

En Yasu and Japanese Auto Industry Performance – Focus on Toyota Motor Corporation and Its Management Strategy

CHOWDHURY Mahbubul Alam*

KHONDAKER Mizanur Rahman**

Abstract

The yen was (is) depreciated, called *en-yasu*, against the backdrop of widening interest rate differentials between Japan and the US. The US dollar and Japanese yen exchange rate temporarily exceeded 150 yen per dollar at the beginning of August 2022, the first depreciation of the yen in 30 years. Under these circumstances, due in part to soaring commodity prices, national leaders, business community, researchers, and other related authorities have called this a case of “bad yen depreciation”, in which the negative side of the yen’s depreciation outweighs the positive side. This paper at first makes an account of how exchange rate fluctuations affect(ed) the Japanese economy as well as the automobile industry and how these have changed, and then examines the impact of the yen’s depreciation against the US dollar on corporate profits of the automobile industry. As the yen becomes weak it becomes a headache for the resource-poor country Japan since it inflates import costs/prices of crude oil, other fuel items, raw materials, food items, and imports manufactured goods which also followed Russia’s invasion of Ukraine. This paper develops secondary data to assess how changes in exchange rates, factor costs, and voluntary export restraints have affected recent *en-yasu* competitiveness in the automobile market of Japan.

Keywords: Automobile industry, COVID-19 pandemic, *En-yasu*, foreign exchange rate, performance, management strategy, Toyota.

* 福岡女子大学国際文理学部国際教養学科大学院社会科学部研究科教授

** 南山大学経営学部教授

I. Introduction

The Japanese automobile industry is the most important base of Japanese economy and is represented by companies namely Toyota, Honda, Nissan, Suzuki, Mitsubishi, Mazda, Daihatsu, Hino, Isuzu, Subaru, and Fuso which are known throughout the world. Products of these companies can be found in all corners of the world. These companies consolidate thousands of substantial suppliers, popularly known as *keiretsu* and *shitauke*, many of which are small- and medium-sized enterprises. Despite the economic strain of 2020 and 2021 in the aftermath of the COVID-19 pandemic, shortages of chips occurred due to the supply shortages from the automobile subcontracting sector in Japan as well as other countries where Japanese producers possess parts makers. From the beginning of 2022, although the supply chains were getting stabilized, the Japanese automobile market was slow to recover.

Consequent upon Ukraine-Russia war and subsequent *En Yasu* (depreciation of yen), Japanese economy continued to suffer from import of raw materials and spare parts, and goods of all kinds were in extreme short supply. Under these circumstances, the most affected industries are the automobile as well as the electronics and electric sectors. The US dollar-yen rate was 116 yen/dollar at the beginning of January 2022. The currency traders saw something that had not happened since June 1990—the Japanese yen to US dollar exchange rate eclipsed 150.14 in August 2022 (Wall Street Journal, December, 2022). It was the first time in almost a quarter century that the yen was so much depreciated.

The yen-dollar exchange rate is historically important to Japan because Japan relies on imports for energy, food, automobile components, and others. The depreciation of the yen led to an increased financial burden on households, businesses, and industrial sectors. The depreciation of the yen was reflected in higher import prices in yen-terms and lower sales of imported consumer goods. It imposed a burden on the importing industries which faced(es) difficulties in passing the increase in input prices on to the retail prices because of the weak domestic demand and a negative output gap.

The impact of rapid depreciation of Japanese yen is negative and undesirable for the economy since it increases uncertainty about the future and makes it difficult for companies to formulate domestic and international business plans. Japan's automobile component industry encompasses great diversity with companies

whose business areas include chemicals, electronics, textiles, and mechanical components. The increase of costs in Japan's massive imports of energy as well as many automobile components leads to the deterioration of Japanese industry's competitiveness compared to American and European businesses due to the influence of the weaker yen.

The discussion in this paper is organized as follows. Section 2 gives a brief general overview of the metamorphosis of Japanese auto industry. Section 3 examines some historical facts of performances of the automobile industry during unstable foreign exchange rate. Section 4 examines production and sales for the year of *en-yasu*. Section 5 provides an overview of the performance in Toyota Motor Company which is the biggest automobile company in the country as well as the world. Finally, Section 6 gives some concluding remarks deliberating on and summarizing various issues in this context.

II. Metamorphosis of Japanese Auto Industry

Japan is one of the leading vehicle-producing nations in the world. Japanese vehicles are reliable, valuable, cost effective, and high in demand and exports to different countries. The country is the home for 11 automakers and 78 parts factories and employs over 5.5 million people. People all around the world are familiar with Japanese brand like, Toyota, Honda, Nissan, Mitsubishi, Subaru, Daihatsu, Fuso, Hino, Mazda, Lexus, and many more (Cusumano, 2020).

At present, Japan, America, and China are in the top three of the countries with most vehicles manufactured. The automobile industry in Japan had started export only 1,231 vehicles and only 2 passenger cars in 1955 (Table 1), which had rapidly increased next ten years from 1957 to 1967; and total production of motor vehicles in Japan grew seventeen-fold topping three million units for the first time in 1967 and in 1970 production exceeded five million units and export increased more than one million units (JAMA, website). During the late 1970s and early 1980s, the automobile industry enjoyed impressive export gains in North American and Western European markets. Companies namely Mitsubishi, Isuzu, Fuji, and Suzuki opened manufacturing plants in outside of Japan to ease trade and increased their competitiveness as the value of Japanese currency soared.

Domestic passenger vehicles at this time were manufactured by mounting passenger vehicle bodies onto the chassis of small trucks, a technically irregular

way of building vehicles to say the least (JAMA, website). Soon, however, Japanese manufacturers began to focus on developing vehicles that would meet international standards and on implementing mass production systems which could not have been created before the second world war.

The process of post-war development of automobile industry had adopted to enter into technological tie-ups with foreign automobile manufacturers. The Ministry of International Trade and Industry announced the “People’s Vehicle” plan in May 1955, which gave Japanese vehicle manufacturers an excellent opportunity to develop original models of their own (JAMA, website). The “People’s Vehicle” plan had the effect of spurring competition among automobile manufacturers to market new products, particularly the manufacturers of two- and three-wheeled motor vehicles who had been hoping for some way to enter the four-wheeled markets. As a result of their efforts, Suzuki commenced sales of its 360cc Suzulite; Fuji followed suit with its Subaru (360cc), and Mitsubishi with its Mitsubishi (500cc). Toyota produced the Toyopet Crown (1500cc) in 1955, and Fuji, aiming to become exclusively a manufacturer of luxury vehicles, produced the Prince Skyline (1500cc) in 1957. In 1960 Toyo Kogyo (today’s Mazda) introduced the Mazda R360 Coupe, and in 1961 Toyota began marketing the 700cc Publica. All these vehicles were influenced by the “People’s Vehicle” concept (JAMA, website). Nissan ceased production of Austin vehicles in 1959, and when Hino and Isuzu followed suit in 1965. Furthermore, the “people’s vehicle” plan was instrumental in changing the thinking of the general public, who might had thought that automobiles would have little or no role in their own daily lives. In this sense, the government’s proposal had a kind of pump-priming effect, promoting the development of motorization which was to expand very rapidly in the mid-1960s.

Table 1 Production, Sales and Export of Automobile industry in Japan (Units)

Year		Vehicles	Trucks	Buses	Total
1955	Production	20,268	43,857	4,807	68,932
	Domestic Sales	20,055	40,498	3,977	64,530
	Exports	2	907	322	1,231
1960	Production	165,094	308,020	8,437	481,551
	Domestic Sales	145,227	255,693	7,260	408,180
	Exports	7,013	31,028	768	38,809

1965	Production	696,176	1,160,090	19,348	1,875,614
	Domestic Sales	586,287	1,073,832	14,843	1,674,962
	Exports	100,716	90,923	2,529	194,168
1970	Production	3,178,708	2,063,883	46,566	5,289,157
	Domestic Sales	2,379,137	1,693,502	27,828	4,100,467
	Exports	725,586	351,611	9,579	1,086,776
1975	Production	4,567,854	2,337,632	36,105	6,941,591
	Domestic Sales	2,737,641	1,551,454	19,836	4,308,931
	Exports	1,827,286	833,672	16,654	2,677,612
1980	Production	7,038,108	3,913,188	91,588	11,042,884
	Domestic Sales	2,854,176	2,137,947	23,387	5,015,510
	Exports	3,947,160	1,953,685	66,116	5,966,961
1985	Production	7,646,816	4,544,688	79,591	12,271,095
	Domestic Sales	3,104,083	2,431,178	21,573	5,556,834
	Exports	4,426,762	2,238,104	65,606	6,730,472
1990	Production	9,947,972	3,498,639	40,185	13,486,796
	Domestic Sales	5,102,659	2,649,909	24,925	7,777,493
	Exports	4,482,130	1,309,121	39,961	5,831,212
1995	Production	7,610,533	2,537,737	47,266	10,195,536
	Domestic Sales	4,443,905	2,403,825	17,303	6,865,033
	Exports	2,896,217	849,827	44,734	3,790,778
2000	Production	8,363,485	1,726,818	54,544	10,144,847
	Domestic Sales	4,259,872	1,686,599	16,571	5,963,042
	Exports	3,795,854	617,870	41,163	4,454,887
2005	Production	9,016,735	1,706,611	76,313	10,799,650
	Domestic Sales	4,748,409	1,085,904	17,754	5,852,067
	Exports	4,363,168	611,956	77,937	5,053,061
2010	Production	8,310,3621	1,209,179	109,334	9,628,875
	Domestic Sales	4,212,267	731,094	12,775	4,956,136
	Exports	4,275,366	450,312	115,782	4,841,460
2015	Production	7,830,722	1,309,749	137,850	9,278,321
	Domestic Sales	4,215,889	817,234	13,387	5,046,510
	Exports	3,970,003	466,776	141,299	4,578,078
2020	Production	6,960,411	1,037,731	69,801	8,067,943
	Domestic Sales	3,809,981	779,300	9,334	4,598,615
	Exports	3,407,999	259,879	72,954	3,740,832

2021	Production	6,619,245	1,154,054	73,659	7,846,958
	Domestic Sales	3,675,698	765,762	6,880	4,448,340
	Exports	3,367,590	379,007	72,313	3,818,910
2022	Production	5,333,029	967,667	68,552	6,369,248
	Domestic Sales	5,333,029	967,667	68,552	6,369,248
	Exports	52,710	342,979	68,298	3,084,424

Note: Data in 2022 are from January to October.

Source: JAMA, <https://jamaserv.jama.or.jp/newdb/prod4/prod4TpMkEntry.htm>
(retrieved on January 30, 2023).

During the 1960s, Japanese automakers launched a new small (*kei*) vehicle in their domestic market; scooters and motorcycles remained dominant with sales of 1.47 million in 1960 versus a mere 36,000 *kei* vehicles. These tiny automobiles usually featured very small engines under 360cc but were sometimes fitted with engines of up to 600cc for export to keep taxes lower than larger vehicles (JAMA, website). The Hayato Ikeda cabinet in 1960 launched this era, which continued unabated until the first oil crisis of 1973, by calling on the nation to strive for a doubling of the Japanese income.

As shown in Table 1, the annual production of domestically manufactured four-wheeled motor vehicles including trucks and buses went from 481,551 units in 1960 to 7,082,757 units in 1973—second only to the United States. During the same period, the number of four-wheeled vehicles in use in Japan increased from 1,353,526 to a staggering 24,999,281 vehicles. After the oil crisis of 1973, it was observed that fuel-efficient vehicles were highly demanded. Japan was in a good position to grow and internationalize. It designed new vehicles based on fuel efficiency. Entering the global market helped it to reach more segments.

The automobile industry in Japan rapidly increased throughout the 1980s and the 1990s; overtook the US as the production leader with up to 13 million vehicles per year manufactured and significant exports. With Japanese manufacturers producing very affordable, reliable, and popular vehicles throughout the 1990s, Japan became the largest vehicle producing nation in the world in 2000. However, its market share has decreased slightly in recent years, particularly due to old and new competition from South Korea, China, and India. China in the 2000s and with fluctuations in the US output, Japan is now the third largest automobile producer in the world with an annual production of less than 10 million automobiles. Nevertheless, Japan's vehicle industry continues to flourish, its market share has

risen again, and in 2008 Toyota surpassed American General Motors to become the world's largest vehicle manufacturer.

The Japanese automobile industry focused on changing market trends and developments in consumer needs. The vehicles were designed, manufactured, and marketed accordingly. The automobile industry in Japan is heading towards manufacturing environment friendly vehicles, hydrogen, and electric vehicles (EVs). The increase in fossil fuel prices encourages consumers to buy such next generation vehicles. Not only in Japan but in other countries across the globe, the demand for environment friendly vehicles is increasing and is being implemented. With time, industrial growth was influenced by the power of product development. The industry's focus is increasingly on next generation electric vehicles (EVs), battery electric vehicles (BEVs), and hybrids along with automated driving and various ride-sharing concepts. The top Japanese brands are all committed to producing more EV; however, now, Japanese manufacturers seem to favor gasoline-electric hybrids over all-electric vehicles. Japan's prime export goods are vehicles. Japan's fifth biggest export products by value in 2021 were vehicles, electronic circuits and micro-assemblies, automobile parts or accessories, semiconductor-making machinery, and heavy machinery such as bulldozers, excavators, or road rollers. Most important trade partners are Asia, America, and Europe. In 2022, from January to August, Japan exported US\$497.2 billion down but about -1.5 percent year over year. Japan's *En Yasu* since 2020 made exports paid for in stronger US dollars relatively less expensive in 2021. In contrast, Japan's exports were relatively costlier from 2017 to 2021 for international buyers starting from the weaker US dollar in 2017 (World's Top Exports, 2022).

In general, Japan has been highly dependent on imports for a variety of critical raw materials. Japan imports raw materials including crude oil, iron, steel, equipment parts, and others auxiliary materials. But some of these are recently starting to be overtaken by IT-related goods. Meanwhile, the value of consumer goods imports, which are attracting a great deal of attention in relation to domestic prices, is increasing due to *En Yasu*.

As known, an automobile is made of parts and components between 20,000 to 30,000, which a single company cannot manufacture. Thus, automakers outsource the production or purchase finished products from other companies including products manufactured abroad. The automobile industry is thus an integrated industry because it relies heavily on several supporting industries for its diversity

of materials and components. As vehicles have become more complex, nowadays consisting of many individual parts, the industry has evolved into an integrated supply chain of companies. Parts from hundreds of suppliers are applied into each vehicle that comes off of the assembly line. Supply chains of Japanese automakers are called *keiretsu* and *shitauke*, which are believed to be interlocked, with products procured from suppliers. The suppliers were being affected by the *En Yasu*. In addition, many electronic component suppliers that supplied critical parts to automobile companies around the world were unable to meet commitments. As a result, many automobile industry assembly plants cut down production. They soon realized that it would take time to recover completely.

III. Glimpse of Performances of the Auto Industry during Different Foreign Exchange Regimes

The performance of the automobile industry depends on companies to market domestically and internationally to expand their sales and production activities. A consequence of this phenomenon, however, is the existence of foreign exchange rate exposure which can impact the company's profitability, net cash flow, and market values. In the past years, several academic research have been developed to explain and analyze how foreign exchange risk or profit exposure fluctuations affect a multinational company or a purely domestic company value, and how this risk is influenced by the company's risk management strategy. However, this paper will glimpse on the performances of the automobile industry with reference to Toyota Motor Corporation especially. Since the introduction of a floating exchange rate system in February 1973, the Japanese economy has experienced large fluctuations in foreign exchange rates.

After World War II, the yen lost much of its value and in 1971, and the government fixed the exchange rate to the US dollar at a rate of 1 USD = 360 yen in April 1949. That rate remained unchanged until the United States abandoned the gold standard (Nixon Shock in 1971), effectively ending the Bretton Woods System. As the yen had become undervalued during those two decades, the current account balance switched from deficits in the early 1960s to a large surplus of \$5.8 billion in 1971 (Rothko Research, 2014). In 1971, President Nixon announced a freeze on the dollar's convertibility to gold due to rising inflation and a possible gold run. In 1973, the gold standard was completely abolished, and the US dollar

was no longer backed by gold reserves, and foreign exchange switched to a free-floating system. Currencies were free to peg to any currency they chose or to remain unpegged and allow the supply and demand of the currency to determine its value.

An important event that occurred in mid-1980 was the Plaza Accord signed by five governments (September 22, 1985) – France, West Germany, USA, UK and Japan – to depreciate the US dollar in relation to the Japanese yen and the Deutsche mark. The consequences were brutal and US dollar and Japanese yen pushed through the 200 yen in the following months to hit a low of 192 yen in January 1986 from September’s high of 244 yen (equivalent to a 21-percent devaluation). By the end of 1988, the two currencies were trading at 120 yen, 50-percent lower than when the Plaza Accord were signed (Rothko Research (2014). The Plaza Accord set off a strengthening trend in the yen for the next decade that ended with the exchange rates reaching close to 80 yen to the dollar in 2012 (Table 2). That was an astonishing 184 percent appreciation in the yen’s value.

As mentioned Table 2, the Japanese yen to the US dollar exchange rate exceed 150 yen per dollar in August 2022. The concern and anxiety about the rapid depreciation of the yen against the dollar is beyond description. The yen has weakened mainly because Japan’s central bank is keeping interest rates at rock-bottom levels around 0.25 percent while the Federal Reserve in the US has risen it from 1 percent to 3 percent (Asia Times, November 10, 2022). Therefore, it leads to buy the US dollar and sell yen and cause depreciation of Japanese yen, and other central banks are conducting outsized rate hikes. Price growth in Japan is much cooler than in the US, and the Bank of Japan believes it needs to do more to cement inflation in the minds of consumers and businesses after years of deflation. The yen’s historic slide has both benefited and harmed the economy, businesses, and consumers. The scale of Japanese Gross Domestic Product (GDP) was 541 trillion yen on an annual basis from October to December 2019, while it was 538 trillion yen from January to March in 2022 (Bloomberg, 2022, September 5). Currency depreciation should cause inflation by driving up the price of imports. Yet the weakness of the yen in the absence of high inflation demonstrates the low impact of depreciation. In September 2022, the yen-based import price index rose 48 percent, but the consumer price increased only modestly. The Japanese economy has continued with low inflation despite the current global inflationary period. Though Japan’s headline inflation rose to 3 percent in September 2022, it

was minor compared to 8 percent in the US and 10 percent in the United Kingdom (Asia Times, November 10, 2022).

Table 2 Historical Exchange Rate of Japanese Yen and the US Dollar

Year	Average Closing Price	Year Open	Year High	Year Low	Year Close	Annual % Change
1972	303.13	314.86	314.96	294.12	301.66	- 4.24%
1973	271.31	301.39	302.57	254.45	280.27	- 7.09%
1974	291.84	280.82	305.34	274.42	301.02	7.40%
1975	296.78	300.66	306.84	284.66	305.16	1.38%
1976	296.45	305.06	306.00	286.04	293.08	- 3.96%
1977	268.62	292.48	292.91	237.81	239.98	- 18.12%
1978	210.39	237.59	242.42	177.05	194.30	- 19.03%
1979	219.02	194.58	250.85	194.58	240.30	23.67%
1980	226.63	238.45	261.40	203.10	203.10	- 15.48%
1981	220.63	202.50	246.10	199.05	219.80	8.22%
1982	249.06	218.75	277.65	218.75	234.70	6.78%
1983	237.55	232.00	247.05	226.75	231.70	- 1.28%
1984	237.46	232.45	251.60	222.70	251.60	8.59%
1985	238.47	251.80	262.80	200.25	200.25	- 20.41%
1986	168.35	199.15	202.70	152.00	158.30	- 20.95%
1987	144.60	158.25	159.40	121.25	121.25	- 23.40%
1988	128.17	122.70	136.52	121.10	125.05	3.13%
1989	138.07	123.60	149.62	123.60	143.80	14.99%
1990	145.00	146.25	159.90	125.05	135.75	- 5.60%
1991	134.59	134.60	141.90	124.90	124.90	- 7.99%
1992	126.78	124.50	134.53	119.35	124.85	- 0.04%
1993	111.08	125.40	126.10	101.10	111.70	- 10.53%
1994	102.18	112.50	113.10	96.77	99.60	- 10.83%
1995	93.96	100.52	104.20	81.12	103.28	3.69%
1996	108.78	103.92	116.13	103.92	115.77	12.09%
1997	121.06	115.49	131.08	111.42	130.45	12.68%
1998	130.99	132.40	147.14	113.08	113.08	- 13.32%
1999	113.73	112.15	124.45	101.53	102.16	- 9.66%
2000	107.80	101.70	114.62	101.70	114.35	11.93%

2001	121.57	114.73	131.47	114.26	131.04	14.60%
2002	125.22	132.02	134.77	115.71	118.75	- 9.38%
2003	115.94	119.86	121.42	106.93	107.13	- 9.79%
2004	108.15	106.95	114.30	102.56	102.68	- 4.15%
2005	110.11	102.83	120.93	102.26	117.88	14.80%
2006	116.31	116.34	119.81	110.07	119.02	0.97%
2007	117.76	118.83	124.09	108.17	111.71	- 6.14%
2008	103.39	109.70	110.48	87.84	90.79	- 18.73%
2009	93.68	91.12	100.71	86.12	93.08	2.52%
2010	87.78	92.55	94.68	80.48	81.67	- 12.26%
2011	79.70	81.56	85.26	75.72	76.98	- 5.74%
2012	79.82	76.67	86.64	76.11	86.64	12.55%
2013	97.60	87.10	105.25	86.92	105.25	21.48%
2014	105.74	104.84	121.38	101.11	119.85	13.87%
2015	121.05	120.20	125.58	116.78	120.27	0.35%
2016	108.69	119.30	121.06	99.89	116.96	- 2.75%
2017	112.15	117.55	117.75	107.84	112.69	- 3.65%
2018	110.34	112.63	114.44	104.73	109.66	- 2.69%
2019	109.01	109.69	112.08	105.28	108.68	- 0.89%
2020	106.76	108.69	112.06	102.37	103.25	- 5.00%
2021	109.84	103.24	115.42	102.72	115.11	11.49%
2022	130.72	115.11	150.14	113.67	138.80	20.59%

Note: Date for 2022 include rates up to November 2022.

Source: Macrotrends (2022). “Dollar Yen Exchange Rate (USD:JPY) - Historical Chart.”

<https://www.macrotrends.net/2550/dollar-yen-exchange-rate-historical-chart> (retrieved on Nov. 13, 2022).

The Japanese government took yen-buying intervention of 6.34 trillion yen for the period from September 29 to October 27. As a result, the intervention in the foreign exchange rate has been effective but only temporarily, owing to the existence of the Japan-the US interest rate gap (Diplomat, November 22, 2022). According to the Bank of Japan governor Haruhiko Kuroda, “The recent depreciation of the yen is rapid and one-sided. This type of yen weakness makes it difficult for companies to draw up business plans and raises uncertainty, so it is negative for the economy and unfavorable” (Kyodo News, October 19, 2022).

The current trend of yen depreciation will not be reversed soon, and inflation in Japan may accelerate further due to increased costs for energy, food, and logistics.

Like many other industries, the Japanese automobile industry has been affected by COVID-19 pandemic. All Japanese automakers had to shut down production plants all around the world for safety actions. Japanese vehicles sales dropped sharply by 23 percent in June, with Toyota still being the top-performing brand, followed by Honda and Nissan (Kyodo News, October 19, 2022).

According to JAMA (website) automobile shipments (both domestic and export shipments, including motorcycles, auto parts, and others) in value terms reached 60 trillion yen in 2019, down 3.7 percent from the previous year, accounting for 18.6 percent of the total value of Japan's manufacturing shipments and 40.9 percent of the value of the machinery industries' combined shipments. Domestic vehicles sales in 2022 declined for the fourth consecutive year and dropped to their lowest level since 1977 when about 4,190,000 vehicles were sold accounting 5.6 percent drop of the lowest level in 45 years due to a semiconductor shortage and pandemic-caused supply chain disruptions (Japan Times, January 5, 2023). In addition, Toyota's net profit in the six months ended September fell 23.2 percent to 1.17 trillion yen (\$7.9 billion) from a year earlier, with its earnings situation getting even worse after the first quarter, as soaring material costs outweighed the positive impact of a weaker yen (Kyodo News, November 1, 2022).

With vehicle exports in value terms amounting to 12.8 trillion yen in 2020 domestic vehicle sales are forecast to grow by 7 percent in 2022, which is especially after the economic strain felt in 2020 and 2021 because of the COVID-19 pandemic. Indeed, the automobile industry experienced chip shortages due to the supply shortages of 2020-2021. *En-yasu* will increase the price of imported raw materials, which in turn generates additional costs for local producers. The country's huge automobile industry has not been able to take advantage of the exchange rate because of constraints on acquiring semiconductors and other necessary components due to lingering supply chain issues from the Russia-Ukraine war, the COVID-19 pandemic, and *en-yasu*.

Manufacturers have faced the same problem of rising input costs. Moreover, the Russia-Ukraine conflict will create additional difficulties for Japanese exporters to shipments. The war and the resulting surge in consumer prices will dent economic growth and private consumption in Europe, decreasing orders in an important overseas market for Japanese companies. International trade and financial sanctions on Russia and production disruptions in Ukraine will also disturb supply chains in European region. This will be a particularly acute issue

for Japanese vehicle makers and electronics manufacturers, which rely on Russian imports of palladium (a metal used in automobile exhaust systems) and are exposed to disruptions of Ukraine-supplied neon, xenon and krypton, which are industrial gases used in the microchip-making process.

Generally, a weaker yen helps large Japanese companies with global operations because it boosts the value of repatriated overseas profits. Due to yen's drop, Japan's corporate profits have risen to their highest levels since 1954. A weak currency can also help tourism by boosting the buying power of travelers from abroad, but Japan is not yet benefiting from this due to pandemic border controls. On the downside, a soft yen makes imports of energy and food more expensive, hitting consumers whose paychecks are not keeping up with the rise in living costs (Bloomberg, 2022).

IV. Productions and Sales for the Year of *En-yasu* in 2022

In years past, Japan's manufacturing industry has faced a variety of unforeseeable circumstances and drastic changes in the business environment. These include the Nixon Shock and two oil crises in the 1970s, the strong yen recession following the Plaza Accord in the 1980s, the bursting of the bubble economy and the Asian currency crisis in the 1990s, and the bankruptcy of the major American securities firm Lehman Brothers, the European debt crisis, and the Great East Japan Earthquake in the 21st century. Each time that Japan's manufacturing industry has faced these kinds of unforeseeable circumstances and drastic changes in the business environment, it has been able to overcome those and evolve. However, to overcome the recent crisis caused by COVID-19 and the impact of increased geopolitical tensions from February 2022 onward spread worldwide through a surge in product prices and other ramifications and *en yasu* will require even more substantial reforms than before. The downside risks that emerged and have persisted since the last year are now being exacerbated by the situation in Ukraine. The impact of the Ukraine situation on the Japanese economy goes beyond the decline in exports caused by the deteriorating economic conditions overseas (particularly in Europe). The situation also accelerates the rise in resource prices, which will create downside risk factors for the domestic economy in the form of weaker real household purchasing power from the higher prices of goods, and lower corporate earnings due to higher costs. More companies are beginning

to pass on the higher costs to the product prices.

However, passing on all the costs is difficult, and the narrowing of marginal profit rates could have a measurable negative impact on corporate performance. The corporate earnings steadily recovered by fiscal 2021, and companies have ample cash flows and have had abundant retained earnings for some time. Japanese automakers, historically the beneficiaries of a weaker currency through overseas sales, are now focusing on managing the threat to suppliers. For many parts makers, the weak yen is compounding the pain of higher input costs for materials. Nevertheless, the concerns about the rising prices and costs cannot be swept away because of the potential impact of a prolonged situation in Ukraine and also because of the rapid weakening of the Japanese yen.

Table 3 shows that raising export volume takes time and there are obstacles to overcome, such as the restrained production in the industry. Furthermore, even if a company wanted to reap the benefits of the weak yen, many have already relocated production bases overseas. That not only reduces the amount of export activity that they could use to take advantage of a weak yen, but also means the higher import penetration rate in industrial products, which conversely puts them at a bigger disadvantage when the yen is weak. The structure of Japanese industries has changed to such a degree that it is now difficult for companies to take advantage of a weaker yen.

For this reason, the depreciation of the yen coupled with the higher resource prices has fueled the surge in import prices and the expanding trade deficit, that is, the amount of income flowing out overseas is rapidly expanding. The weak yen should allow some of the income outflow to be recovered when converting the income from foreign currency-denominated exports. Japanese exporters also could use the extra profit flow from the weak yen to lower their product prices in overseas markets, which could both increase their competitiveness and boost their export volume. The situation is such that the Japanese economy is not benefiting from the weak yen, rather import prices are rising. The import prices continue to increase for the time being and, therefore, anticipate the trade deficit to grow to a record high in fiscal 2022. Given the circumstances, the weak yen was a negative factor for the economy at least through fiscal 2022 (Mitsubishi UFJ Research and Consulting Co., Ltd. (MURC), 2022).

Table 3 Production, Sales, and Exports for the Year 2022 of *En-Yasu*

Month of 2022		Passenger Vehicles				Trucks				Buses	Grand Total
		Standard	Small	Mini	Total	Standard	Small	Mini	Total		
Jan	Production	292,440	80,195	89,052	461,687	34,583	13,667	31,945	80,195	5,069	546,951
	Sales	108,010	73,916	90,519	272,445	9,111	15,626	32,057	56,794	460	329,699
	Exports	220,017	11,619	3,297	234,933	27,349	1,670	-	29,019	5,487	269,439
Feb	Production	343,492	117,486	120,940	581,918	43,725	20,187	40,318	104,230	7,556	693,704
	Sales	108,159	76,570	105,119	289,848	10,782	17,715	35,850	64,347	473	354,668
	Exports	256,692	10,966	6,674	274,332	30,221	2,348	-	32,569	5,561	312,462
Mar	Production	361,791	115,722	127,404	604,917	48,798	23,103	35,528	107,429	7,008	719,354
	Sales	170,163	114,381	141,849	426,393	15,360	26,393	43,720	85,473	996	512,862
	Exports	257,085	14,127	4,143	275,355	35,904	1,970	-	37,874	8,228	321,457
Apr	Production	302,602	83,464	95,096	481,162	42,697	20,431	32,555	95,683	7,575	584,420
	Sales	91,862	61,647	90,783	244,292	8,786	16,125	30,076	54,987	341	299,620
	Exports	250,495	11,889	8,857	271,241	33,271	2,960	-	36,231	6,791	314,263
May	Production	220,747	63,933	73,522	358,202	27,317	13,128	15,971	56,416	5,615	420,233
	Sales	80,788	55,617	75,451	211,856	8,553	16,160	24,628	49,341	236	261,433
	Exports	154,227	11,013	6,649	171,889	25,843	2,085	-	27,928	6,749	206,566
Jun	Production	357,625	92,806	109,518	559,949	47,224	19,737	35,662	102,623	6,056	668,628
	Sales	103,757	65,923	98,397	268,077	9,571	18,035	31,969	59,575	244	327,896
	Exports	246,947	16,716	4,897	268,560	30,975	3,482	-	34,457	5,445	308,462
Jul	Production	377,211	102,287	106,835	586,333	48,037	20,619	38,799	107,455	5,920	699,708
	Sales	116,076	70,635	101,434	288,145	9,476	17,651	33,767	60,894	296	349,335
	Exports	291,919	13,911	6,240	312,070	35,929	2,412	-	38,341	6,546	356,957
Aug	Production	314,679	89,089	82,593	486,361	38,072	16,551	36,019	90,642	7,288	584,291
	Sales	96,395	57,921	79,827	234,143	9,382	14,910	31,140	55,432	467	290,042
	Exports	234,762	13,783	5,664	254,209	30,630	2,346	-	32,976	6,580	293,765
Sep	Production	397,268	111,515	125,158	633,941	50,576	22,189	42,985	115,750	8,108	757,799
	Sales	134,157	77,428	113,316	324,901	12,305	17,640	39,805	69,750	512	395,163
	Exports	301,087	17,594	5,472	324,153	33,294	3,064	-	36,358	8,584	369,095
Oct	Production	344,395	117,945	116,219	578,559	44,054	22,210	40,980	107,244	8,357	694,160
	Sales	108,744	77,458	109,607	295,809	9,072	15,832	38,010	62,914	436	359,159
	Exports	269,963	15,625	817	286,405	33,661	3,565	-	37,226	8,327	331,958

Source: JAMA, <https://jamaserv.jama.or.jp/newdb/prod4/prod4TpMkEntry.htm> (retrieved on January 30, 2023).

V. The Case of *En-yasu* in Toyota Motor Corporation

The Toyota Motor Corporation (TMC and will be used as Toyota hereafter) was founded in 1937 and became one of the automobile market leaders in vehicle production and sales in Japan. Although its start was very humble, starting as a textile maker in the mill town of Koromo, and it is historically one of the major automakers in the world and is one of the world's largest automobile manufacturers, producing more than 8 million to 9 million vehicles a year (Table 4). For the first time in 2008, it surpassed General Motors. It operates under 5 different brand names, namely Toyota, Hino, Lexus, and Daihatsu. Toyota is a group industry and has 1,000 subsidiary companies and affiliates which are involved in the production of automobiles, automobile parts, and commercial and industrial vehicles. Historically, Toyota's production system (TPS) has been globally accepted by all major auto manufacturers and is known for introducing many innovative production techniques such as the just-in-time system, *kanban* system, and *jidoka*. Just-in-time operations are widely followed in the auto and other manufacturing industries to control the timeliness of the production and delivery of products while maintaining or improving the quality of products.

Toyota's HRM strategies have been working quite well, allowing the organization to engage in effective talent management and contributing to the successful management of roles and responsibilities within the work and management team. Moreover, the focus on the professional development of the employees has allowed to enhance the current talent management practices and create the platform for building Toyota's future competitive advantage (Liker and Hoseus, 2010). Toyota is stepping up its competitiveness by making ever-better vehicles while making a strategic shift toward electrification, information, and intelligence to advance initiatives aimed at expanding future mobility value. To achieve the goals of long-term strategies, it is developing human resources and revamping internal structures and advancing business innovation while reinforcing alliances with a wide range of partners, including those in other industries. Looking at the enormous changes surrounding vehicles as opportunities, Toyota is steadily advancing toward the creation of a better mobility society (Toyota Annual Report 2022). Toyota has strengthened efforts against various risks and built a flexible and robust organization so that society can make an agile response to emergency situations. At the same time, it has developed human resources who learn, think,

Table 4 Toyota (including Lexus)

(Units, %)

Year	Production			Sales			Export
	Worldwide	Japan	Outside of Japan	Worldwide	Japan	Outside of Japan	Japan
2011	6,928,813	2,760,028	4,168,785	7,096,853	1,200,976	5,895,877	1,568,975
	- 9.1%	- 15.9%	- 4.0%	- 5.7%	- 23.3%	- 1.1%	- 10.1%
2012	8,736,529	3,492,913	5,243,616	8,717,314	1,692,228	7,025,086	1,945,709
	26.1%	26.6%	25.8%	22.8%	40.9%	19.2%	24.0%
2013	8,892,095	3,356,899	5,535,196	8,947,756	1,584,316	7,363,440	1,899,669
	1.8%	- 3.9%	5.6%	2.6%	- 6.4%	4.8%	- 2.4%
2014	9,004,825	3,266,805	5,738,020	9,147,342	1,554,318	7,593,024	1,789,354
	1.3%	- 2.7%	3.7%	2.2%	- 1.9%	3.1%	- 5.8%
2015	8,929,075	3,188,444	5,740,631	9,188,559	1,497,869	7,690,690	1,768,630
	- 0.8%	- 2.4%	0.05%	0.5%	- 3.6%	1.3%	- 1.2%
2016	8,973,988	3,166,338	5,807,650	9,223,727	1,580,851	7,642,876	1,726,927
	0.5%	- 0.7%	1.2%	0.4%	5.5%	- 0.6%	- 2.4%
2017	9,007,511	3,189,556	5,817,955	9,383,780	1,633,161	7,750,619	1,816,855
	0.4%	0.7%	0.2%	1.7%	3.3%	1.4%	5.2%
2018	8,885,573	3,138,751	5,746,822	9,541,748	1,564,309	7,977,439	1,890,215
	- 1.4%	- 1.6%	- 1.2%	1.7%	- 4.2%	2.9%	4.0%
2019	9,053,517	3,415,864	5,637,653	9,714,253	1,610,169	8,104,084	2,103,639
	1.9%	8.8%	- 1.9%	1.8%	2.9%	1.6%	11.3%
2020	7,909,488	2,922,605	4,986,883	8,692,168	1,504,221	7,187,947	1,747,827
	- 12.6%	- 14.4%	- 11.5%	- 10.5%	- 6.6%	- 11.3%	- 16.9%
2021	8,583,258	2,877,962	5,705,296	9,615,157	1,476,136	8,139,021	1,757,340
	8.5%	- 1.5%	14.4%	10.6%	- 1.9%	13.2%	0.5%
2022	8,327,166	2,434,442	5,892,724	8,727,662	1,190,120	7,537,542	1,534,492
	7.0%	- 7.0%	14.1%	- 0.4%	- 12.7%	1.9%	- 3.3%

Note: Data of 2022 are from January to November.

Source: Toyota (2022), <https://global.toyota/en/company/profile/production-sales-figures/202205.htm> (retrieved on January 30, 2023).

and act quickly on their own while promoting the creation of organizations and workplaces where diverse human resources can demonstrate their capabilities to the fullest (Toyota Annual Report 2022).

In addition, Toyota is stepping up its competitiveness by making ever-better vehicles while making a strategic shift toward electrification, information, and intelligence to advance initiatives aimed at expanding future mobility value. To achieve the goals of long-term strategies, it is developing human resources and revamping internal structures and advancing business innovation while reinforcing alliances with a wide range of partners, including those in other industries (Toyota Annual Report 2022). Toyota was stalled from recovering financially from the worldwide recession that started in 2008 by a series of recalls and natural disasters in Japan and other production center locations, such as flood in Thailand. Toyota and its group companies together exerted all efforts to normalize production, and it was able to achieve full normalization of production and began its recovery from the disaster sooner than initially anticipated (Toyota Annual Report 2022).

Toyota faces extremely harsh competition in each of the industries in which it conducts business, including its automobile and materials handling equipment businesses, which are the core of Toyota earnings. It offers high value-added products that are unrivalled in terms of technology, quality, and cost. It maintains databases of around 6800 important inventory items and their suppliers, and together with Japan Automobile Manufacturers Association it has taken the lead in establishing a disaster resilient supply chain (Toyota Annual Report 2022). Its willingness to deviate from the JIT, a system that it developed many years ago, shows its willingness to change with the changing business environment. Skyrocketing fuel prices and growing environmental concerns have shifted consumers' preferences away from fuel-guzzling pickup trucks to smaller, more fuel-efficient vehicles. It has embraced the change by expanding small-vehicle portfolios and diversifying into the production of hybrid electric motor vehicles. It has pushed all limits, curated high-quality designs for combined practical and recreational use which are responsible for pushing hybrid and electric vehicles to the forefront of the automobile industry in Japan with its renowned model Toyota Prius - the best-selling passenger vehicle model at present in Japan.

As mentioned in Toyota Annual Report 2022, Toyota is now the top-selling vehicle brand in the country, selling more vehicles than its opponents Nissan and Honda combined. In the year 2019, it sold 1.5 million vehicles in Japan and 10.7

million vehicles globally, a rise from the year 2018. In 2021 Toyota remained by far the best-selling vehicle brand in Japan. It has the largest market share and has gained market share further while Suzuki, Honda, Daihatsu, and Nissan maintained sales positions despite losing part of their market shares. Furthermore, Japan's bestselling vehicle model in 2021 was Toyota's Yaris, followed by Roomy, and then by Corolla (Toyota Annual Report 2022).

Despite an improved financial performance compared to the 2021 fiscal year, Toyota faced other challenges like its competitors in 2022 even though there was *en yasu* and increase of vehicle production ranging about 7.5 percent than its pre-pandemic level. The global automobile semiconductor shortage led to production stoppages, including its Japan factories, which was ongoing throughout 2022. Production suspensions further hit Toyota's national output as typhoon *Hinnamnor* approached western Japan. However, in November 1, 2022 profit fell 31 percent in the last quarter due to the shortage of computer chips which also offset foreign exchange gains from a weaker yen. Its quarterly profit through September 2022 totaled 434 billion yen, or \$2.9 billion, which was down from nearly 627 billion yen a year earlier in 2022. The maker of the Camry sedan, Prius hybrid, and Lexus luxury models faced many challenges, including rising interest rates, soaring materials costs, and fluctuating exchange rates. Shortage in semiconductors, coronavirus lockdowns in Shanghai, and flooding in South Africa also affected earnings (Toyota website).

Each of the markets in which Toyota competes, there was considerable volatility in demand. Demand for vehicles depends on a large extent on economic, social, and political conditions in each market and the introduction of new vehicles and technologies. As Toyota's revenues are derived from sales in markets worldwide, economic conditions in such markets are particularly important to it. Reviewing the general economic environment for the fiscal year ended in March 2020, the economy changed from a trend of moderate expansion to a sharp slowdown due to the effects of trade frictions and the impact of COVID-19 spreading from China to North America, Europe, and the rest of Asia.

Automobile markets slumped in China and some emerging countries but remained stable in developed countries and declined only slightly in the world as a whole. However, COVID-19 has begun to have a major impact, leading to the suspension of operations at factories and the suspension of business at dealers worldwide. The changes in demand for automobiles are continuing, and it is

unclear how this situation will transition in the future. Toyota’s financial condition and results of operations may be adversely affected if the changes in demand for automobiles continue or progress further. Demand may also be affected by factors directly impacting vehicle price or the cost of purchasing and operating vehicles such as sales and financing incentives, prices of raw materials and parts and components, cost of fuel and governmental regulations (including tariffs, import regulation, and other taxes). Volatility in demand may lead to lower vehicle unit sales, which may result in downward price pressure and adversely affect Toyota’s financial condition and results of operations (Toyota website).

Toyota’s businesses encompass the production and sales of products and the provision of services worldwide. Generally, the strengthening of the yen against other currencies especially against the US dollar and the euro, which account for a significant portion of Toyota’s sales has an adverse impact on its business, while a weakening of the yen has a favorable impact. Sato, Shimizu, Shrestha, and Zhang (2013), Chinn (2013) and others reported that a depreciation of the yen causes Japanese exports to increase. The higher value-added products that Japan exported following the *endaka* (appreciation of the yen) period may be more competitive abroad. This could allow Japanese exporters to keep foreign currency prices constant, instead of having to lower prices. If this is the case, depreciation would raise firms’ revenues and profit margins rather than their export volumes. In the past, when the yen became weaker, the weak yen supported economic growth by encouraging exports. “But this time,” Atsushi Nakajima, a consultant at Japan’s Research Institute of Economy, Trade, and Industry, said, “we’re not seeing as much of this effect because Japanese industry has globalized due to the shrinking market in Japan, so [the weak yen] is a much more of a mixed bag of pros and cons for businesses” (Foreign Policy, November 19, 2022). Japanese companies that can take home profits in the US dollars see their money go further. But, Japanese companies that have big costs in imports are seeing those costs surge. Japan’s import sector is suffering, whereas the export sector is benefitting—only not as much as one typically expect. The country’s huge automobile industry has not been able to take advantage of the exchange rate because of constraints on acquiring semiconductors and other necessary components due to lingering supply chain issues from the COVID-19 pandemic.

The yen has fallen at 150.1 yen against the dollar in August 2022, hitting a 32-year low at the back of widening interest rate differentials between Japan and the

US (Toyota Annual Report 2022). Under these circumstances, Toyota undertook efforts to ensure customer trust through placing priorities on quality and to expand sales by responding flexibly to market trends.

Automotive markets recovered compared with FY2021 as demand remained firm in regions including the US, China, and Japan, despite being forced to curb production worldwide due to limited parts supplies caused by the global semiconductor shortage and the impact of COVID-19. However, the automobile market recovered moderately overall, with an increase in Asia. In 2022, the outlook became even less clear as the impact of increased geopolitical tensions from February 2022 onward spread worldwide through a surge in product prices and other ramifications. Under these conditions, consolidated vehicle unit sales in Japan and overseas increased by 584 thousand units, or 7.6 percent to 8,230 thousand units in FY2022 compared with FY2021. Vehicle unit sales in Japan decreased by 201 thousand units, or 9.5 percent to 1,924 thousand units in FY2022 compared with FY2021. Meanwhile, overseas vehicle unit sales increased by 785 thousand units, or 14.2 percent to 6,306 thousand units in FY2022 compared with FY2021 because of the sales increase in every region. (Toyota Annual Report 2022).

As of 2021, it was the leading motor vehicle manufacturer of the world based on global sales, overtaking the Volkswagen Group in 2020. The Toyota brand is the company's best-selling subsegment, with around 8.9 million vehicles sold in 2021. At just over 2.6 million units, EVs are gaining importance for Toyota. The company made strides in the EV market by being the first and largest automobile company to offer a hybrid vehicle in its line-up. The Toyota Prius was such a success that the company began to provide a hybrid option for some of its other models, such as the Camry and the Corolla. However, this corporation still lags behind in the plug-in-electric vehicle (PEV) sector, holding around 1.9 percent of the market in 2021 compared to 11.3 percent for the Volkswagen Group.

Toyota announced its financial results for the first quarter, which ended June 30, 2022. Consolidated vehicle sales totaled approximately 2,013,000 units, a decrease of approximately 135,000 units compared to the same period last fiscal year. On a consolidated basis, net revenues for the period totaled 8.491 trillion yen (\$65.3 billion), an increase of 7.0 percent. Operating income decreased from 997.4 billion yen (\$9.0 billion) to 578.6 billion yen (\$4.4 billion), while income before income taxes was 1.021 trillion yen (\$7.8 billion). Net income decreased from 897.8 billion yen (\$8.1 billion) to 736.8 billion yen (\$5.6 billion) (Toyota, 2022). According to Kyodo news

(November 1, 2022) Toyota net profit in the six months ended September 2022 fell 23.2 percent to 1.17 trillion yen (\$7.9 billion) from a year earlier, with its earnings situation getting even worse after the first quarter, as soaring material costs and impact of a weaker yen. Sales fell at 17.9 percent in net profit in the first three months but rose 14.4 percent to a record 17.71 trillion yen in the April-September period. However, its operating profit dropped 34.7 percent to 1.14 trillion yen as the auto industry grapples with a protracted global semiconductor shortage. Bloomberg (May 10, 2022) analysts were predicting for Toyota an operating profit of 3 trillion yen (\$23 billion) for the period ended March and 3.4 trillion yen profit for the current year, which began April 1, 2022.

According to Toyota Annual Report 2022, the profit decline came as the yen depreciation, which typically boosted its overseas earnings, and turned out as double-edged sword for Toyota. Operating profit was reduced by 765 billion yen due to higher prices of materials such as steel and aluminum. However, benefits from the rapid fall of yen, amounting to over 500 billion yen, were not enough to offset the loss. Toyota cut its full-year production plan through March 2023 to 9.2 million vehicles from 9.7 million announced in May 2022, and is still reeling from the global chip shortage that has affected manufacturers.

VI. Conclusion and Remark

The global auto industry has been slammed for some time by supply chain crunches because of COVID-19 lockdowns. Investigating the effect of exchange rates on Japanese exports is tricky, since more than 25 percent of Japanese exports are parts and components and other intermediate goods. A depreciation in a downstream country importing parts and components from Japan (equivalently, an appreciation of the yen) may increase its exports of final goods to the rest of the world and thus its imports of Japanese parts and components that are used to produce exports. Therefore, a depreciation in the importing country and an appreciation of the yen may be associated with an increase in Japanese parts and components exports. This effect can cloud estimates of exchange rate elasticities (Thorbecke, 2022).

The yen-dollar exchange rate is important to Japan because Japan relies on imports for energy, chip, automobile related parts and commodities, and food. The *en yasu* leads to an increased financial burden for *keiristu* or *shitauke* companies

which are parts supplier to the automobile industry. On the other hands, sinks Japanese wages relative to the dollar, meaning that more Japanese go abroad to work and fewer foreign workers come to Japan. That is a disastrous trend for the Japanese automobile industry which has huge *keiristu* or *shitauke* companies facing severe labor shortages due to a shrinking population and mass migration from the rural to urban areas.

References

- Asia Times, The (2022). “Yen’s collapse reveals bigger cracks in Japan”, November 10, <https://asiatimes.com/2022/11/yens-collapse-reveals-bigger-cracks-in-japan/> (retrieved on January 16, 2023).
- Bloomberg (2022). “Why the Yen Is So Weak and What That Means for Japan”, September 5, <https://www.bloomberg.com/news/articles/2022-09-05/why-the-yen-is-so-weak-and-what-that-means-for-japan-quicktake?leadSource=uverify%20wall> (retrieved on December 16, 2022).
- Bloomberg (2022). “Weak Yen Seen Boosting Toyota’s Profit, Focus on Annual Outlook”, May 10, <https://www.bloomberg.com/news/articles/2022-05-09/weak-yen-seen-boosting-toyota-s-profit-focus-on-annual-outlook?leadSource=uverify%20wall> (retrieved on January 12, 2023).
- Cusumano, M. A. (2020). *The Japanese automobile industry: Technology and Management at Nissan and Toyota*, Brill.
- Diplomat, The (2022). “Japan’s Historic Yen Depreciation” November 22, <https://thediplomat.com/2022/11/japans-historic-yen-depreciation> (retrieved January 12, 2023).
- Foreign Policy (2022). “Japan’s Weaker Yen Is Here to Stay—for Better or Worse” November 19, <https://foreignpolicy.com/2022/11/29/bank-of-japan-yen-depreciation-currency-inflation/> (retrieved on January 12, 2023).
- Japan Automobile Manufacturers Association, Inc. (JAMA) (2023). <https://www.jama.or.jp/english> (retrieved on January 30, 2023).
- Japan Times, The (2023). “New vehicle sales in Japan fall 5.6% to lowest level in 45 years”, January 5, <https://www.japantimes.co.jp/news/2023/01/05/business/japan-vehicle-sales> (retrieved on January 12, 2023).
- Kyodo News (2022). “Rapid, one-sided yen fall negative for Japan economy: Bank of Japan chief” October 19, <https://english.kyodonews.net/news/2022/10/63b794d70a88-update1-rapid-one-sided-yen-fall-negative-for-japan-economy-boj-chief.htm> (retrieved January 12, 2023).
- Kyodo News (2022) “Toyota’s profit declines further in 1st-half despite weak yen” November 1, <https://english.kyodonews.net/news/2022/11/380a5f459916-toyota-1st-half-net-profit-sags-23-to-117-tril-yen-on-rising-costs.htm> (retrieved January 12, 2023).
- Liker, J. K. and Hoseus, M. (2010), “Human resource development in Toyota culture”, *International Journal of Human Resources Development and Management*, 10 (1), 34–50.
- Macrotrends (2022). “Dollar Yen Exchange Rate (USD JPY) – Historical Chart.” <https://www>.

- macrotrends.net/2550/dollar-yen-exchange-rate-historical-chart (retrieved December 19, 2022).
- Mitsubishi UFJ Research and Consulting Co. Ltd. (MURC) (2022). “The Japanese Economy in Fiscal 2022 and Fiscal 2023—Gradual recovery trend continues amid growing downside risks”, https://www.murc.jp/wp-content/uploads/2022/06/fc2206_01.pdf. (retrieved on December 30, 2022).
- Rothko Research (2014). “The Japanese Yen history”, <https://rothkoresearch.com/2014/11/11/the-japanese-yen-history/#:~:text=There%20are%20no%20historical%20value%20of%20the%20Yen,in%201971%29%2C%20effectively%20%E2%80%98ending%E2%80%99%20the%20Bretton%20Woods%20System> (retrieved on November 13, 2022).
- Tokyoesque (2022). “Japanese Automobile Market in 2022: Helping the Economy to Recover”, April 12, <https://tokyoesque.com/japanese-automobile-market-in-2022> (retrieved on November 13, 2022).
- Toyota Industries Corporation (2022). <https://www.toyota-industries.com> (retrieved on December 29, 2022).
- Toyota Industries Corporation, (2022a). “Corporate governance at Toyota Motor Corporation (TMC)”, https://global.toyota/pages/global_toyota/ir/library/corporate-governance/corporate_governance_reports_e.pdf (retrieved on December 29, 2022).
- Toyota Industries Corporation (2022b). “Toyota Annual Report 2022”, https://www.toyota-industries.com/investors/item/2022_annual_financial_report_E.pdf (retrieved on January 12, 2023).
- Thorbecke, Willem (2022). “Japan’s deflated record on monetary policy” East Asia Forum, October 1, <https://www.eastasiaforum.org/2022/10/01/japans-deflated-record-on-monetary-policy/> (retrieved on December 12, 2022).
- Wall Street Journal, The (2022). “Japanese Yen” December, <https://www.wsj.com/market-data/quotes/fx/USDJPY/historical-price/> (retrieved on December 29, 2022).
- World’s Top Exports (2022). “Trade metrics that inspire global thinking”, <https://www.worldstopexports.co/> (retrieved on December 19, 2022).