

# From the US-Taiwan Economic Relationship to Sustainable Global Economic Development

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## 1. Introduction

Taiwan performed an economic miracle from the 1960s to the 1990s, which made it into one of the Four Asian Tigers, along with Hong Kong, Singapore, and South Korea. Taiwan specifically transformed itself from an agricultural society into an industrial society and became a leading manufacturer of high technology goods, especially electronics, information communications technology, semiconductors, petrochemicals, textiles, etc. Taiwan's manufacturing sector comprises more than 36 percent of the country's gross domestic product (GDP) and provides jobs to 35 percent of the workforce. The country is one of the largest suppliers of semiconductors, computers, mobile phones, and monitors to the world market. The nominal GDP ranks twentieth in the world and is the seventh largest economy in Asia. While the country is known for its semiconductor and electronics industries, Taiwan's economy is still dominated by the services industry. The services sector accounted for 62.7 percent of Taiwan's GDP in 2020, employing 59.7 percent of the labor force. Taiwan's economy is highly export-oriented and reliant on international trade. Although its economic performance seems to make Taiwan a major global economic actor, the future development of its economy is dependent on its foreign relations, especially the relationship with major economic powers, like the United States and China. China continuously attempts to isolate Taiwan diplomatically and its ability to maintain its presence in global markets, restrain Taiwan's economic stability and the wills of other countries to maintain a stable economic relationship with Taiwan.

The unique relationship between Taiwan, China, and the United States makes the study of Taiwan's economy complicated because of how politicized economic policy is. It seems to be understood that Taiwan needs the world market and current world economic development needs Taiwan, however, the great power struggle makes this relationship uneasy and inaccessible. The political games of global powers play a critical and determinate role with countries that want to develop economic relations with Taiwan. The impact of being excluded from most global

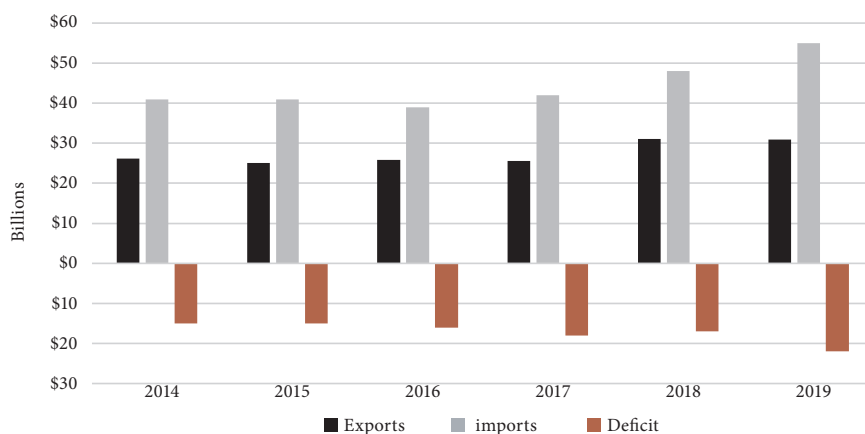
free trade agreements (FTAs) brings uncertainty to Taiwan's economic future. This research studies the complex triangular relationship between Taiwan, China, and the United States and how it affects Taiwan's and the United States' economy, and its impact on the world's economic sustainability.

## 2. Taiwan's Economic Strength

The success of Taiwan's strategy against Covid-19 has won international praise, showing itself to be a "beacon of democracy" in many ways, which has brought it stable economic growth. After containing its own domestic outbreak, Taiwan has earned the world's reputation for being a "nation of resilience". The economy is structured around the services sector, which contributes around 60 percent of the GDP. The prosperity of this services-based capitalist economy stems from its dynamic and entrepreneurial private sector, which employs over 90 percent of the working population. The economic environment and performance of Taiwan work quite well. The country scores very well on factors such as economic freedom and ease of doing business and is highly competitive internationally, particularly due to its efficient goods and labor markets and developed financial markets. Taiwan is one of the major information technology (IT) suppliers to some of the world's leading multinational corporations (MNC) in the IT sector. Taiwan's high degree of openness, with total exports and imports of goods and services amounting to 140 percent of the GDP (2012), is, however, also the economy's main weakness. It makes the economy overly dependent on external demand, especially from its main trading partners China, Japan, and the US (Blaauw, 2013).

Taiwan was the United States' thirteenth largest supplier of imported goods in 2019, up with 18.6 percent from 2018, and up with 91.3 percent from 2009. US imports from Taiwan accounted for 2.2 percent of the overall US imports in 2019 (Figure 1). The United States does have a trade deficit of 30 billion USD, including 17 billion USD in advanced technology products with Taiwan. Taiwan is a good market for US electronic components, aircraft, defense equipment, and raw materials like oil and grains. US manufacturers of the highly sophisticated equipment used in semiconductor fabrication plants account for more than half of the sales in this subsector and Taiwanese firms are premier customers. Taiwan is almost totally dependent on imports for its growing energy needs, including inputs like raw metals and feedstocks for the chemicals industry. The United States is a major supplier of these products and has the capacity to increase exports to meet Taiwanese demand (Duesterberg, 2021).

Figure 1: The US and Taiwan: Total Trade in Goods



	2014	2015	2016	2017	2018	2019	2014-2018 Average
EXPORTS	\$26,675.1	\$25,826.0	\$26,033.9	\$25,735.9	\$30,560.4	\$31,218.8	\$26,966.3
value	--	-\$849.0	\$207.9	-\$298.0	\$4,824.5	\$658.4	
Pct	--	-3.2%	0.8%	-1.1%	18.7%	2.2%	
IMPORTS	\$40,839.5	\$40,911.4	\$30,198.8	\$42,425.8	\$45,756.3	\$54,256.3	\$41,826.3
value	--	\$71.9	-\$1,712.5	\$3,226.9	\$3,330.5	\$8,500.0	
Pct	--	0.2%	-4.2%	8.2%	7.9%	18.6%	
BALANCE	(\$14,164.4)	(\$15,085.3)	(\$12,164.9)	(\$16,689.9)	(\$15,195.8)	(\$23,037.5)	(\$14,860.1)
value	--	(\$920.9)	\$1,920.4	(\$3,524.9)	\$1,494.0	(\$7,841.7)	
pct	--	6.5%	-12.7%	26.8%	-9.0%	51.6%	

Note: Values are in million USD.

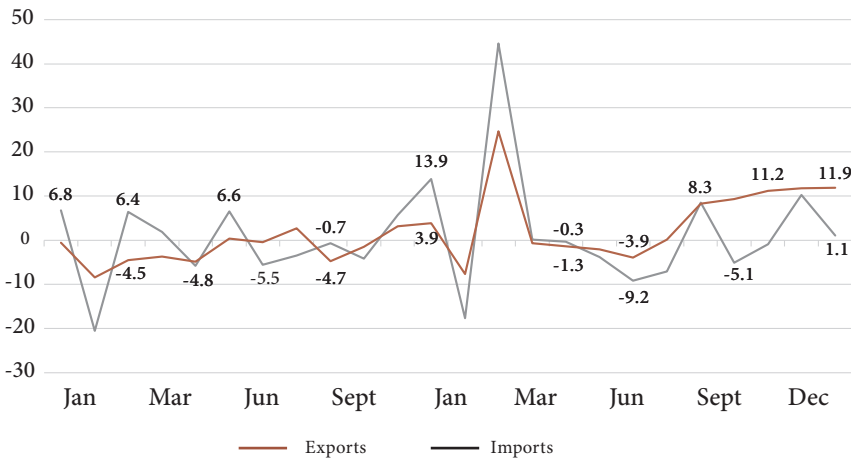
Source: Bureau of Industry and Security, 2019 and the US Census Bureau, 2019.

## 2.1. How Can Taiwan Help

According to the sustainable development goals report 2021 of the Department of Economic and Social Affairs, Sustainable Development of United Nations, the pandemic has led to a loss of the equivalent of 255 million full-time jobs, about four times the number lost during the global financial crisis from 2007-2009. From January to May 2020, most Asian economies have experienced economic slowdowns due to Covid-19. China's economic growth rate declined by 7.7 percent and South Korea's by 11.2 percent. Japan's economic growth decreased by 8.4 percent in the first four months 2020, and Singapore's by 6.9 percent. However, Taiwan was able to maintain an average growth rate of 1.5 percent in the first five months of 2020. In April, Taiwan's export orders rose more than 2 percent

compared to the previous year, marking the second consecutive month of a year-on-year increase (Figure 2), even though the global economy was negatively impacted by the pandemic. The increase in orders for Taiwanese high-tech device exports helped offset the impact of the virus on traditional industrial firms during this time. The restriction on people’s routine activities and business interactions, as well as the resulting increase in remote work and online learning boosted the demand for 5G communication applications, high-performance computing devices, electronic components, and other information communications technology-related products, as well as video components.

Figure 2: Annual Growth Rate of Taiwan’s Exports and Imports



Source: Ministry of Finance, ROC, 2020.

“TSMC is becoming more and more dominant,” said Kazumi Nishikawa, an official working on technology issues at the Japanese Ministry of Economy, Trade, and Industry. “This is something everybody in the chip industry must find a way to deal with.” (Crawford – Dillard – Fouquet – Reynolds, 2021). Taiwan is being praised for its capacity to make cutting-edge computer chips, mostly done by the Taiwan Semiconductor Manufacturing Company (TSMC), the world’s largest foundry and producer of chips for Apple Inc smartphones, artificial intelligence, and high-performance computing. Taiwan’s role in the world economy largely existed below the radar, until it came to recent prominence as the auto industry suffered shortfalls in chips used for everything from parking sensors to reducing emissions. With some major international automakers, including Germany’s Volkswagen AG, the United States’ Ford Motor Company, and Japan’s Toyota

Motor Corporation, forced to halt production and idle plants, Taiwan's importance has suddenly become too big to ignore. American, European, and Japanese automakers are lobbying their governments for help, with Taiwan and TSMC being asked to step in. The auto industry's pleas illustrate how TSMC's chipmaking skills have handed Taiwan political and economic leverage in a world where technology is being enlisted in the great power rivalry between the United States and China, a standoff unlikely to ease under US President Joe Biden's administration (Crawford – Dillard – Fouquet – Reynolds, 2021).

The EU aims to bolster the bloc's "technological sovereignty" through an alliance armed initially with as much as 30 billion EUR (36.4 billion USD) of public-private investment to raise Europe's share of the global chip market to 20 percent (without a target date) from less than 10 percent. It is also encouraging Taiwan to increase investments in the 27-nation bloc, with some success. Global Wafers Co, based in TSMC's hometown of Hsinchu, just boosted its offer for Germany's Siltronic AG to value the company at 4.4 billion EUR, an acquisition that would create the world's largest silicon wafer maker by revenue. Tokyo is also wooing TSMC to set up in Japan. With 110 billion yuan (1.06 billion USD) earmarked 2020 or research and development, and another 90 billion yuan for 2021, some of that might go to a TSMC facility, which reports have said the company is considering setting up in Japan. That is not to say Taiwan is the only player in the semiconductor supply chain. The US still holds dominant positions, notably in chip design and electronic software tools; ASML Holding NV of the Netherlands has a monopoly on the machines needed to fabricate the best chips; Japan is a key supplier of equipment, chemicals, and wafers (Crawford – Dillard – Fouquet – Reynolds, 2021).

### 3. Taiwan's Obstacles regarding FTAs

Thanks to global semiconductor demand boosting exports from Taiwan, Taiwan upgraded its growth forecast for 2021. According to the Statistic Data Bureau, Taiwan's economy was forecasted to grow by 4.64 percent by 2021—making it the quickest expansion since 2014. Taiwan's projected growth for 2021 is an upgrade of the previous forecast with a 3.83 percent expansion and an acceleration from the revised growth of 3.11 percent for the whole of 2020. Gary Ng, an economist at the French investment bank Natixis, said that Taiwan's economy is in a "sweet spot" of very strong demand for tech products globally, as well as a relatively successful containment of the pandemic (Lee, 2021).

Despite Taiwan's successes, its ambiguous international status has been the main obstacle to its joining international organizations for years. A civil war in the 1940s between the ruling Kuomintang (KMT) and the Chinese Communist Party (CCP) on the Chinese Mainland ended when Chiang Kai Shek's government withdrew to Taiwan, withholding the official name Republic of China (ROC). For many years, the ROC held its claim to be the only legitimate government of China and even managed to retain the permanent Chinese seat in the UN Security Council until 1971, but during the Cold War, a growing number of states abandoned Taipei in order to establish diplomatic relations with Beijing. Decolonization and Beijing's close ties to an important number of emerging states helped China to eventually gain support within the UN against Taiwan, which lost its seat in most international organizations, including major economic and trade organizations. Although Taiwan's economic strength won it the ability to be a member of the World Trade Organization (WTO) in 2002, China was not yet a leading global actor, and the increasing trend of free trade negotiations between economies halted Taiwan's economic expansion for nearly two decades.

### 3.1. Political Issues

The idea of the "One China Principle", which is recognized by several countries in different ways, is a major cause of Taiwan's dilemma. Another element of the "One China Principle" was that no country could recognize the ROC and the PRC at the same time, as both claimed to represent China and would break relations with any third state that approached the other side. Most powerful nations have made statements to express their opposition to such a unilateral change in Cross-Strait relations. The United States and others have vested interests in good relations with China, therefore their long-standing policy is to discourage Taiwanese independence from China. Instead, the United States and other influential powers only support a peaceful solution in the form of a mutual agreement with talks between China and Taiwan. The economic rationale behind this stance is becoming increasingly powerful: China is the biggest foreign creditor of the United States, the EU is looking to China to save the Euro, and most other countries also have intensive trade relations with China (Winkler, 2011).

Taiwan's leaders have been seeking the best solution to boost its economy and maintain a peaceful relationship with China. From 2008 to 2016, the Kuomintang's Ma Ying-Jiu took the presidency and immediately installed a stable and peaceful relationship with Beijing by lifting the bans on communication

from both sides. Taipei and Beijing enjoyed 8 years of stability from every perspective, however, this so-called “good and solid relationship” ended up with the “Sun-Flower Movement”. At that time, the then opposition party, the DPP, accused Ma and the KMT of trying to “sell Taiwan” to China. Taiwanese youngsters and students occupied the Legislative Yuan (Congress) to demonstrate their anger and resentment that forced the Ma administration to put the Cross-Strait Service Trade Agreement (CSSTA) of the Cross-Straits Economic Cooperation Framework Agreement (EFCA) aside. The Ma administration believed signing the ECFA with Beijing would increase the willingness of other countries to sign FTAs with Taiwan. Since the DPP candidate Tsai Ying-wen won the presidential election in 2016, the relationship between the two sides has never recovered to what it was under Ma. China is much more influential and has pushed Taiwan harder for its international space.

### 3.2. Trade Issues

FTAs and regional economic integration have become the global trend in recent years, countries have been competing against one another to negotiate FTAs. However, Taiwan is one of the exceptions. Many countries have benefited from the consequences of globalization. In Asia, regional integration has been moving rapidly, however, the impact on Taiwan, which is heavily dependent on trade with other parts of East Asia, has been significant. China’s opposition has prevented Taiwan from participating in regional economic integration, which has had a severe impact on Taiwan’s economic development. Although Taiwan has expressed its interest in becoming a member of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP), “the One-China Policy” has diminished the willingness of potential member countries to negotiate an agreement with Taiwan.

For instance, Taiwan played a very important role as a supplier of intermediate goods and components within the Asia-Pacific region, although its total exports were only around 2-3 percent, a small share of the eleven existing CPTPP members. Taiwan had close trading ties with CPTPP members in many industries, making Taiwan a key partner within the members’ production networks (Figure 3). For example, according to the 2020 trade statistics released by Japan’s Ministry of Finance, Taiwan was ranked Japan’s fourth largest source of imports, which was two places up from 2019 and its highest ranking so far. Statistics from Japan’s Ministry of Finance show that Japanese imports from Taiwan reached 2.9 trillion

Japanese Yen in 2020. Even though this was a drop of 2.4 percent, it was the smallest decrease among Japan's top 10 sources of imports. Additionally, statistics from Taiwan's Ministry of Finance, Taiwan's exports to Japan reached 23.4 billion USD in 2020, or an increase of 0.5 percent; and imports from Japan amounted to 45.9 billion USD, or an increase of 4.2 percent. This adds up to 69.3 billion USD in total trade between the two sides (Figure 4). These figures are all record highs, indicating the close trade relationship between Taiwan and Japan.

Figure 3: Bilateral Trade between Taiwan and CPTPP Members in 2020

Country	Total Bilateral Trade Amount (A+B)	Amount of Exports (A)	Amount of Imports (B)	Share in Total Trade
Japan	69,297.207	23,414.861	45,882.346	10.78%
Singapore	27,202.532	18,214.491	8,988.041	4.5%
Malaysia	18,991.181	9,112.714	9,878.467	3.14%
Vietnam	15,403.786	9,911.567	5,492.219	2.55%
Australia	11,067.841	3,045.212	8,022.629	1.83%
Mexico	3,717.696	2,644.309	1,073.387	0.62%
Canada	3,661.462	2,125.538	1,535.924	0.61%
Chile	1,489.77	166.937	1,322.833	0.25%
New Zealand	1,242.657	374.804	867.853	0.21%
Peru	415.142	186.01	229.132	0.07%
Brunei	211.436	56.793	154.643	0.04%
Total	148,500.71	65,053.236	83,447.474	
World	604,014.088	318,897.556	285,116.532	
Ration of CPTPP	24.59%	20.4%	29.27%	

Note: Values in million USD.

Source: Customs Administration, Ministry of Finance, 2021.

Figure 4: Bilateral Trade between Taiwan and Japan

Year	Total Amount		Export		Import		Balance of Trade	
	Amount	Growth Rate	Amount	Growth Rate	Amount	Growth Rate	Amount	Growth Rate
2017	625.2	4.0	205.7	5.7	419.4	16.3	-213.7	1.0
2018	669.9	7.1	228.0	10.8	441.5	15.5	-213.5	-0.1
2019	673.3	0.6	323.8	2.1	440.5	15.4	-207.8	-2.7
2020	692.9	2.9	234.0	0.5	458.8	16.1	-224.8	8.2

Note: Values in one hundred million USD;

Source: Bureau of Foreign Trade, MOEA, ROC, 2021.

Singapore, a member of the CPTPP, is also one of Taiwan's key trade partners. According to Taiwan's Customs' statistics for 2020, Singapore is Taiwan's sixth largest trading partner, fifth largest export market, and seventh largest source



of imports, with a bilateral trade of 28 billion USD. On the other hand, Taiwan is Singapore's fourth largest trading partner, seventh largest export market, and fourth largest source of imports. Until January 2021, Singapore was Taiwan's seventh largest source of foreign investment (Figure 5).

Figure 5: Bilateral Trade between Taiwan and Singapore

Year	Total Amount		Export		Import		Balance of Trade	
	Amount	YoY	Amount	YoY	Amount	YoY	Amount	YoY
2017	26,331	11.23	17,620	9.12	8,711	15.75	8,908	3.33
2018	25,740	-2.24	17,324	-1.68	8,416	-3.39	8,908	-0.01
2019	26,106	1.42	18,184	4.96	7,922	-5.87	10,262	15.20
2020	28,072	7.53	19,084	4.95	8,988	13.45	10,096	-1.61

Note: Values in billion USD;

Source: Bureau of Foreign Trade, MOEA, ROC, 2021.

Statistics from Taiwan's Ministry of Economic Affairs show that, in 2020, Taiwan was Malaysia's fifth largest global trading partner, eighth largest export destination, and fifth largest source of imports. Malaysia's trade with Taiwan contracted by 2.7 percent to reach 21.80 billion USD in 2020. Exports to Taiwan decreased by 8.6 percent to 8.06 billion USD in 2020 (Figure 6). Major exports were electrical and electronic (E&E) products, optical and scientific equipment, metal products, chemicals and chemical products, and petroleum products. Imports from Taiwan increased by 1.1 percent to 13.73 billion USD in 2020. Major imports were E&E products, chemicals and chemical products, as well as iron and steel products.

Figure 6: Bilateral Trade between Taiwan and Malaysia

Year	Total Amount		Export		Import		Balance of Trade	
	Amount	YoY	Amount	YoY	Amount	YoY	Amount	YoY
2017	17,547	24.42	10,368	32.69	7,178	14.15	3,190	109.14
2018	19,906	13.45	10,602	2.25	9,305	29.62	1,297	-59.34
2019	19,765	-0.71	9,400	-11.34	10,366	11.40	-966	-
2020	19,337	-2.17	9,458	0.62	9,878	-4.70	-420	-56.45

Note: Values are in billion USD;

Source: Bureau of Foreign Trade, MOEA, ROC, 2021.

Due to its special international status when applying for membership in international organizations or regional trade agreements, Taiwan will not only need to engage in bilateral trade talks with member countries, but also have acquiescence with the US or China. Then Taiwan can secure their support only if it is willing to resolve some trade disputes with those members. Taking the United States as an example, Taiwan must develop a concrete solution to the issue of opening up its

agricultural sector. Whether Taiwan is willing to open up its market to imports of US pork and beef products will have a particularly pronounced impact on the success or failure of Taiwan's negotiations with the United States regarding accession to future trade agreements. For example, the TPP agreement requires a high level of transparency in sanitary and phytosanitary standards (SPS) and technical barriers to trade (TBT); there must be no discrimination, and inspection, and quarantine measures need to be based on sound scientific reasoning. In the case of US beef and pork, however, Taiwan has failed to offer adequate scientific grounds for separate treatment and has been unable to offer a roadmap towards opening its market that is acceptable to the US government (Liu, 2016).

The relationship between Taiwan and China will also affect Taiwan's chances to become a member of international FTAs. China will have the power of influence over whether Taiwan is to be granted membership. Most countries have formal diplomatic relations with China and not with Taiwan, when faced with Taiwan's applications, they are bound to consider not only whether Taiwan is ready to be a member, but also if the United States and China support its entry. When Taiwan President Tsai took office in May 2016, managing relations with China became a key challenge for Taiwan regarding its efforts in establishing trade agreements.

Because of many external factors, Taiwan's trade relationship with the United States has been uncertain and unstable, though the United States has continued to be an important trading partner for Taiwan. Taiwan still has many bilateral trade issues that will need to be resolved if it is to negotiate any regional or bilateral agreements; the successful resolution of these issues is also key to the continued growth of trade between Taiwan and the United States, and to Taiwan's maintenance of an important position within global supply chains.

#### 4. Taiwan's Economic Dependency on the United States and China

The United States has been the most important trading partner for Taiwan since Chiang's government moved to Taiwan from Mainland China after the civil war in 1949. Because of the political factors, the United States has since become one of Taiwan's main export markets. In 1990, the United States was Taiwan's largest export market and its second-largest source of imports, accounting for 72.31 percent of Taiwan's overall trade surplus. However, during the past few decades, Taiwan has faced some critical issues such as losing its diplomatic ties with most countries and its membership within the United Nations and other international

organizations; the domestic democratization; the rise of China; the trends of globalization and anti-globalization and the change of American Cross-Straits policy and so on, affecting the steady growth of both Taiwan's exports to and imports from the United States.

#### 4.1. The US-Taiwan Trade Relations

By 2015, Taiwan's trade with the United States had risen to 34.2 billion USD and 26.4 billion USD respectively, but the share of Taiwan's total US-bound exports had fallen from 23.42 percent in 2000 to just 12.21 percent, and the share of Taiwan's total US imports fell from 17.96 percent in 2000 to 11.54 percent in 2015. The share of Taiwan's overall trade surplus with respect to the United States also declined, from 72.31 percent in 1990 to 15.22 percent in 2015. There has thus been a dramatic weakening of the bilateral trade relationship; overall, the United States has fallen to the fourth largest trading partner for Taiwan (Liu, 2016), mainly due to the cheap labor and large domestic markets in China and ASEAN member countries.

Taiwanese semiconductor manufacturing is important to the US economy which, in terms of value, represents over 47 percent of the total value added in global markets in this industry. Taiwanese firms account for at least 48 percent of total semiconductor fabrication. The US semiconductor leading companies such as Apple, Qualcomm, and NVIDIA base their economic model on chip design and outsourcing actual fabrication to leading firms like Taiwan's TSMC (Taiwan Semiconductor Manufacturing Company) and South Korean Samsung. The US chip design firms also account for 85 percent of the software needed for this segment of the industry. TSMC does have two fabrication plants in China but protects its best intellectual property by keeping its leading-edge processes in Taiwan. The company already has one plant in the United States and has announced a second plant, valued at 10-12 billion USD, in Arizona. About 60 percent of TSMC's business is with US firms. The wider importance of such manufacturing interdependence has been underscored recently by shortages of chips designed for the auto sector, which has led to months-long closures of major plants in the United States, Japan, and Europe. TSMC manufactures nearly 70 percent of all auto-specific chips.

For its part, the United States benefits from robust economic ties with Taiwan. Increased suspicion of Made in China's advanced technology products has led some US firms to view Taiwan as a secure and trusted partner. And the growing aversion in many economies, including, but not limited to, the United States, to

China-origin artificial intelligence-enabled products, and other software applications have made Taiwan a potentially attractive substitute for products designed or manufactured in China. Likewise, Taiwan benefits enormously from robust economic ties to the United States—one of its top five export markets and an essential technology partner. Taiwan, in effect, discovered Silicon Valley decades before the rest of the world. Since the 1970s, the process of “brain circulation” of Taiwan-born, US-educated, and trained engineers has driven a wave of entrepreneurial growth in semiconductors, personal computers, and other hardware-related industries.

In summary, even apart from the geopolitical considerations which have led to the US-China rivalry in high technology industries and global political influence, the economic case for an FTA is compelling. The United States would like to have better access to Taiwanese food and energy sectors and to see improved protection for intellectual property rights. These are traditional problems for an FTA to resolve. The mutual danger of Chinese efforts to displace the semiconductor industries in both countries as well as the mutual interdependence of the US and Taiwanese firms in this sector should motivate efforts to facilitate even stronger innovation ecosystems in the two countries. An FTA could also facilitate more Taiwanese investment on the safer shores of the United States (Duesterberg, 2021).

#### 4.2. China-Taiwan Trade Relations

China is a natural trade and investment partner for Taiwan. Taiwan’s continued dependence on China is partly due to the common language, culture, proximity, and the attraction of its lower wages and large market. Nonetheless, overdependence poses risks for all of China’s trade partners, as the US trade war with China has shown and as China uses economic dependence for political leverage. It is therefore wise for Taiwan to diversify its commercial relationships (Lin, 2021) from the “Go South” policy in 1993, and now under current President Tsai’s “New Southbound Policy” (NSP) since 2016. Both policies intended to lead Taiwanese trade and investment away from China or to Southeast Asia. The rising costs in China and the US-China trade war caused the profits of Taiwan’s investments in China to decline, but trade with China keeps growing. China and Hong Kong combined now represent 34 percent of Taiwan’s overall trade, compared with 13 percent with the United States and 11 percent with Japan. Despite policy incentives, the Association of Southeast Asian Nations’ (ASEAN) share of Taiwan’s total trade volume has dropped from 16 percent in 2017 to 14 percent in 2022.

Taiwan is a critical provider of high-end semiconductors that Huawei and other Chinese companies need and that Chinese manufacturers cannot produce themselves. On the other hand, China is an important market for Taiwan's semiconductor companies. For example, 20 percent of the Taiwan Semiconductor Manufacturing Company's (TSMC) sales go to the Chinese market. After Apple, Huawei is TSMC's biggest customer. And within the technology sector, the oversized role of the semiconductor industry carries high risks. Taiwan's semiconductors are key to the ambitions of Washington and Beijing in advanced technologies ranging from self-driving cars to artificial intelligence to 5G telecommunications. But making products attractive to both superpowers may not be as enviable as it appears. A recent report from the US National Security Commission on Artificial Intelligence expressed concern about American overreliance on Taiwan, warning that the United States must try to localize semiconductor production to manage risks and ensure supply. If China gains ground and reduces its dependence on Taiwanese chips, it will not only buy less from Taiwan, but may also become a competitor for Taiwanese firms, eventually even including the flagship Taiwan Semiconductor Manufacturing Company. The risks from Taiwan's continued economic dependence on China are exacerbated by the strained political relationship between Taiwan and the mainland. After Taiwan democratized, it developed a different set of political and civic values from those in China (Lin, 2021).

## 5. Global Issues affecting Taiwan's Economy

### 5.1. ASEAN

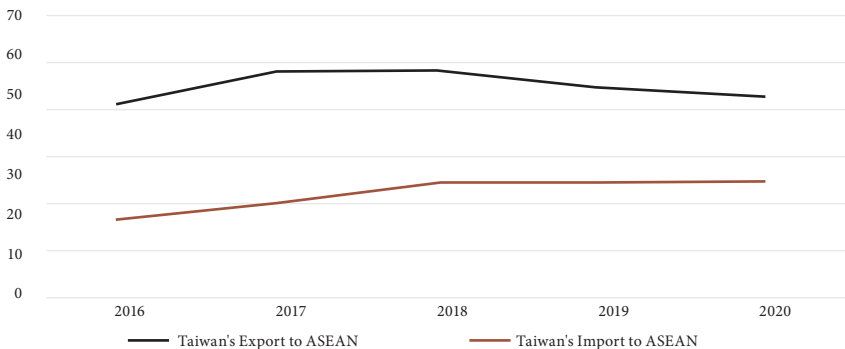
ASEAN accounts for an overwhelming majority of Taiwanese exports and foreign direct investment (FDI) with NSP countries. Between January 2016 and April 2018, ASEAN received over 86 percent of Taiwan's exports to NSP countries. In 2017, Taiwanese exports to ASEAN totaled 58.51 billion USD, a 14.2 percent increase from the previous year. In 2020, Taiwan's exports to ASEAN have only slightly decreased during the Covid pandemic (Figures 7 and 8). Malaysia alone saw a 32.7 percent jump in Taiwanese exports from 2016, while exports to Laos grew by an astonishing 74.5 percent on the year. Within ASEAN, Singapore, Vietnam, and Malaysia accounted for 38.5 billion USD of total exports in 2017. Between 2016 and 2018, of the top ten NSP countries as a destination for Taiwanese exports, seven were ASEAN countries. India was sixth with a 5 percent share of Taiwan's export market, and Australia and Bangladesh followed eighth and ninth on the list (Marston – Bush, 2018).

Taiwan's investment flows to ASEAN rose to 4.2 billion USD in 2016, up 73.3 percent from the previous year (before Tsai's inauguration), making Taiwan the region's seventh largest source of FDI. In 2017, according to Taiwan's Ministry of Economic Affairs, Taiwan's investment in the six largest ASEAN economies of Singapore, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam, grew by more than 25 percent from the previous year to 2.82 billion USD. Meanwhile, Taiwanese FDI in India more than doubled to 30.56 million USD in 2017, while investment in Australia leapt to an impressive 615.88 million USD (Marston – Bush, 2018).

Of the 2.3 million tourists from NSP countries in 2017, 2.14 million come from the ASEAN region. The eight non-ASEAN NSP countries account for a meager remainder of 147,380 travelers. The number of tourists traveling from ASEAN countries rose 16 percent in 2016 and more than 29 percent in 2017. Tourism from the Philippines saw a 69 percent jump in arrivals between 2016 and 2017 following similar visa policy changes. Vietnamese tourist figures nearly doubled from 196,636 in 2016 to 383,329 in 2017.

Taiwan managed to evade political pressure from Beijing when signing FTAs with Singapore and New Zealand in 2013, but that was under the Ma Ying-jiu government, which China was more willing to accommodate, in part because Taipei took a more China-friendly approach to Beijing's One-China policy and in part because it was willing to delay concluding those FTAs until after it had signed a Cross-Straits Economic Cooperation Framework Agreement with Beijing in 2010 (Marston – Bush, 2018).

Figure 7: Trade Relationship between Taiwan and ASEAN



Note: Values in billion USD;  
Source: Bureau of Foreign Trade, MOEA, ROC, 2021.

Figure 8: Taiwan's Bilateral Trade with ASEAN

Year	Export		Import	
	Value	YoY	Value	YoY
2020	53,216	-1.33	35,880	2.61
2019	53,935	-7.21	34,965	1.21
2018	58,126	-0.67	34,549	11.45
2017	58,518	14.19	31,000	14.06
2016	51,248	-0.66	27,179	-6.38

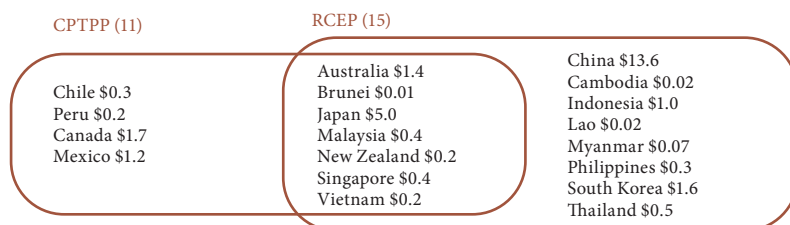
Note: Values in million USD;

Source: Bureau of Foreign Trade, MOEA, ROC, 2021.

## 5.2. CPTPP and RCEP

The good relationship between Taiwan and China did not last long, when Trump withdrew the United States from the Trans-Pacific Partnership (TPP) immediately after his inauguration, the TPP was dead without US participation. Taiwan has expressed interest in joining the CPTPP, and Japan expressed its support when it held CPTPP's rotating chair in 2021. Taiwan joining CPTPP would be both powerfully symbolic and practically important. Roughly one-fourth of Taiwan's total trade is with current CPTPP members (Figure 9), and if Taiwan were to be a member, its economy would be the fifth largest. Still, Taiwan's CPTPP accession faces enormous political hurdles. Ratifying its inclusion in the CPTPP is a risky move for the bloc, especially as China is the top trading partner for nearly all CPTPP member states. As China has actively worked to ensure that Taiwan remains isolated from regional and international multilateral agreements. By applying political and economic pressure, China has reduced the number of states that recognize Taipei from twenty-two to fifteen since 2016. Taiwan's wish to join RCEP was quickly vetoed by China, leaving CPTPP as Taipei's only remaining viable option to consolidate its economic benefits (Solís – Mason, 2018).

Figure 9: Members of RCEP and CPTPP



Source: Petri P. A. – Plummer, M. (2020).

RCEP will connect about 30 percent of the world's people and output and, in the right political context, will generate significant gains. According to the study by Peter A. Petri and Michael Plummer, RCEP could add 209 billion USD annually to world incomes, and 500 billion USD to world trade by 2030.

The effects of RCEP are impressive even though the agreement is not as rigorous as the CPTPP. It incentivizes supply chains across the region but also caters to political sensitivities. Its intellectual property rules add little to what many members have in place, and the agreement says nothing at all about labor, the environment, or state-owned enterprises all key chapters in the CPTPP. However, ASEAN-centered trade agreements tend to improve over time (Petri – Plummer, 2020).

Southeast Asia will benefit significantly from RCEP (19 billion USD annually by 2030) but less so than Northeast Asia because it already has free trade agreements with RCEP partners. But RCEP could improve access to Chinese Belt and Road Initiative (BRI) funds, enhancing gains from market access by strengthening transport, energy, and communications links. RCEP's favorable rules of origin will also attract foreign investment (Petri – Plummer, 2020).

RCEP, often labeled inaccurately as “China-led,” is a triumph of ASEAN's middle-power diplomacy. The value of a large, East Asian trade agreement has long been recognized, but neither China nor Japan, the region's largest economies, were politically acceptable as architects for the project. The stalemate was resolved in 2012 by an ASEAN-brokered deal that included India, Australia, and New Zealand as members, and put ASEAN in charge of negotiating the agreement. Without such “ASEAN centrality,” RCEP might never have been launched (Petri – Plummer, 2020). Since RCEP negotiations began in 2013, Taiwan has expressed interest in joining the regional trade pact as part of broader efforts to participate in multilateral economic cooperation and free trade negotiations, as well as to institutionalize bilateral and multilateral cooperation with ASEAN countries.

For Taiwan, exclusion from RCEP could have significant implications for its economy, which is heavily dependent on foreign trade. RCEP countries, which account for nearly 60 percent of Taiwan's foreign trade, and Taiwan's major trade partners and investment centers such as China, ASEAN, and Japan are also RCEP member countries. In response to the announcement on RCEP, Taiwan's Minister of Economic Affairs argues that 70 percent of trade between Taiwan and RCEP countries are already tariff-free. Taiwan also has two free trade agreements



(FTAs) with New Zealand and Singapore, signed in July and November of 2013, respectively. The 2013 signing of the Agreement between Singapore and the Separate Customs Territory of Taiwan, Penghu, Kinmen, and Matsu on Economic Partnership (ASTEP), demonstrates Taiwan's commitment to trade liberalization and globalization and will pave the way for Taiwan's entry into the CPTPP and RCEP (Chang, 2019).

In contrast, the CPTPP and RCEP could add 121 billion USD and 209 billion USD to world incomes, respectively, if they are implemented as planned. These gains—due to additional trade and production in East Asia—would offset the effects of the trade war for the region, if not fully for China and the United States. The agreements will reduce the cost of doing business in East Asia, connecting strengths in technology, manufacturing, agriculture, and natural resources. They will deepen linkages between China, Japan, and South Korea, which are already among each other's largest trade partners. RCEP and the CPTPP make East Asia a natural sphere of Chinese economic influence and will generate skewed benefits. China will gain the most from RCEP (100 billion USD), followed by Japan (46 billion USD) and South Korea (23 billion USD). Southeast Asia will also benefit (19 billion USD), but less since free trade accords are already in place with RCEP partners. Meanwhile, the United States and India will forego gains of 131 billion USD and 60 billion USD, respectively. But compromises are increasingly possible—in part—due to Covid-19 many countries now support a larger economic role for the state. Even the United States is using or proposing “Buy American” laws, controls on trade and investment, public investments in technology, and government stakes in global champions. Limited industrial policy space could coexist with market disciplines, though defining that space will take thoughtful leadership. RCEP and the CPTPP will benefit China economically, but they put Chinese leadership to the test. They offer an unusual chance to reverse the freefall in international cooperation (Petri and Plummer, 2020a).

### 5.3. The US-China Trade War

Following China's accession to the World Trade Organization (WTO) in 2001 and its broader integration into the global economy, the United States significantly increased its economic ties with China. US trade ties with China peaked in 2017, with the share of US export goods going to China reaching 8.6 percent, and the share of import goods reaching 21.6 percent. However, since 2018, the US-China trade war has caused bilateral trade flows to decline, threatening to reduce the

benefits this trade generates for the US economy.

The United States has benefited from increased economic integration with China. Even after a recent decline in bilateral trade, the US exported 106 billion USD in goods and 57 billion USD in services to China in 2019 according to the Oxford Economics reports in 2021. Other than that, American families and consumers have benefited from cheaper imported goods from China. Businesses have benefited from cost-effective inputs that have boosted their competitiveness, while globally integrated supply chains have improved efficiency and lowered production costs for US firms. This has enabled US businesses to grow and create jobs in the US. China has also invested directly in the United States, creating jobs, and providing incomes for American households. Moreover, US-based multinationals have invested directly in China, allowing them to reinvest profits from their China operations. The success of US companies in China will be essential for US global competitiveness going forward, as China is projected to drive around a third of global growth over the next decade. Profits made by US companies through investing in China can also benefit the American economy through dividends, R&D spending, and increased domestic investment.

The US-China trade war began in April 2017 when the United States launched a national security investigation into international steel and aluminum products. A series of trade measures were aimed at China for the purpose of investigating unfair trade measures and to solve the trade deficit problem. China faced increased tax pressure, while it imposed tariffs on some products in retaliation. The nature of the US-China trade conflict is a trade issue involving tariffs on products that began as a measure to solve the trade deficit problem, but it also wants to target China's unfair trade measures. Such measures include its continuing subsidies for state-owned enterprises (SOEs), infringement of intellectual property rights (IPRs), and forced technology transfer, which are seen as threats to US interests.

Taiwan's economy seems to benefit from the impact of the US-China trade war. Its economic growth rate is expected to be more than 2 percent in early 2021. From the supply chain perspective, the triangular trade model, where Taiwan takes orders, China produces and the US consumes, the US-China trade war will disrupt this kind of Taiwanese investment and production structure. Although Taiwan's trade performance has been affected, with the annual growth rate of exports in the first half of this year at -3.4 percent, it benefited from a transfer effect/transfer production base, such as ICT and audiovisual products, along with Taiwan's trade with the US showing breakthrough growth.

The United States and China are likely to continue amassing disproportionate weight in the international system going forward. Their growing role in the global economy is fueled largely by both countries' technology sectors. These two countries have unique traits. These include world-class research expertise, deep capital pools, data abundance, and highly competitive innovation ecosystems. Both are benefitting disproportionately from a clustering effect around technology hubs. For example, of the roughly 4,500 artificial intelligence-involved companies in the world, about half operate in the US and one-third operate in China. According to a widely cited study by PricewaterhouseCoopers, the United States and China are set to capture 70 percent of the 15.7 trillion USD windfall that AI is expected to add to the global economy by 2030 (Hass and Balin, 2019).

Another area of US-China interdependence has been knowledge production. As US-China technology expert Matt Sheehan has observed, "With the rise of Chinese talent and capital, the exchange of technological know-how between the United States and China now takes place among private businesses and between individuals." Leading technology companies in both countries have been building research centers in the other. Alibaba, Baidu, and Tencent have all opened research centers in the United States, just as Apple, Microsoft, Tesla, and other major American technology companies rely upon engineering talent in China (Hass, 2021).

## 6. Taiwan's Stability and the Sustainability of the Global Economy

### 6.1. From Trump to Biden

The Trump administration argued that a broadened partnership with Taiwan could be an additional element of American power and purpose in the Indo-Pacific. Taiwanese firms may continue to relocate factories to other developing countries due to geopolitical uncertainty and cost considerations. However, the relocation of manufacturing production away from China does not mean weakening manufacturing ties across the strait. The enactment of China-ASEAN free trade members and RECP would facilitate Taiwanese firms' construction of a production network between China and ASEAN countries. The greater regional economic integration, coupled with Taiwan's New Southbound Policy, are expected to expand cross-strait production network through ASEAN's greater involvement.

The Biden administration continues Trump's policy to encourage the supply chain to move back to the United States. Apple's two largest production partners, Foxconn, TSMC, and other Taiwanese semiconductor firms echoed Trump's policy to invest in the US manufacturing industry. As a result, Taiwan's investment in the US in 2020 increased significantly. The United States is now the second largest investment destination, accounting for 24 percent of Taiwan's total outward investment, after China's 33 percent in 2020. In the same year, Taiwan's investment in electronic parts and component manufacturing in the United States is two times larger than that in China.

Taiwan's manufacturing investment in the United States aims to supply the local demand in the country. This indicates a potential decline in Taiwanese exports to the United States as goods could be produced locally. On the contrary, Taiwan's imports from the United States are likely to rise. With Taiwan's relaxation of import restrictions on US pork in January 2021, Taiwan's import of US agricultural goods is expected to increase. Taiwan also increased its imports of crude oil from the US after 2018. Moreover, it has prepared to increase its imports of natural gas from the US. Taiwan's potential declining exports to and growing imports of agricultural and petrochemical goods from the United States may cut its trade surplus with the country in the future.

Unlike Trump's bilateral approach, the Biden administration vowed to contain China by working with US allies. Nevertheless, the effectiveness of Biden's multilateral approach to counterbalance China's power rise is uncertain. A few decades ago, many US traditional allies were economically reliant on China and did not intend to choose between the two. But now China has already taken the lead in developing a multilateral network over the past few years and has become an important member of RCEP. It also expressed its interest in joining the CPTPP. In comparison, the United States is not involved in any FTA yet. It will take time for the new administration to rebuild the US-centered multilateral economic network.

Given the development of 5G, ICT goods, and electric cars, Taiwan's manufacturing-oriented economy is likely to maintain decent growth in the short term. In the long run, geopolitical uncertainty and the US-China competition in high technology remain the most important variables in Taiwan's economic outlook.

## 6.2. Taiwan's role in Global Economic Sustainability

TSMC is one of Taiwan's largest businesses and the world's leading semiconductor foundry. As the Carnegie Endowment's Evan Feigenbaum has described in a recent study, TSMC relies on its massive scale to spread out fixed costs, push down the price per unit, and pump resources into next-generation research and development. If TSMC loses scale, e.g., by losing a market that accounts for 20 percent of its global sales, it could lose its edge over its competitors (Feigenbaum – Weisel, 2021).

Taiwan will have to continue to maintain its manufacturing strength, encourage innovation, and attract talents and investors. Taiwan will also have to strengthen its financial services to better serve the highly developed manufacturing industry's financial demand. The policy will also need to encourage the synergy between the highly profitable semiconductor industry and other industries so that Taiwan's economic development will be more balanced. The domestic legal environment must ensure that all domestic and foreign businesses can compete fairly. A strong and competitive economy will be the best weapon to protect Taiwan's sovereignty and secure its national interests going forward (Chiang, 2021).

A new administration, therefore, offers an opportunity to reevaluate. But even with broad-based bipartisan political support for a bilateral trade agreement (BTA) in Congress and the change in administration, BTA negotiations with Taiwan may not be in the future anytime soon. After all, the Biden team will need many months to settle on its trade agenda, decide whether and how to prioritize prospective bilateral and multilateral trade agreements, and then launch negotiations when necessary. The danger is that advocates for a deepened US-Taiwan economic partnership could find themselves at least twelve to eighteen months into the Biden administration before US trade officials even begin weighing the prospect of an agreement. Focusing solely on a BTA and little else thereby risks crowding out other productive ideas, initiatives, and policy innovations. But Taipei also views closer economic ties with the United States as a strategic benefit in the face of pressure from Beijing. Taiwan wants a broader array of commercial ties and partnerships and has bet that, as the United States seeks to expand its economic partnership with Taiwan, other major economies could potentially follow.

With or without a BTA, a stronger trade, investment, and innovation relationship between the United States and Taiwan would help to lock in mutually beneficial gains. And because both Washington and Taipei are members of the Asia-Pacific

Economic Cooperation (APEC) forum, a broader agenda in APEC would be one way to negotiate a formal system of shared standards, principles, and understandings. Another would be to broaden the scope and nature of their bilateral economic engagement. The immediate priority for both Washington and Taipei should be an early harvest of quick wins. It will take time for the Biden administration to decide whether to launch a multilateral sectoral trade initiative in which Taiwan might participate. So other complementary bilateral initiatives that could move more quickly should, at this point, be the immediate goal to demonstrate the strengthening of economic ties between the United States and Taiwan.

The United States with the participation of other relevant agencies should host senior-level meetings inviting Taiwan and other like-minded nations with an agenda focused on immediate deliverables, including the negotiation of an enhanced and more comprehensive science and technology agreement covering innovation in addition to the existing emphasis on basic research, and an understanding on investment screening coordination, agreement on specific ways the two sides will coordinate on renewable energy and environmental sustainability, and women's economic empowerment, etc. For Washington, hosting a US-led dialogue trade and investment meeting regularly in coordination with its Taiwan counterparts and leading business associations, to promote bilateral trade, investment opportunities, and partnerships among the participating nations is a good idea. The meetings with counterparts from Taipei would signal the United States' commitment to reestablishing regular engagement with Taiwan and deepening trade relations. The participating nations may directly reach out to Taipei to gain high-tech products or skills to sustain their economic development. The agenda could aim at leveraging commercial partnerships, such as encouraging US energy firms to make greater use of engineering, procurement, and construction (EPC) partners based in Taiwan. Many of these US companies are already working with local EPCs on their projects in Taiwan. One prospective model would be to leverage existing US-Taiwan EPC partnerships so that Taiwan-based EPC firms could be bidding partners on projects in Southeast Asia or elsewhere. Ultimately, deepening such partnerships would require measures by Taipei to bring down costs; Taiwan needs policies that incentivize competition among EPCs. But this topic could be addressed within a US-led dialogue track, showcasing the many ways Washington and Taipei are looking not just at a potential BTA but well beyond it to capture the full range of bilateral, regional, and global opportunities to sustain global economic growth.

The United States and Taiwan and any other countries aiming to boost their economic growth have every reason to develop their economic partnership further. Making good on this opportunity, however, will require broadening their agenda; pursuing a multifaceted set of dialogues, agreements, projects, and other initiatives; and reflecting the interests of a wider array of public and especially private players (Feigenbaum – Weisel, 2021). The Financial Times reported that the Trump administration has asked the Taiwanese government to compel TSMC to do just that. Per the article, Washington wants Taipei to restrict sales of semiconductors to Huawei and to institute stricter controls on technology exports to China. Washington also reportedly is considering tightening the US content threshold for export controls from 25 to 10 percent, meaning that chips manufactured in Taiwan with 10 percent or greater American content would require a license for export to China. This could constrain chip sales in the short run, and over the longer term compel Taiwan foundries to engineer American content out of chips bound for China (Hass, 2020).

Beijing relies on imports of high-end chips, many of which originate in Taiwan. At the same time, the United States wants to slow down the rate of China's technological progress, including but not limited to Huawei. So, if it has not done so already, Washington may soon increase pressure on Taipei to support its strategic objectives vis-à-vis China, including the tightening of restrictions on sales of high-end chips to China. There is a risk that US-China technology competition will end up hurting Taiwan. Whether or how Taiwan's economic equities are protected amidst the intensifying US-China technologic competition will depend on the work of policymakers in Washington and Taipei (Hass, 2020).

## 7. Conclusion

The US-China trade war can only damage the world economy. The two major powers may try to win the war to monopolize its leadership or economic growth, however, the rest of the world will lose economic development. There is a high probability that US-China relations will continue to deteriorate in the months to come. The US-China phase one trade deal slowed the rate of decline in the relationship, but it did not reverse the downward trajectory. The reality is that tariffs are the side-show. The real action now is in the technology sphere and Taiwan will be torn between them. The more the US-China technology competition intensifies, the greater the risk of collateral damage to Taiwan, even though that is not the intention of any American policymaker.

A major factor in Taiwan's economic growth is the continuing diversification strategy adopted by the Taiwanese businesses in China. In fact, this trend started way before the pandemic and before the recent US-China trade war. Starting roughly in 2010, there has been an incremental decrease in foreign direct investment from Taiwan to China, despite some fluctuations in 2015. This has something to do with the structural changes to Cross-Strait economic relations (Liu, 2020). Diversifying its economy and reducing economic dependency on and political tensions with China will be the key turning point in Taiwan's economic development. However, without creating more economic and trade partnerships, Taiwan's businessmen will be reluctant to leave China's markets. Taiwan's dilemma on its economic future could be solved with the following approaches: (1) Internally, no matter which party is in power, Taiwan needs to pursue a peaceful resolution between the United States and China to attract more foreign investment, at the same time to balance its relationship with the United States and China to stabilize its business environment. (2) Externally, the United States needs to show the world its determination to strengthen and stabilize the world economy again through free trade and to ensure that other countries have the option to participate without any costs.

Trade liberalization and globalization can have both positive and negative effects on sustainable development. There is a continued need to support efforts by more players to integrate themselves into and derive benefits from the multilateral trading system. At the same time, attention also must be given to enhancing the contribution of the multilateral trading system to sustainable development. A supportive international economic environment is crucial. Two of the SDGs goals of the United Nations call for promoting sustainable development through trade liberalization; and making trade and the environment mutually supportive (UN SDGs Goal 8, Agenda 21). Taiwan is not a member of the UN but "Taiwan can help" the slogan of Tsai's administration declared to the world during the pandemic shows the strong will of Taiwan to participate in the international community. The Taiwanese have been struggling with the two core values of whether to prioritize Taiwan's security or prosperity. The United States and China are the only two actors that can resolve these issues. Taiwan's global participation can solve its current economic issues. The stability and the continuous growth of the world economy rely on the harmony between the United States and China. China needs social and economic stability to secure its leadership. The United States needs economic growth to stabilize its leadership as well. However, a secure and prosperous Taiwan may contribute to what the United States and China both need. The three parties need each other to sustain global economic growth and



prosperity. Optimal scenarios for these three actors to engage in global economic sustainability are:

- (1) The United States and China agree to create a “semiconductor manufacturing zone” by inviting companies to focus on research, develop and produce the chips that help the world economy.
- (2) The UN invites some developing countries to work with high-tech companies or educational institutions from Taiwan by proposing an NGO training center to cultivate talents in high-tech industries to fulfill its SDGs.
- (3) The United States holds a “world high tech industry summit” as a second track to link Taiwan to the world.

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