). In 2002, South Korea implemented a comprehensive restructuring program for its economy. With the program implemented, the economy's direction was saved from the decline and turned to the direction of growth again.

South Korea's most exported products (according to 2019 data);

- Electrical machinery and equipment: \$184.6 billion,
- Computer and electronic products: 77.7 billion dollars,
- Automotive: 61.2 billion dollars,
- Petroleum and mineral fuels: \$48.2 billion,
- Plastics products: 34.9 billion dollars,
- Optical, technical, medical device: \$27.8 billion.

South Korea's Most Imported Products are;

- Mineral fuels including oil: \$146.9 billion,
- Electrical machinery and equipment: 84.8 billion dollars,
- Machines with computers: 60.2 billion dollars,
- Optical, technical, medical device: \$22.4 billion,
- Tools: \$16.8 billion (İhracat Co).

South Korea foreign trade data in Table 3 below; presented under the headings of total exports, export exchange rate, total imports, import exchange rate, and foreign trade balance.

Table 3. South Korea Foreign Trade Data (Billion Dollars)

South Korea/ Year	Total Exports	Export Exchange (%)	Total Imports	Import Exchange (%)	Foreign Trade Balance
2000	172,268		160,481		11,787
2001	150,439	-12.67%	141,098	-12.08%	9,341
2002	162,471	8.00%	152,126	7.82%	10,345
2003	193,817	19.29%	178,827	17.55%	14,990
2004	253,845	30.97%	224,463	25.52%	29,382
2005	284,419	12.04%	261,238	16.38%	23,181
2006	325,465	14.43%	309,383	18.43%	16,082
2007	371,489	14.14%	356,846	15.34%	14,643
2008	422,007	13.60%	435,275	21.98%	-13,268
2009	363,534	-13.86%	323,085	-25.77%	40,449
2010	466,384	28.29%	425,212	31.61%	41,172

2011	555,214	19.05%	524,413	23.33%	30,801
2012	547,870	-1.32%	519,585	-0.92%	28,285
2013	559,632	2.15%	515,584	-0.77%	44,048
2014	573,091	2.40%	525,564	1.94%	47,527
2015	526,757	-8.08%	436,499	-16.95%	90,258
2016	495,426	-5.95%	406,193	-6.94%	89,233
2017	573,694	15.80%	478,478	17.80%	95,216
2018	604,860	5.43%	535,202	11.86%	69,658
2019	542,233	-10.35%	503,343	-5.95%	38,890
2020	512,498	-5.48%	467,633	-7.09%	44,865

Source: WTO (World Trade Organization)

According to Table 3, South Korea experienced a recession like other economies in 2001 when the entire world economy followed a stagnant course. When we look at the 2001 export data, it has decreased to 150 billion dollars. Likewise, its imports, which were 160 billion dollars, decreased to 141 billion dollars. In 2002, the South Korean economy achieved a growth of 8.00% by applying appropriate policies with a comprehensive restructuring program. The export exchange rate of the country, which was affected by the 2008 global financial crisis, has changed by 13.86%. the rate of change in imports changed by -25.77%. Similarly, there were recessions in foreign trade during the 2016 global crisis. The COVID-19 pandemic period experienced as of 2019 adversely affected the foreign trade of South Korea, as in other Asian Tigers countries. The negative impact of the epidemic on foreign trade continued throughout 2020. Graph 3 shows the foreign trade data of South Korea (2000-2020).

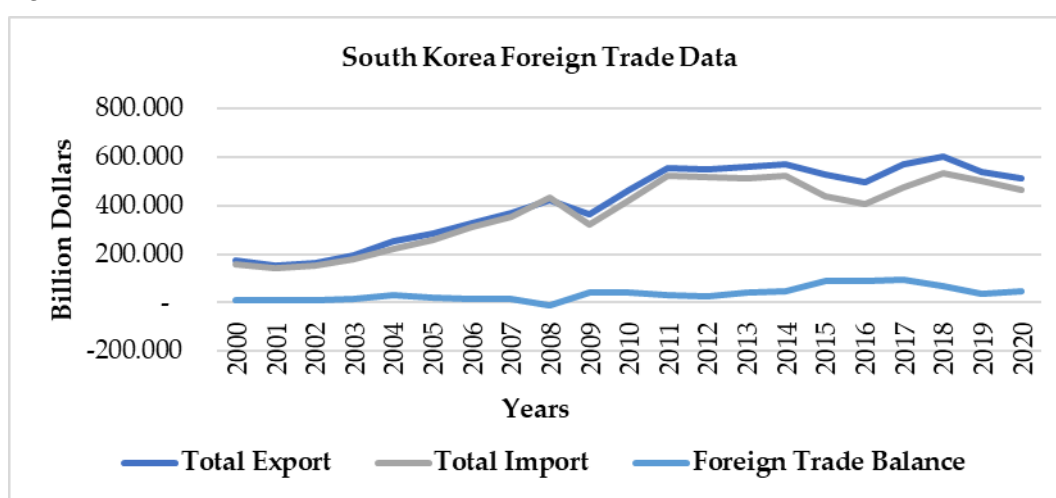


Figure 3. South Korea Foreign Trade Data

Source: WTO (World Trade Organization)

South Korea's foreign trade data showed a steady rise until the 2008 global financial crisis. As of 2008, the rapid increase in oil prices decreased to 360 billion dollars in total exports, which exceeded 400 billion dollars, and total imports to 320 billion dollars. South Korea, which recovered from the effects of the crisis in a short time, started to rise again at the end of 2009. According to Graph 3, it has realized an import and export amount exceeding 500 billion dollars in 2010. South Korea corrected the negative effects of the crisis in a short time with successful industrial policies.

3.4. Singapore

Singapore is a city-island state with an area of 724.2 square kilometers and 63 small islands attached to it (Ankara Chamber of Industry, 2019). Singapore, is a very limited country in terms of agricultural areas. The country does not have any mineral resources. It uses imported inputs to meet the energy it needs. It supplies its water needs from Malaysia and through water purification. 76% of Singapore's population is of Chinese descent. It gained the status of a fully independent state in 1965. Singapore education system is shown as the best education system in the world according to OECD (Schleiche, 2018).

In the 1970s, Singapore trade, which was characterized by the export of small volumes of tropical products, made its economic development dependent on multinational foreign capital investments. After 1970, the state wanted to ensure the continuity of investments that contributed to industrial development. To this end, he made remedial arrangements in the fields of economy and education. With these regulations, Singapore's production structure has evolved from its low-tech and labor-intensive nature to a production structure that requires medium and high technology. Particular attention was paid to learning the imported technology with the arrangements made in the education policy. The learned knowledge has greatly contributed to the knowledge-intensive realization of production (Osman-Gani, 2004). As of 2018, the share of foreign direct investment in GDP has reached 28.3% (Department of Statistics Singapore). In Singapore, the government has a pro-business policy. It is a small but wealthy country with an open and trade-oriented economy. It is seen as an important financial, transportation and trade center of the Asia-Pacific Region (T.R. Ministry of Commerce)

Structuring Singapore economically; It has become an important port and free trade center worldwide. It has become a global transit trade center with the effect of being one of the world's leading petro-chemistry and electronics manufacturers and quickly adapting to developing trade conditions. Singapore's economy; In industrial production, 73.6% services and 26.4% is industry sector;

- Electronics (26.3%),
- Chemicals (10.2%),
- Biomedical (22.2%),
- Precision engineering (14%),
- Transportation engineering (16.1%),
- General manufacturing industries (11.2%) sectors come to the fore (T.R. Ministry of Commerce)

Major Product Groups in Singapore's Export-2019 (Billion Dollars):

- Electrical machinery and devices Machinery,
- Mechanical devices and tools,
- Mineral fuels, oils,
- Optics, photography, measurement, medical instruments, and devices,
- Jewellery,
- Plastics and their products,
- Organic chemicals,
- Essential oils and cosmetics,
- Pharmaceutical products Aircraft.

Singapore's Imports by Product Groups-2019 (Billion Dollars):

- Electrical machinery and devices,
- Mineral fuels, oils,

- Machinery, mechanical devices, and tools,
- Jewellery,
- Optics, photography, measurement, medical instruments, and devices,
- Aircraft (Trademap).

Singapore's Major Export Partners are China, Hong Kong, Malaysia, Indonesia, the USA, Japan, South Korea, Thailand, Australia, India.

Singapore's main Import Partners are China, Malaysia, the USA, Japan, Indonesia, South Korea, Saudi Arabia, France.

In Table 4 below, Singapore's foreign trade data for the period 2000-2020; presented under the headings of total exports, export exchange rate, total imports, import exchange rate, and foreign trade balance.

Table 4. Singapore Foreign Trade Data (Billion USD)

Singapore/ Year	Total Exports	Export Exchange (%)	Total Imports	Import Exchange (%)	Foreign Trade Balance
2000	137,804		134,545		3,259
2001	121,751	-11.65%	116,000	-13.78%	5,751
2002	125,177	2.81%	116,441	0.38%	8,736
2003	159,902	27.74%	136,218	16.98%	23,684
2004	198,637	24.22%	173,599	27.44%	25,038
2005	229,649	15.61%	200,047	15.24%	29,602
2006	271,807	18.36%	238,710	19.33%	33,097
2007	299,308	10.12%	263,155	10.24%	36,153
2008	338,176	12.99%	319,780	21.52%	18,396
2009	269,832	-20.21%	245,785	-23.14%	24,047
2010	351,867	30.40%	310,791	26.45%	41,076
2011	409,503	16.38%	365,770	17.69%	43,733
2012	408,393	-0.27%	379,723	3.81%	28,670
2013	410,250	0.45%	373,016	-1.77%	37,234
2014	415,378	1.25%	377,914	1.31%	37,464
2015	351,587	-15.36%	297,087	-21.39%	54,500
2016	330,481	-6.00%	283,339	-4.63%	47,142
2017	373,446	13.00%	327,923	15.74%	45,523
2018	412,955	10.58%	370,881	13.10%	42,074
2019	390,763	-5.37%	359,266	-3.13%	31,497
2020	362,534	-7.22%	329,830	-8.19%	32,704

Source: WTO (World Trade Organization)

When we examine Table 4, it is seen that while the export data of Singapore's foreign trade was 137 billion dollars in the previous year, it decreased to 121 billion dollars in 2001. The foreign trade volume of Singapore, which experienced a similar decrease in its imports, changed from 3,259 in 2000 to 5,751 in 2001. The Singapore economy, which was adversely affected by the global financial crisis in 2008, decreased from 338 billion dollars in foreign trade to 269 billion dollars in 2009. Singapore's foreign trade, which also observed a decrease in 2015, decreased from 415 billion dollars to 351 billion dollars, and this process continued until 2018.

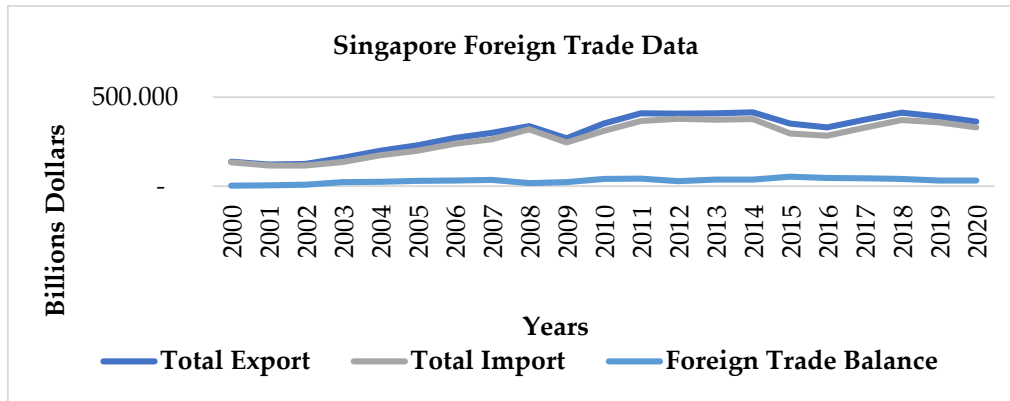


Figure 4. Singapore Foreign Trade Data

Source: WTO (World Trade Organization)

According to the information conveyed in Graph 4, the 2000-2020 foreign trade data of Singapore (total exports, total imports, and foreign trade balance), upward progress is observed in total imports and total exports, except for some global financial crisis periods (2001, 2009 and 2015). Singapore has a strong economy. Although the country is going through periods of great crisis, it is easily recovering its economies.

In the 2000-2020 period, the lowest level in foreign trade was seen in exports with 121 billion dollars in 2001 and imports with 116 billion dollars. The highest level in foreign trade was experienced in exports with 415 billion dollars and imports with 377 billion dollars in 2014.

In the future parts of the study, detailed information about the foreign trade of Asian Tigers countries and data in tabular form will be presented.

4. Country Groups with which Asian Tigers Countries Foreign Trade

In this section, the foreign trade data of Taiwan, Hong Kong, South Korea and Singapore, which are called Asian Tigers and which are East Asian countries, are examined. The countries with which each country has the most foreign trade and the numerical data reached are presented. Detailed foreign trade data based on countries are given in tables in the following sections of the study.

4.1. Countries with which Taiwan has Foreign Trade

The countries with which Taiwan, one of the Asian Tigers member countries, had the most foreign trade in the 2000-2020 period were investigated. The 2000-2020 period was analyzed in ten-year periods based on 2001, 2010, and 2019. The countries with which foreign trade is made are presented in the form of a table. When the country groups with which Taiwan, one of the Asian Tigers countries, do the most trade-in foreign trade, are analyzed over the years 2001, 2010, and 2019, the data in the table below has been reached.

Table 5. Taiwan's Top Import and Export Countries

Taiwan's Top Import Countries (2001, 2010, 2019) (Billion Dollars)					
2001 Import Country	2001 Import	2010 Import Country	2010 Import	2019 Import Country	2019 Import
Japan	25,847,736	Japan	52,094,405	Chinese	57,432,534
USA	18,250,441	Chinese	36,023,251	Japan	44,060,592
Korea	6,704,912	USA	25,649,662	USA	35,150,696
Chinese	5,910,739	Korea	16,097,738	Korea	17,758,502

Germany	4,245,671	Saudi Arabia	11,915,789	Malaysia	10,387,427
Taiwan's Top Export Countries (2001, 2010, 2019) (Billion Dollars)					
2001 Export Country	2001 Export	2010 Export Country	2010 Export	2019 Export Country	2019 Export
Chinese	4,754,717	Chinese	76,933,214	Chinese	91,886,693
USA	27,714,719	Hong Kong	37,805,334	USA	46,351,140
Hong Kong	26,964,263	USA	31,530,264	Hong Kong	40,373,382
Japan	12,759,299	Japan	18,016,269	Japan	23,305,107
Singapore	4,051,251	Singapore	12,102,378	Singapore	18,210,376

Source: WTO (World Trade Organization), Trademap

According to Table 5, the top five countries Taiwan imports the most differ from year to year. While Japan took first place in Taiwan's imports in 2001 and 2010, China took first place in 2019. In 2010, the USA became the third country from which Taiwan made the most imports, and Saudi Arabia ranks fifth in terms of oil imports. The ranking of the top five countries from which Taiwan imports has changed according to the periods. In addition, an increase was observed in the amount of imports in each period. In Taiwan's exports, China ranked first in all three periods. Other countries are the USA, Hong Kong, Japan, and Singapore. In addition, according to Table 5, Taiwan's export rate has increased in every period.

4.2. Countries with which Hong Kong has Foreign Trade

The countries with which Hong Kong, one of the Asian Tigers member countries, have the most foreign trade, were examined in three periods by looking at the data of 2001, 2010, and 2019. Obtained foreign trade data are presented in a table. When the country groups with which Hong Kong has the most foreign trade are analyzed over the years 2001, 2010, and 2019, the data in the table below has been reached.

Table 6. Hong Kong's Top Import and Export Countries

Hong Kong's Top Import Countries (2001, 2010, 2019) (Billion Dollars)					
2001 Import Country	2001 Import	2010 Import Country	2010 Import	2019 Import Country	2019 Import
Chinese	87,455,969	Chinese	197,089,548	Chinese	264,601,840
Japan	22,701,838	Japan	40,903,170	Taiwan	42,305,265
Taiwan	13,839,989	Singapore	30,828,779	Singapore	37,628,887
USA	13,483,265	Taiwan	29,043,593	Japan	33,721,096
Singapore	9,374,124	USA	23,355,714	Korea	28,274,805
Hong Kong's Top Export Countries (2001, 2010, 2019) (Billion Dollars)					
2001 Export Country	2001 Export	2010 Export Country	2010 Export	2019 Export Country	2019 Export
Chinese	70,346,562	Chinese	210,291,123	Chinese	210,291,123
USA	42,367,504	USA	42,816,343	USA	42,816,343
Japan	11,246,949	Japan	16,496,752	Japan	16,496,752
United Kingdom	7,202,690	Germany	10,419,447	Germany	10,419,447
Germany	6,625,020	India	9,923,839	India	9,923,839

Source: WTO (World Trade Organization), Trademap

Looking at the foreign trade data of Hong Kong in Table 6, it is seen that China ranks first among the importing countries in all periods (2001, 2010, and 2019). Looking at the country groups it exports to, it is seen that Hong Kong exports mostly to China, followed by the USA and Japan.

4.3. Countries with which South Korea has Foreign Trade

The countries with which South Korea, which is one of the East Asian countries and one of the Asian Tigers member countries, have the most foreign trade, have been examined in three periods based on 2001, 2010, and 2019. The countries with which South Korea has the most foreign trade are presented with the help of a table below.

Table 7. South Korea's Top Import and Export Countries

South Korea's Top Import Countries (2001, 2010, 2019) (Billion Dollars)					
2001 Import Country	2001 Import	2010 Import Country	2010 Import	2019 Import Country	2019 Import
Chinese	13,302,623	Chinese	71,573,125	Chinese	107,219,763
USA	22,430,926	USA	40,588,438	USA	62,102,883
Japan	26,633,084	Japan	64,295,813	Japan	47,575,433
Germany	4,473,358	Germany	14,304,295	Germany	19,939,180
Vietnamese	385,779	Vietnamese	3,330,815	Vietnamese	21,071,447
South Korea's Top Export Countries (2001, 2010, 2019) (Billion Dollars)					
2001 Export Country	2001 Export	2010 Export Country	2010 Export	2019 Export Country	2019 Export
Indonesia	3,279,747	Mexican	8,845,549	Chinese	136,213,398
Australia	2,173,217	Philippines	5,837,983	USA	73,626,605
Poland	336,57	Russia	7,759,836	Vietnamese	48,177,684
Turkey	697,09	Thailand	6,459,776	Hong Kong	31,914,306
Canada	2,035,725	Indonesia	8,897,299	Japan	28,412,058

Source: WTO (World Trade Organization), Trademap

According to Table 7, where the foreign trade information of South Korea is given; It has been determined that the top five countries in South Korea's imports in 2001, 2010, and 2019 are China, the USA, Japan, Germany, and Vietnam, respectively. It has been observed that the rankings with these countries have not changed over time. In addition, the amount of imports made in each period (Billion Dollars) has increased with the countries from which imports are made. According to Table 7, the countries to which South Korea exports the most are; Indonesia in 2001, Mexico in 2010, and China in 2019. The top five exporting countries differed in each period. In the 2001 export data of South Korea, while Turkey was the fourth country to which it exports the most, it was not in the top five in the following periods.

4.4. Countries with which Singapore has Foreign Trade

The countries with which Singapore, which is the last of the Asian Tigers member countries, have the most foreign trade have been researched. The import and export data of the countries subject to foreign trade in the form of ten-year periods over the years 2001, 2010, and 2019 were examined separately. Countries with which foreign trade is made are given in the table below.

Table 8. Singapore's Top Import and Export Countries
Singapore's Top Import Countries (2001, 2010, 2019) (Billion Dollars)

2001 Import Country	2001 Import	2010 Import Country	2010 Import	2019 Import Country	2019 Import
Malaysia	20,092,955	Malaysia	36,431,454	Chinese	49,037,427
USA	19,148,655	USA	35,622,014	USA	43,943,365
Japan	16,082,402	Chinese	33,671,882	Malaysia	41,693,622
Chinese	7,205,239	Japan	24,626,944	Taiwan	32,379,409
Thailand	5,162,251	Taiwan	18,623,163	Japan	19,373,703

Singapore's Top Export Countries (2001, 2010, 2019) (Billion Dollars)

2001 Export Country	2001 Export	2010 Export Country	2010 Export	2019 Export Country	2019 Export
Malaysia	21,120,879	Malaysia	42,367,421	Chinese	51,626,378
USA	18,741,000	Hong Kong	41,272,856	Hong Kong	44,383,556
Hong Kong	10,818,995	Chinese	36,361,069	Malaysia	41,158,159
Japan	9,332,728	Indonesia	33,566,929	USA	34,405,723
Taiwan	6,265,364	USA	22,951,030	Indonesia	27,362,870

Source: WTO (World Trade Organization), Trademap

According to Table 8, it is seen that while Singapore's top import and export country was Malaysia in 2001 and 2010, it was replaced by China in the next period (2019). Like other Asian Tigers countries, Singapore also has the most foreign trade with China, Malaysia, the USA, and Indonesia. It can be deduced from Table 8 that Singapore's foreign trade volume in each period has increased compared to the previous period.

Conclusion

2000-2020 foreign trade review of Asian Tigers member countries was conducted. During this period, Hong Kong, Singapore and Taiwan experienced a significant decrease in foreign trade in 2009. It is seen that Korea experienced a lesser decline compared to other countries. In 2010, it is observed that all the countries examined recovered quickly from the adverse effects of the crisis. In 2019, global trade was interrupted by the COVID-19 epidemic that started worldwide. As of 2019, Asian Tigers economies, like all world economies, have been exposed to the negative effects of this epidemic. Based on the foreign trade data of the Tigers, it can be said that Taiwan and Hong Kong quickly recovered their foreign trade and managed to dissipate the current adverse effect in 2020. On the other hand, the negative effects of the epidemic continued in the foreign trade of South Korea and Singapore in 2020. Asian Tigers have come to the fore among East Asian countries thanks to the financial and social policy models implemented by their member countries. In reaching this level;

- Import substitution economic policy monitoring,
- Giving importance to technological infrastructure investments
- Adopting the knowledge-intensive production method

has been effective.

Asian Tigers are among the countries with the highest foreign trade volume. These countries have kept their trade with each other alive in every period.

For future studies, studies can be conducted to examine which product groups Asian Tigers do their foreign trade with the most. A comprehensive resource can be created for the literature by researching the place of Asian Tigers in the world economy.

References

- Akyıldız, A. (2021). *Asya Kaplanları ve Türkiye’de Doğrudan Yabancı Sermaye Yatırımlarının Ekonomik Büyüme Üzerindeki Etkisi: Panel Veri Analizi*. Çanakkale Onsekiz Mart Üniversitesi Lisansüstü Eğitim Enstitüsü, Ekonomi. Yayınlanmamış Yüksek Lisans Tezi.
- Ankara Chamber of Industry. (2019). *Republic of Singapore Country Note*.
- Arıcıoğlu, E. (2012). Kalkınma Kavramına Küreselleşme Prespektifinden Bir Bakış. *Niğde Üniversitesi İİBF Dergisi*, 5(1), 36-53.
- Arslan, R., & Ayhan, E. (2018). İktisadi Kalkınmada Bir Başarı Öyküsü: Tayvan. *Sosyal ve Beşeri Bilimler Dergisi*, 10(1), 62-75.
- Ateş D. (2011). Ekonomik Kriz Uluslararası İlişkiler ve Küreselleşmenin Geleceği. *Doğuş Üniversitesi Dergisi*, 12(1), 1-16.
- Aydın, G. (2014). Asya Kaplanlarının Kalkınma ve Gelişme Düzeyleri: Washington Uzlaşısı ve Post Washington Uzlaşısı. *Çankırı Karatekin Üniversitesi Sosyal Bilimler Enstitüsü*, 2-23.
- Çakmak, Y. (2016). Güney Kore’nin Ekonomik Kalkınmasının Temel Dinamikleri (1960-1990). *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 21(1), 151-171.
- Colins, S. M. (1990). Lessons from Korean Economic Growth. *The American Economic Review*, 80(2), 104-107.
- <https://ticaret.gov.tr> (25.06.2021)
- <https://www.aso.org.tr> (24.10.2021)
- <https://www.ihracat.com> (24.10.2021)
- <https://www.singstat.gov.sg/> (25.06.2021)
- <https://www.tarihiolaylar.com> (20.06.2021)
- <https://www.trademap.org> (27.06.2021)
- <https://www.wto.org> (25.06.2021)
- Jacobs, J. B. (2014). Taiwan's colonial experiences and the development of ethnic identities: some hypotheses. *Taiwan in Comparative Perspective*, 5(13), 47-59.
- Jones, C. I. (2007). *İktisadi Büyümeye Giriş*. (Çev.: Sanlı Ateş, ve İsmail Tuncer). Literatür Yayıncılık, İstanbul.
- Kaplan, R. D. (2015). Asia’s Rise Is Rooted in Confucian Values. *The Wall Street Journal*, <https://www.wsj.com/articles/asias-rise-is-rooted-in-confucian-values-1423254759>.
- Karadağ, H. (2018). Girişimcilik Politika ve Stratejilerinin Girişimcilik Ekosisteminin Gelişimi Üzerindeki Etkileri: *Doğu Asya Örneği*. *Doğu Asya Araştırmaları Dergisi*, 1(2), 1-18.
- Kırca, M., Canbay, Ş., İnal, V., & Yılmaz Genç, S. (2021). Causality Relationships Between Per Capita Income and Research and Development (R&D) Expenditures in Asian Tigers, China, and Turkey. *Sosyoekonomi*, 29(48), 11-30. <http://www.doi.org/10.17233/sosyoekonomi.2021.02.01>

- Külünk, İ. (2018). Doğu Asya ülkelerinin ekonomik büyüme dinamiklerinin Türkiye ekonomisi ile karşılaştırmalı analizi. (Yayınlanmamış Doktora Tezi). Sakarya Üniversitesi Sosyal Bilimler Enstitüsü, Sakarya.
- McMillan, M., Rodrik, D., & Verduzco-Gallo, I. (2014). Globalization, Structural Change, and Productivity Growth, with an Update on Africa. *World Development*, 63, 11-32. <http://www.doi.org/10.1016/j.worlddev.2013.10.012>
- Morris, A. D. (2004). Taiwan's History: An Introduction. *The Minor Arts of Daily Life: Popular Culture in Taiwan*, 3-31.
- OECD. (2001). *Economic Survey of Korea, 2001*. OECD, Paris.
- Öniş, Z., & Şenses, F. (2007). Global Dynamics, Domestic Coalitions and A Reactive State: Major Policy Shifts in post-war Turkish economic development, *Metu Studies in Development*, 34, 251-286.
- Osman-Gani, A. M. (2004). Human Capital Development in Singapore: An Analysis of National Policy Perspectives. *Advances in Developing Human Resources*, 6(3), 276-287, <http://www.doi.org/10.1177/1523422304266074>
- Öz, S. (2008). *Küresel Rekabette Son Aşamaya Ulaşmak: Güney Kore*. Tüsiad-Sabancı Üniversitesi Rekabet Forumu.
- Schleiche, A. (2018). *PISA 2018 Insights and Interpretations*. OECD, Paris.
- Stiglitz, J. E. (1996). Some Lessons from the East Asian Miracle. *The World Bank Observer*, 11(2), 151-177.
- Sung, M. P. (1992). *Korea Leading Developing Nations: Economy, Democracy & Welfare*. University Press of America.
- Taban, S., & Kar, M. (2006). Beşeri Sermaye ve Ekonomik Büyüme: Nedensellik Analizi, 1969-2001. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 6(1), 159-182.
- Yardımcı, P. (2006). İçsel Büyüme Modelleri ve Türkiye Ekonomisinde içsel Büyümenin Dinamikleri. *Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi*, 1, 96-114.
- Yülek, M. (1998). *Asya Kaplanları Sanayi Politikaları ve Kalkınma*. Alfa Yayınları, İstanbul.

© 2022 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

