

Integrative Presentation on the Textile and Apparel Complex for Japan

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Abstract

Japan is an archipelago country located in East Asia composed of more than fourteen thousand islands (Nippon, 2023). Just over four hundred are inhabited. The four main islands- Hokkaido, Honshu, Shikoku, and Kyushu- create the border between the East Sea and North Pacific Ocean (Ministry of Foreign affairs of Japan, 2024). The capital, Tokyo, is located on the western coast and is built along the Sumida River, which flows into the Tokyo Bay. The bay is connected to the Pacific Ocean through the Uraga Channel (Pletcher, 2024). The country experiences four distinct seasons, volcanoes in mountainous regions, and occasional earthquakes (Japan Meteorological Agency, 2024). The earthquakes often cause tsunamis along the coast. The United States of America and Japan have developed a strong modern diplomatic and economic relationship following World War II. The war formally ended between the two nations on the eighth of September, 1951, when officials from both countries signed two treaties: The Treaty of Peace and Security Treaty Between United States and Japan, in San Francisco (US Embassy Japan, 2024). Post WWII the USA was involved in the restructuring of Japan and the countries further solidified their relationship during the Cold war (U.S. Department of State, 2020). Today, Japan is the host of the largest U.S. military base in the Asia-Pacific region (Pacific Air Forces, 2021) and the trade relationship is strong.

Japan's post-war constitution, enacted in 1947, established a parliamentary system and ensured fundamental human rights, leading to significant democratic reforms (Shinoda, 2013). The Liberal Democratic Party (LDP) has maintained a dominant position in Japanese politics due to its adaptability and strategic alliances, although opposition parties occasionally disrupt its dominance (Stockwin, 2020; Pekkanen & Reed, 2014). Japan's aging population and declining birthrate also prompt political discussions on immigration and social security reforms (Muramatsu & Akiyama, 2011). As Japan continues to navigate these political dynamics, the intersection of its demographic challenges and policy responses remains crucial.

Economically, Japan remains the third-largest economy in the world by nominal GDP, showcasing resilience and innovation. Japan has maintained its economic standing through robust manufacturing and a strong commitment to research and development (Harada, 2016; METI, 2020; OECD, 2019). However, demographic challenges, including an aging population and declining birthrate, strain the labor market and social security system, necessitating policy innovations (World Bank, 2023; NIPSSR, 2022). Monetary policies, such as those implemented by the Bank of Japan, and international trade agreements like the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and Regional Comprehensive Economic Partnership (RCEP), also play significant roles in shaping Japan's economic landscape (BOJ, 2021; MOFA, 2021). Moving forward, Japan's ability to address these *economic and political risks* will be pivotal for its sustained growth and global influence.

Japan's rich cultural heritage is deeply intertwined with its traditional textiles. The kimono, Japan's traditional dress, is typically made from silk with flowing sleeves and fastened with an obi belt. Kimonos hold a special place in Japanese culture, reserved for significant events such as festivals, weddings, and graduations, where they symbolize elegance and cultural heritage. In warmer months, lighter yukata kimonos are favored for casual gatherings and summer festivities. Modern attire among younger generations emphasizes practicality and comfort, featuring T-shirts, jeans, polo shirts, and sweatsuits. This fusion of contemporary fashion with traditional elements illustrates the vibrant cultural evolution in Japanese society. "In

2022, Japan exported \$8.11 billion in textiles..."(Textiles in Japan, 2024). Major markets for Japanese textiles include China, Vietnam, the United States, South Korea, and Thailand. Traditional Japanese textiles, such as silk, kimono fabrics, and intricate weaves, highlight the country's craftsmanship and attention to detail, sought after in diverse global markets. Conversely, Japan imported \$35.3 billion in textiles, making it the third largest importer worldwide, primarily sourcing from China, Vietnam, Bangladesh, Cambodia, and Indonesia. This dual role illustrates Japan's strategic position in the global textile trade, blending traditional artistry with modern market dynamics.

Japanese cuisine is another vital aspect of its culture, known for its emphasis on fresh, seasonal ingredients and meticulous preparation. "Careful preparation and meticulous presentation are crucial elements of Japanese cuisine." (InsideJapanTours, 2024). This dedication to culinary perfection ensures that each meal is a feast for both the eyes and the palate, reflecting the deep respect for food in Japanese culture. Traditional Japanese meals often include rice, miso soup, pickled vegetables, and a variety of seafood. Sushi, sashimi, tempura, and ramen are some of the most iconic dishes that have gained international popularity. Meals are not only about nourishment but also about aesthetics and social bonding, reflecting the Japanese values of harmony and balance.



Figure 1. Map of Japan

Geography

Japan is an archipelago country located on the continent of Asia and in the East Asia region. A little over four hundred of Japan's fourteen thousand islands are inhabited (Nippon, 2023). The mainland is composed of four islands - Hokkaido, Honshu, Shikoku, and Kyushu. These islands sit on the border between the East Sea and North Pacific Ocean (Ministry of Foreign affairs of Japan, 2024). The Sumida River begins at the Arakawa River and flows through Tokyo, the capital city of Japan, before emptying into the Tokyo bay. The bay connects Tokyo to the Pacific Ocean through the Uraga Channel (Pletcher, 2024). These waterways are a key element to explore when analyzing Japan's trade ability.

Japan does not share land borders with any other countries in its region. Its maritime borders connect the country to Russia, Taiwan, China, Philippines, Northern Mariana Islands, North Korea, and South Korea (Amaya, 2019). Russia and South Korea are geographically closest to Japan - close enough for an asylum seeker to swim to Japan's mainland (Gale & Simmons, 2022). However China is a close third place and influences the country's culture. The dangerous travel conditions while sailing kept the influence minimal but the effects are still seen in food, art, and dress (Yung & Rimer, 2024). Thirteen hundred miles off the coast of Japan the Northern Mariana Islands is the closest United States territory and a critical military position (Topol & Gordon, 2023). American territories are an integral part of the trade relationship to the region.

Climate

Japan's unique and diverse topography lends itself well to the country's four distinct seasons. The Niseko Mountain Range in the north experiences strong winters with ideal skiing conditions five months of the year (Rich & Hida, 2022). A short one month spring season is celebrated locally with festivals as the country bursts into bloom (JAL, 2024). Summer brings droves of tourists to the southeastern border which is dotted with beach towns (JRailPass, 2024). Year Round Japan experiences earthquakes (Japan Meteorological Agency, 2024). Most are small tremors but every few years a mighty one devastates the region.

Water is an integral and large part of East Asia's climate. The southern border of the region opens into the Pacific Ocean and experiences a lot of humidity (MeteoSwiss, 2024). This creates an optimal environment for the many rain forests (Butler, 2020). The closer one gets to the equator the temperature dramatically rises. The hot humid climate creates the ideal conditions for local farmers to grow crops like rice (Marsh, 2023). Additionally, tremors and aftershocks from earthquakes in the mega region disrupt the seabed and cause tsunamis along Japan's coast.

Natural Resources

Occupying the eastern coastline of East Asia, Japan has limited natural resources, primarily known for modest reserves of minerals such as coal, iron ore, zinc, and lead, with significant deposits of limestone (Notehelfer, 2024). The country heavily relies on imports for most of its energy needs, including oil and natural gas, as domestic production is minimal (Owuor, 2019). Mineral reserves are concentrated in regions like Hokkaido and Kyushu for coal, and northern Honshu for iron ore, although the quality of these resources is often poor.

Following the East Japan megaquake, Japan has intensified its focus on saving natural resources through advancements in green ICT and smart grid projects, demonstrating its commitment to sustainable energy practices (Arutaki, 2016). Despite this scarcity, Japan has emerged as a leader in developing alternative energy sources, particularly nuclear power, which significantly contributes to its electricity generation.

Japan's natural resources have been integral to its industrialization and modernization, especially during the Meiji Restoration. The Meiji leaders, recognizing the need to modernize and replicate foreign technologies, implemented comprehensive reforms inspired by advanced nations during the 1871 Iwakura Mission. The government established state-owned enterprises to modernize military and infrastructure sectors, including coal mining operations crucial for development (Morck & Nakamura, 2018). In the 1970s, Japan further secured energy resources through foreign aid, funding infrastructure projects in oil-producing countries and exchanging technology and capital for Chinese coal and oil, vital for its industrial sector (Reilly, 2013). In more recent times, Japan has faced a biodiversity crisis due to rapid industrialization, prompting the National Biodiversity Strategy to address habitat destruction and the underutilization of traditional agricultural systems like satoyama, which are essential for maintaining biodiversity (Shimada, 2015). This highlights the ongoing challenge Japan faces in balancing industrial development with environmental sustainability.

The factors of production in Japan's dairy farming systems, including land, labor, entrepreneurship, and capital, have a significant impact on both the efficiency of production and the mental health of farm managers. Land in Japan is increasingly scarce and highly valued, with dairy farming primarily concentrated in Hokkaido due to its favorable climate and larger land area suitable for agriculture. Labor is a critical factor, as Japan faces an aging population, with many dairy farm workers being older adults who may experience physical and mental stress from the demands of dairy farming (Kato et al., 2021). Entrepreneurship plays a role in managing the complexities of dairy operations, from adopting new technologies to navigating market fluctuations and regulatory changes. Capital investment is crucial for maintaining and upgrading facilities, purchasing feed, and ensuring the quality of milk production. Furthermore, the broader economic context in Japan, including the impacts of population aging and government policies, also plays a role in shaping the dairy farming sector (Otsu & Shibayama, 2022). The strength of Japan's trading partnerships, particularly with countries like the United States, further influences the agricultural sector. The interrelationships between Japanese buyers and foreign sellers are crucial for economic success, with commitment playing a significant role in these partnerships (Lohtia et al., 2004). The integration of these factors and their impacts highlights the need for sustainable practices and support systems to address both economic and psychological challenges in Japan's dairy industry.

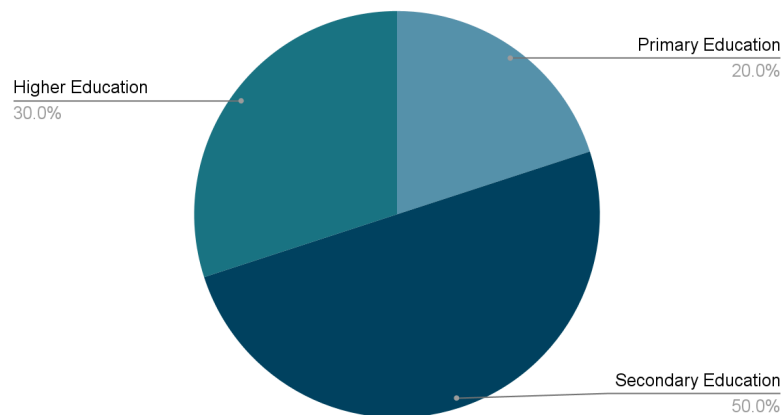
Population and Demographics

Japan, with a population estimated at over 125.5 million, ranks eleventh in the world by population. Its population density is approximately 347 people per square kilometer, given its land area of 377,975 square kilometers (World Factbook, 2023). The demographic composition of Japan is relatively homogenous, with Japanese people constituting the vast majority. However, there are minorities such as Koreans, Chinese, and indigenous Ainu. Japanese is the primary

language spoken throughout the country. The aging population and declining birthrate pose significant demographic challenges, as Japan has one of the oldest populations in the world, with a median age of 48.4 years (World Bank, 2023). Over the last few decades, the proportion of the population in the productive age range (15-64 years) has been decreasing, which has significant implications for the labor market and social security systems (NIPSSR, 2022). These demographic shifts necessitate innovative policy responses to maintain economic stability and social welfare.

Urbanization is a significant trend in Japan, with a substantial proportion of the population living in major cities like Tokyo, which has a population of approximately 14 million, and Osaka, which holds around 9 million residents (World Bank, 2023). Japan has a high Human Development Index (HDI), which considers factors like literacy, education, GNI, and life expectancy. In 2020, the average life expectancy at birth in Japan was 81.6 years for men and 87.4 years for women, one of the highest in the world (UNDP, 2021). Despite the high life expectancy, the participation rate of the age group over 65 in the total population has been rising, leading to increased pressure on healthcare and pension systems. The average household income in Japan is around \$42,000 per year, with discretionary income estimated to be approximately \$15,000 per year (OECD, 2023). Japan's gender ratio is fairly balanced, with a slight majority of women, particularly in the older age groups. Despite the demographic challenges, Japan maintains a high HDI, reflecting its strong educational, healthcare, and economic systems (UNDP, 2021). In summary, Japan's population and demographics reflect a complex interplay of historical, economic, and social factors that continue to shape the country's development and policies.

Figure 2. Education Distribution in Japan



Technology

Japan is at the forefront of technological innovation, continuously advancing in various high-tech sectors. The country is renowned for its contributions to electronics, robotics, and automotive technology. Japanese companies like Sony, Panasonic, and Honda lead the way in creating cutting-edge electronics and automation solutions, driving both domestic and global markets (OECD, 2019). Significant investments in research and development have fostered advancements in AI, quantum computing, and renewable energy technologies (METI, 2020). For example, Japan's progress in AI has seen practical applications in healthcare for diagnostic tools and in robotics for elderly care, showcasing its role in addressing societal challenges (World Bank, 2023). The government's support through policies and incentives has also been instrumental in maintaining Japan's competitive edge in technology and innovation.

In the realm of retail technology, Japan is transforming the shopping experience through innovative approaches such as e-commerce and digital payment systems. Major retailers like Rakuten and SoftBank have pioneered the use of AI and big data analytics to personalize customer experiences and optimize supply chains (JETRO, 2021). Japan has also seen the integration of advanced technologies like robotics and the Internet of Things (IoT) in retail environments, which streamline operations and enhance efficiency (METI, 2020). Automated stores, smart shelves, and AI-driven customer service robots are becoming more common, offering a glimpse into the future of retail (OECD, 2019). This technological evolution not only boosts customer satisfaction but also sets a global benchmark for retail tech innovation, further solidifying Japan's position as a leader in this field.

Culture

Japanese cuisine is renowned for its diverse and exquisite dishes, two of which are sushi and ramen. Sushi consists of vinegared rice paired with seafood, vegetables, or egg, often served with soy sauce, wasabi, and pickled ginger (Anderson, 2019). This dish highlights the Japanese emphasis on fresh, high-quality ingredients and meticulous preparation methods. Ramen, a popular noodle soup, includes wheat noodles served in a meat or fish-based broth, flavored with soy sauce or miso, and topped with ingredients like sliced pork, nori, and scallions (Solt, 2014). Both dishes reflect the intricate flavors and presentation characteristic of Japanese culinary tradition, emphasizing balance, simplicity, and aesthetics (Kawashima, 2020). These foods are just a small example of the many delicious dishes Japanese cuisine offers.

Japan is a homogeneous society with a rich cultural heritage that influences its customs, language, and religion. The predominant ethnic group is Japanese, with minor populations of Koreans, Chinese, and indigenous Ainu (Sugimoto, 2014). Japanese is the main language spoken, while English is widely taught and understood as a second language. Shinto and Buddhism are the primary religions, with a small percentage of Christians and other faiths (Ishii, 2017). Traditional customs such as tea ceremonies, festivals, and ikebana (flower arranging) reflect Japan's deep-rooted cultural values and artistic expression. Traditional Japanese clothing, such as the kimono, is emblematic of the country's cultural identity. The kimono, a long robe with wide sleeves and a sash, is made of silk and is worn on special occasions and festivals (Dalby, 1993). In modern Japan, Western-style clothing is predominant in everyday life, but

traditional attire is still cherished and worn during cultural events (Goldstein-Gidoni, 1999). The kimono's intricate designs and vibrant colors symbolize various cultural elements and seasonal changes, illustrating the harmony between nature and Japanese aesthetics. Japanese cultural practices and traditional attire continue to play a significant role in maintaining the country's cultural identity amidst modernization and globalization.

The Economy

Japan's economy has experienced significant transformation due to advancements in technology and automation across various sectors. Enhanced automation in warehouses has notably increased sales and streamlined operations in omnichannel retailing. Additionally, automation in Japanese retail warehouses has led to improved productivity and reduced operational costs (Tagashira, 2023). Japan's GDP stands at \$4.9 trillion, making it the third-largest economy globally (Hilbert, 2020). The introduction of Japan's Central Bank Digital Currency (CBDC) aims to provide faster transaction times and mobile payment functionalities, reflecting Japan's commitment to modernizing its financial systems (Fujiki, 2023). These technological advancements enhance Japan's economic efficiency and position it as a leader in integrating digital solutions into its financial infrastructure.

In comparison to the United States, Japan's economy is smaller, with a GDP of \$4.9 trillion versus \$23 trillion for the U.S. (Ito, 2020). Despite this disparity, Japan remains a global economic force due to its technological innovations and high-quality manufacturing. The shifting dynamics of labor relations, influenced by global economic changes and new technologies, have altered the bargaining power between labor and management in both Japan and the U.S. (Dau-Schmidt & Ellis, 2010). Financial crises in neighboring countries, such as Thailand and Malaysia, can significantly affect Japan, demonstrating the interconnectedness of regional markets (Ratanapakorn & Sharma, 2002). The integration of regional stock markets highlights the need for Japan to navigate its economic strategies carefully to maintain stability and growth. Understanding these dynamics is crucial for Japan as it continues to adapt to a rapidly changing global economic environment.

Labor & Employment Practices

Labor and employment practices in East Asia are based in both *de jure* and *de facto* laws. Workers in these traditional societies face much stricter *de facto* laws than *de jure* laws (Caraway, 2010). Discipline, resilience, and respect anchor the work field. Workers are expected to put their commitments above personal health and safety (Chen, 2021). Additionally, *inter-region* immigration labor puts pressure on local populations to accept less than ideal working conditions. Japan, Singapore, and South Korea host the highest numbers of Chinese migrant workers (Xiang, 2008). *Non-skilled labor* can be done by anyone and immigrants are willing to complete these roles for lower wages and longer hours.

Because of the large economic reliance on *unskilled labor* Japan has struggled to foster favorable employment practices. The country is governed by *common law* and changes its regulations as society advances. On 24 July 2024 the Japanese Labor Ministry voted to increase minimum wage by five percent to \$6.85 an hour (Sugiyama & Kajimoto, 2024). This new

legislation still keeps Japan's wage laws far below international standards (Kanaoka, 2024). Surprisingly, the country observes a common lunch break between twelve and one in the afternoon (Pringle, 2020). This juxtaposition of insufficient wages versus reliable breaks is due to the region's perspective on respect.

Fiber

Pearls are created when an irritant - natural or man made - enters the shell of a mollusk. The animal covers the parasite in coatings of calcium carbonate to decrease its irritation level to its body (Murr & Ramirez, 2012). The calcium carbonate is made of aragonite and conchiolin and is micro-layered hundreds or thousands of times to create the nacre. Naturally occurring pearls are caused by invasion of marine worms or tiny rocks (Southwell, 1924). Pearl farmers artificially place a bead into the oyster and track the progress until the pearl reaches the desired size. This process can take anywhere from six months to four years (Winterson, 2023). The East Asia region hosts a number of these farms.

Japan and China are the sources of the world's highest quality pearls. China supplies freshwater pearls while Japan is known for their Akoya pearls (Shor, 2007). Particularly, the Mie region in Japan has a unique coastline and ecosystem that is favorable to the nacre quality. The mountainous coastline is spotted with coves that support a vibrant plankton population which feeds the pearl creating mollusks (Haruyama, 2010). The water is colder than most other pearl regions causing a finer finish and denser nacre in the finished product (Muhammad, 2017). These elements are important because they cause the highest chance of an Akoya pearl - perfectly symmetrically round.

Fabric and apparel production

The harvesting of pearls, particularly in Mie, Japan, involves meticulous care and precision. Mie Prefecture, renowned for its pearl cultivation, follows traditional methods alongside modern techniques to ensure high-quality pearl production (CNY Diamond, n.d.). The process begins with the careful insertion of a small bead or piece of mantle tissue into the oyster, encouraging the formation of a pearl (Russell, 2019). The oysters are then returned to the sea, where they are nurtured in controlled environments, often for several years (Matsuda, 2020). During this period, the oysters are regularly monitored, cleaned, and protected from predators and diseases to ensure the pearls develop properly. When the pearls are ready for harvesting, skilled divers or technicians carefully retrieve the oysters from their underwater habitats. The harvested pearls are then extracted from the oysters with precision to avoid damaging the delicate nacre layers that give the pearls their luster and value (Kondo, 2018). This meticulous harvesting process is crucial to maintaining the quality and value of the pearls.

Once harvested, the pearls undergo a series of post-harvest processes to prepare them for the market. The initial step involves cleaning the pearls to remove any organic material or residue from their surfaces (Strack, 2006). This is followed by sorting the pearls based on size, shape, color, and quality, ensuring that only the finest pearls reach the market (Scarratt, 1992). To enhance their appearance, the sorted pearls may then be treated through various methods. Common treatments include polishing, bleaching, or dyeing to achieve the desired color and

shine (Kunz & Stevenson, 1908). After treatment, the pearls are drilled and matched into strands or sets according to their attributes (Webster, 1994). Each strand or set is meticulously inspected to ensure uniformity and quality. Finally, the processed pearls are packaged and shipped to jewelry manufacturers and retailers worldwide. These steps ensure that the pearls maintain their beauty and value, making them suitable for high-end jewelry production and appealing to discerning consumers (Strack, 2006; Scarratt, 1992; Kunz & Stevenson, 1908). The thorough post-harvest processing guarantees that only the best pearls make it to the market, reflecting the high standards of Japanese pearl cultivation.

Distribution and Consumption

The Akoya pearl industry in Japan is renowned for its intricate interrelationships between natural and human factors. Akoya pearls, primarily produced by the species *Pinctada fucata*, have a rich history dating back over 100 years, with Japan being a pivotal player in the global pearl market (Nagai, 2013). Moreover, the farming of Akoya pearls is not limited to Japan; regions such as Eastern Australia and China have adopted similar cultivation methods, indicating the interregional knowledge exchange and collaboration in this industry (Otter et al., 2017). These interdependencies between Japan, China, and other pearl-producing regions highlight the shared expertise and technological advancements that sustain the Akoya pearl market. The historical and cultural significance of the industry in Japan, combined with the biological characteristics of the oysters and technological interventions, underscores the complexity and richness of the global Akoya pearl industry (Mulyana et al., 2018). As these global connections continue to evolve, the Akoya pearl industry is poised to maintain its esteemed position in the international market, reflecting both its heritage and its adaptability.

The distribution and consumption of Akoya pearls, known for their exceptional luster and quality, have evolved significantly over time, positioning them as a cornerstone of the global pearl market. The United States has been a major consumer of Akoya pearls, importing approximately \$25 million worth in 1997 (Haws, M., & DiMichele, L., 1999). Currently, Akoya pearls account for 51.6% of the global pearl output value, reflecting their continued prominence despite reduced production levels (Oshima, 2017). Given these market dynamics and the evolving consumer preferences for diverse pearl types and qualities, Akoya Shinju Exports Inc. will directly *export* products from Japanese pearl farms to the U.S. market. This strategy would enable a more direct distribution of Akoya pearls, effectively targeting high-end jewelry markets and affluent consumers (Zhu, C., Southgate, P. C., & Li, T., 2019). By focusing on direct export, the Akoya pearl market can maintain its exclusivity and continue to thrive in the competitive global jewelry industry. This strategic focus on licensing can ensure consistent quality and brand prestige, attracting discerning buyers who value luxury and heritage.

Import/Export Trade Policies and Practices

The import and export dynamics between Japan and other countries, particularly China, are influenced by economic, environmental, and regulatory factors. Japan has become a significant exporter of secondary materials, such as plastic, steel, copper, and aluminum scrap, to China due to high domestic demand and lower processing costs in China. This export is driven

by the high price of raw materials, which makes recycling more economically viable, especially during an *economic slump* (Yoshida et al., 2005). Moreover, Japan's textile and apparel trade, including *proactive retailing* strategies, demonstrates Japan's efforts to maintain its market presence by adapting to consumer demands and promoting innovative products (Otani et al., 2003). Furthermore, Japan's economy has historically relied on export-led growth, which has been supported by effective trade policies and the ability to adapt to global market shifts (Awokuse, 2006). These dynamics highlight Japan's strategic approach to balancing economic competitiveness, environmental standards, and global market demands.

Japan's trade policies and practices have been shaped by a complex interplay of economic strategies, cultural preservation, and adaptation to global standards. Historically, Japan's economic performance has been exceptional, characterized by rapid growth and significant transformation in its trade structure, despite criticisms of limited foreign market access (Saxonhouse, 1993). This duality reflects Japan's unique economic institutions, which, while adhering to formal international agreements, often operate differently from other industrialized nations. Additionally, Japan's approach to foreign language policy, oscillating between embracing and rejecting languages like English, underscores a broader strategy of selective integration and control of foreign influences to protect national interests (Hagerman, 2023). These policies are not only evident in trade and language but also in Japan's retail strategies, which have evolved to address domestic economic challenges and maintain competitive positioning in the global market (Mulgan & Honma, 2015). Thus, Japan's ability to adapt and refine its policies while balancing external pressures and internal goals has been a key factor in its sustained economic success.

References

- Amaya, N. (2019, August 22). *Which countries border japan?*. WorldAtlas.
<https://www.worldatlas.com/articles/which-countries-border-japan.html>
- Anderson, E. N. (2019). *Food and Environment in Early and Medieval China*. University of Pennsylvania Press.
<https://www.upenn.edu/pennpress/book/15821.html>
- Arutaki, A. (2016). Direction and trend of networking technology in Japan to save finite natural resources - after undergoing the East Japan megaquake. *International Journal of Soft Computing and Networking*, 1(1), 35.
<https://doi.org/10.1504/ijscn.2016.077042>
- Awokuse, T. O. (2006). Export-led growth and the Japanese Economy: Evidence from var and directed acyclic graphs.
https://www.researchgate.net/publication/24068177_Export-led_growth_and_the_Japanese_economy_Evidence_from_VAR_and_directed_acyclic_graphs
- Bank of Japan. (2021). *Monetary Policy*. <https://www.boj.or.jp/en/mopo/>
- Butler, R. A. (2020, July 16). *Rainforests in Asia*. WorldRainforests.com.
<https://worldrainforests.com/kids/elementary/asia.html>
- Cabinet Office, Government of Japan. (2020). *Abenomics*.
<https://www.cao.go.jp/abenomics/>
- Caraway, T. L. (2010, May 13). *Labor standards and labor market flexibility in East Asia - studies in Comparative International Development*. SpringerLink.
<https://link.springer.com/article/10.1007/s12116-010-9061-0#citeas>
- Chen, I. (2021, September 29). *The evolving work culture in East Asian countries*. The Acronym IMSAs Official Student Newspaper.
<https://sites.imsa.edu/acronym/2021/09/29/the-evolving-work-culture-in-east-asian-countries/>
- CNY Diamond. (n.d.). Pearl Imports. <https://www.cnydiamond.com/pages/pearl-imports>
- Dalby, L. (1993). *Kimono: Fashioning Culture*. University of Washington Press.
<https://www.washington.edu/uwpress/search/books/DALKIM.html>
- Dau-Schmidt, K. G., & Ellis, B. C. (2010). *The relative bargaining power of employers and unions in the global information age: A comparative analysis of the United States and Japan*. Digital Repository @ Maurer Law.
<https://www.repository.law.indiana.edu/facpub/1332/>
- El Niño – the unique climate phenomenon in the tropical Pacific*. MeteoSwiss. (2024).

<https://www.meteoswiss.admin.ch/weather/weather-and-climate-from-a-to-z/el-nino-the-nique-climate-phenomenon-in-the-tropical-pacific.html#:~:text=The%20warmer%20the%20sea%20surface,over%20the%20Southeast%20Asian%20islands>.

- Funabashi, Y. (2016). *Japan in the 21st Century: Environment, Economy, and Society*. Cambridge University Press.
<https://www.cambridge.org/core/books/japan-in-the-21st-century-environment-economy-and-society/7C8FCDCF8AB073D8AB03D8E91D3F18E9>
- Fujiki, H. (2023, June 3). *Japan Science and Technology*. Researchmap.
<https://researchmap.jp/7000007603/presentations/42560996?lang=en>
- Gale, A., & Simmons, A. M. (2022, February 9). *Russia's military, natural gas make Japan cautious about U.S.-led sanctions - WSJ*. www.wsj.com.
<https://www.wsj.com/articles/russias-military-natural-gas-make-japan-cautious-about-u-s-led-sanctions-11644419603>
- Goldstein-Gidoni, O. (1999). Kimono and the Construction of Gendered and Cultural Identities. *Ethnology*, 38(4), 351-362.
<https://www.jstor.org/stable/3773907>
- Hagerman, C. (2010). English language policy and practice in Japan.
http://ir-lib.wilmina.ac.jp/dspace/bitstream/10775/121/1/2009_04.pdf
- Harada, Y. (2016). Japan's Lost Decade: Lessons for the World. *Asian Economic Policy Review*, 11(2), 222-240.
- Haws, M., & DiMichele, L. (1999a). New Opportunities for Economic Benefits for the American Southeast in the International Pearl Industry. Site.
<https://aquila.usm.edu/>
- Hilbert, L. C. (2020). Currency interventions, fluctuations and economic issues (English) hardcover book 9781604560787 | ebay. <https://www.ebay.com/itm/394242095774>
- Haruyama, S. (2010, August). *Hironori Funabiki's research works | The Rockefeller University, New York City (Rockefeller) and other places*. researchgate.net.
<https://www.researchgate.net/scientific-contributions/Hironori-Funabiki-39197519>
- Ito, T. (2020, January 28). *The Japanese economy, second edition*. Google Books.
https://books.google.com/books/about/The_Japanese_Economy.html?id=jH0ZxQEACA_AJ
- Ishii, K. (2017). Religion in Japan: Unity and Diversity. *Japanese Journal of Religious Studies*, 44(1), 1-22.
<https://nirc.nanzan-u.ac.jp/nfile/4253>
- “Japanese Food: A Whole Lot More than Just Sushi!” *InsideJapan Tours*,

www.insidejapantours.com/japanese-culture/food/.

Japan External Trade Organization (JETRO). (2021). *Japan's Major Export Industries*.
<https://www.jetro.go.jp/en/reports/>

Japanmap360 (n.d.). *Map of Japan and Surrounding Countries* [Photograph]. Japanmap360.
<https://japanmap360.com/japan-world-map>

Japan Meteorological Agency. (2024). *Weather Climate and Earthquake Information*
<https://www.jma.go.jp/jma/en/menu.html>

JRailPass. (2024, June 7). *7 best beaches in Japan to visit in summer 2024*.
<https://www.jrailpass.com/blog/best-japanese-beaches>

Kanaoka, H. (2024, March 18). *Japan minimum wage falls short by international standards*.
Nikkei Asia.
<https://asia.nikkei.com/Spotlight/Work/Japan-minimum-wage-falls-short-by-international-standards>

Kawashima, K. (2020). *The Art of Japanese Cuisine: A Culinary Journey*. Tuttle Publishing.
<https://www.tuttlepublishing.com/the-art-of-japanese-cuisine-a-culinary-journey>

“Kids Web Japan.” *Housing, Food, and Clothes - Explore Japan - Kids Web Japan - Web Japan*,
web-japan.org/kidsweb/explore/housing/index.html.

Kondo, M. (2018). Pearl Farming in Japan. *Journal of Marine Biology*, 45(3), 123-134.
<https://www.journalofmarinebiology.com/pearl-farming-in-japan>

Kunz, G. F., & Stevenson, C. H. (1908). *The Book of the Pearl: Its History, Art, Science and Industry*. The Century Co.
<https://archive.org/details/bookofpearlitshi00kunz>

Lohtia, R., & Bello, D. C. (2004, June 1). The role of commitment in foreign–Japanese relationships: mediating performance for foreign sellers in Japan.

Marsh, J. (2023, August 22). *How and where does rice grow?*. Environment Co.
https://environment.co/how-and-where-does-rice-grow/#google_vignette

Masai, Yasuo. “Economy of Japan.” *Encyclopædia Britannica*, Encyclopædia Britannica, inc.,
www.britannica.com/money/economy-of-Japan. Accessed 18 July 2024.

Matsuda, T. (2020). Advances in Pearl Cultivation Techniques. *Aquaculture Research*, 51(2), 315-328.
<https://onlinelibrary.wiley.com/doi/abs/10.1111/are.14285>

Ministry of Economy, Trade and Industry (METI). (2020). *Industrial Structure Vision*.
<https://www.meti.go.jp/english/>

Ministry of Foreign Affairs (MOFA). (2021). *Trade Policy*.

<https://www.mofa.go.jp/policy/economy/index.html>

Ministry of Foreign affairs of Japan. (2024, July 12). *Information About the Japan Territory*. <https://www.mofa.go.jp/>

Muhammad, G. (2017, April 27). *Nacre growth and thickness of akoya pearls from Japanese and hybrid Pinctada fucata in response to the aquaculture temperature condition in ago Bay, Japan*. Science Direct.
<https://www.sciencedirect.com/science/article/abs/pii/S0044848617308189>

Mulgan, A. (2015). *The Political Economy of Japanese Trade policy*. Google Books.
https://books.google.com/books?hl=en&lr=&id=KFNOcGAAQBAJ&oi=fnd&pg=PA196&ots=99pi9LhE3V&sig=smByaehRAVIZtjEnHSEcADS_t6s#v=onepage&q&f=false

Mulyana, J. S., Iwai, T., Takahashi, M., Farajallah, A., Wardiatno, Y., Miura, C., & Miura, T. (2018, June 5). Sex-changing patterns of Akoya Pearl Oyster (*pinctada fucata*) - zoological letters. SpringerLink.
<https://link.springer.com/article/10.1186/s40851-018-0098-7>

Muramatsu, N., & Akiyama, H. (2011). Japan: Super-Aging Society Preparing for the Future. *The Gerontologist*, 51(4), 425-432.
<https://academic.oup.com/gerontologist/article/51/4/425/676086>

Murr, L. E., & Ramirez, D. A. (2012, March 28). *The microstructure of the cultured freshwater pearl - jom*. SpringerLink.
<https://link.springer.com/article/10.1007/s11837-012-0297-1#citeas>

Nagai, K. (2013). A history of the cultured Pearl Industry. BioOne Complete.
<https://bioone.org/journals/zoological-science/volume-30/issue-10/zsj.30.783/A-History-of-the-Cultured-Pearl-Industry/10.2108/zsj.30.783.full>

National Institute of Population and Social Security Research (NIPSSR). (2022). *Population Projections for Japan (2017-2065)*. <https://www.ipss.go.jp/>

Nippon. (2023, July 7). *Japan's islands double to 14,125 following new survey*. nippon.com.
<https://www.nippon.com/en/japan-data/h01615/#:~:text=Japan%20is%20made%20up%25%20of,than%20double%20that%20with%2014%2C125>

Nothelfer, F. G. (2024a, July 18). Encyclopædia Britannica.
<https://www.britannica.com/place/Japan/Resources-and-power>

OECD. (2019). *OECD Science, Technology and Innovation Outlook 2018*. OECD Publishing.

Organisation for Economic Co-operation and Development (OECD). (2023). *OECD Economic Surveys: Japan 2023*. <https://www.oecd.org/japan/>

- Ohshima, G. (2017, April 8). Present distribution and condition of the pearl-culture in Japan. GEOGRAPHICAL SCIENCES.
https://www.jstage.jst.go.jp/article/chirikagaku/6/0/6_KJ00003720449/article/-char/ja/
- Otani, A., & Shiratsuka, S. (2003). (PDF) the decline in the exchange rate pass-through: Evidence from Japanese import prices.
https://www.researchgate.net/publication/5119942_The_Decline_in_the_Exchange_Rate_Pass-Through_Evidence_from_Japanese_Import_Prices
- Otsu, K., & Shibayama, K. (2022). Population aging, government policy and the postwar Japanese economy. *Journal of the Japanese and International Economies*, 64, 101191.
<https://doi.org/10.1016/j.jjie.2022.10119>
- Otter, L. M. (2017). Akoya cultured pearl farming in eastern Australia. *Gems & Gemology*.
<https://www.gia.edu/gems-gemology/winter-2017-akoya-cultured-pearl-farming-eastern-australia>
- Owuor, S. (2019, August 22). *What are the Major Natural Resources of Japan?*. WorldAtlas.
<https://www.worldatlas.com/articles/what-are-the-major-natural-resources-of-japan.html>
- Pacific Air Forces. (2021, October 20). *Kadena Air Base* <https://www.pacaf.af.mil/>
- Pekkanen, R. J., & Reed, S. R. (2014). *Japanese Politics: An Introduction*. Oxford University Press.
<https://global.oup.com/academic/product/japanese-politics-9780199982653>
- Pletcher, K. (2024). *Tokyo bay*. Encyclopædia Britannica.
<https://www.britannica.com/place/Tokyo-Bay>
- Pringle, P. (2020, July 15). *Working with japan - let's have lunch*. Japan Intercultural Consulting.
<https://japanintercultural.com/free-resources/articles/working-with-japan-lets-have-lunch/#:~:text=In%20Japanese%20companies%2C%20the%20lunch,not%20a%20particularly%20leisurely%20meal.>
- Ratanapakorn, O., & Sharma, S. (2002, March 5). *Interrelationships among regional stock indices*. *Review of Financial Economics*.
<https://www.sciencedirect.com/science/article/abs/pii/S105905600200103X>
- Reilly, J. (2013). China and Japan in Myanmar: Aid, Natural Resources and influence. *Asian Studies Review*, 37(2), 141–157.
<https://doi.org/10.1080/10357823.2013.767310>
- Rich, M., & Hida, H. (2022, December 29). *Free lift passes, anyone? Japan's Ski Mecca is desperate for workers*. *The New York Times*.
<https://www.nytimes.com/2022/12/29/world/asia/japan-niseko.html>
- Russell, S. (2019). *The Complete Guide to Pearls: Understanding, Selecting, and Caring for Them*. Gemological Institute of America.

<https://www.gia.edu/complete-guide-to-pearls>

Sakawa, M., Nishizaki, I., Matsui, T., & Hayashida, T. (2012, November 30). *A two-level purchase problem for food retailing in Japan*. SCIRP.

<https://www.scirp.org/journal/paperinformation?paperid=25144>

Saxonhouse, G. R. (1993). What does Japanese trade structure tell us about ...

<https://pubs.aeaweb.org/doi/pdf/10.1257/jep.7.3.21>

Scarratt, K. (1992). The History of Pearls. *Journal of Gemology*, 23(4), 215-222.

<https://gem-a.com/journal-of-gemology>

Shinoda, T. (2013). *Contemporary Japanese Politics: Institutional Changes and PowerShifts*. Columbia University Press.

<https://cup.columbia.edu/book/contemporary-japanese-politics/9780231152554>

Southwell, T. (1924). The Pearl-Inducing Worm in the Ceylon Pearl Oyster. *Annals of Tropical Medicine & Parasitology*, 18(1), 37-53.

<https://doi.org/10.1080/00034983.1924.11684386>

Shor, R. (2007). *Free Market: The Transformation of the Cultured Pearl Industry*. *Gems & Gemology*, 43(3), 200-226. Gia.edu.

<https://www.gia.edu/doc/From-Single-Source-to-Global-Free-Market-The-Transformation-of-the-Cultured-Pearl-Industry.pdf>

Smaal, A. C., & FerreirA, J. G. (2019). Goods and services Marine bivalves. Login.

https://cuny-ny.primo.exlibrisgroup.com/discovery/fulldisplay?docid=cdi_unpaywall_primary_10_1007_978_3_319_96776_9&context=PC&vid=01CUNY_NY%3ACUNY_NY&lang=en&search_scope=NZPhysical&adaptor=Primo+Central

Solt, G. M. (2014). *The Untold History of Ramen: How Political Crisis in Japan Spawned a Global Food Craze*. University of California Press.

<https://www.ucpress.edu/book/9780520278205/the-untold-history-of-ramen>

Spring Fling: Discover the culture and color of Japan's spring festivals - japan airlines (JAL).

JAL Official Site. (2024).

<https://www.jal.co.jp/th/en/guide-to-japan/destinations/articles/multi/festivals-in-japan-spring.html#:~:text=%20Date%3A%20May-,Experience%20Japanese%20culture%20and%20tradition%20at%20the%20Hakata%20Dontaku%20Festival,happiness%20in%20the%20new%20year.>

Stockwin, J. A. A. (2020). *Governing Japan: Divided Politics in a Major Economy* (5th ed.). John Wiley & Sons.

<https://www.wiley.com/en-us/Governing+Japan%3A+Divided+Politics+in+a+Major+Economy%2C+5th+Edition-p-9781118508162>

Strack, E. (2006). *Pearls*. Ruhle-Diebener-Verlag.

<https://www.ganoksin.com/article/book-review-pearls-elizabeth-strack>

- Sugiyama, S., & Kajimoto, T. (2024, July 24). *Japan plans record hike in minimum wage*, *NHK Reports*. reuters.com.
<https://www.reuters.com/markets/asia/japan-plans-record-hike-minimum-wage-nhk-reports-2024-07-24/>
- Sugimoto, Y. (2014). *An Introduction to Japanese Society*. Cambridge University Press.
<https://www.cambridge.org/core/books/an-introduction-to-japanese-society/6F5D0C8BF1F2F0B6E8F78F12C8F0A2D>
- “Textiles in Japan.” *The Observatory of Economic Complexity*,
oec.world/en/profile/bilateral-product/textiles/reporter/jpn#historical-data
- Topol, S. A., & Gordon, G. (2023, July 7). *The America that Americans forget*. The New York Times. <https://www.nytimes.com/2023/07/07/magazine/guam-american-military.html>
- United Nations Development Programme (UNDP). (2021). *Human Development Report 2020*.
<https://hdr.undp.org/en/2020-report>
- U.S. Department of State. (2020, January 21). *U.S. Relations with Japan Bilateral Relations Fact Sheet* <https://www.state.gov/>
- US Embassy Japan. (2024, July 12). *Official Magazine*
<https://amview.japan.usembassy.gov/>
- Webster, R. (1994). *Gems: Their Sources, Descriptions, and Identification*. Butterworth-Heinemann.
<https://www.elsevier.com/books/gems/webster/978-0-7506-1672-4>
- Winterson. (2023, February 3). *How long does it take to grow a real cultured pearl?*. Winterson Ltd.
<https://www.winterson.co.uk/blog/how-long-does-it-take-to-grow-a-real-cultured-pearl/>
- World Bank. (2023). *World Development Indicators*.
<https://databank.worldbank.org/source/world-development-indicators>
- World Factbook. (2023). *Japan*. <https://www.cia.gov/the-world-factbook/countries/japan/>
- Yoshida, A., & Terazono, A. (2005). Secondary materials transfer from Japan to China: destination analysis.
<https://dhg1h5j42swfq.cloudfront.net/2021/10/27174530/1yws3spnupn5q9i7ymesoaqu52rdkcmqmp0juk49oajk9cbm4xgsapkgnr6mxi3pcqmt1saj5wsn3ek1461-1.pdf>
- Yung, B., & Rimer, J. T. (2024). *Chinese Culture in Japan: The Qin and The Literati*. japanpitt.pitt.edu.
<https://www.japanpitt.pitt.edu/essays-and-articles/culture/chinese-culture-japan-qin-and-literati>
- Xiang, B. (2008, March 31). *Transplanting Labor in East Asia*. Dio.org.

<https://doi.org/10.15021/00001279>

Division of Work

Formatting and revisions - Nandini and Menucha

Geography - Menucha

Climate - Menucha

Natural Resources (includes factors of production) - Leah

Population and Demographics - Nandini

Technology - Nandini

Culture - Nandini

Economy - Leah

Labor and Employment Practices - Menucha

Fiber - Menucha

Fabric and Apparel Production - Nandini

Distribution and Consumption - Leah

Import/Export trade Policies and Practices - Leah