

Cross-Strait Economic Relations and China's Rise

The Case of the IT Sector

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Cross-Taiwan Strait economic relations have experienced tremendous shocks since 2008. High expectations in the early stage of Ma Ying-jeou's administration were eroded by domestic difficulties and skepticism. Taiwan's attempts to embrace economic globalization through China were weakened within the complex domestic environment. The student-led Sunflower Movement in 2014, protesting the Cross-Strait Service Trade Agreement, put that and other cross-Strait economic pacts on ice. At the same time, China has adjusted its grand strategies by broadening economic engagements around the globe. China's paramount leader Xi Jinping has also demonstrated his strong will by consolidating political control and concentrating his power. The rise of China's comprehensive power and Taiwan's hesitation to institutionalize the cross-Strait economic relationship provide unique cases for academic exploration.

This chapter will discuss whether Taiwan can still maintain its existing position in cross-Strait economic relations within the new context of the rise of China's economic power. I will first introduce the current development models of Taiwan's information technology sectors in the context of the cross-Strait division of labor and then discuss the changes to China's position in the global political and economic arenas. The third section will analyze the strengths and weaknesses of Taiwan's IT sector in coping with state-driven pressure coming from the other side of the Taiwan Strait. Finally, I will provide some policy reflections on Taiwanese strategies to cope with the rise of China.

DYNAMICS OF CROSS-STRAIT ECONOMIC
RELATIONS: TAIWAN'S GLOBALIZED IT INDUSTRY

Taiwan's IT Industry as the Foundation of Economic Globalization

Taiwan's economic globalization is based on its ability to be flexible and adjust in managing the global supply chain. In the post-developmental state era, Taiwanese firms are characterized by their reputation among global brand holders for punctual and precise manufacturing. This original equipment manufacturing/original design manufacturing (OEM/ODM) model of development was founded on mutual trust with upstream designers, close interaction with major high-tech hubs, and access to the major manufacturing bases of mainland China. In other words, Taiwanese firms are the major platforms linking American technologies, Taiwanese know-how, and Chinese processing capabilities.¹

Taiwan's industrial structure has increasingly become dominated by the IT and electronics sector. As a result, IT and electronics products now account for an excessively large share of Taiwan's overall exports. On the basis of export data compiled by Taiwan's Directorate General of Budget, Accounting, and Statistics, information and communications technology (ICT) products consistently account for over 30 percent of Taiwan's total exports. As IT and electronics products are characterized by a high level of income elasticity, consumers will often delay purchase of these items. However, fluctuations in the global economic climate can therefore have a significant negative impact on Taiwan's exports and its economic growth rate. Taiwan's ability to implement adjustments in response to global economic fluctuations is also affected.²

Traditional wisdom indicates that, thanks to the outsourcing policies of the main IT design centers like Silicon Valley, Taiwan is a major beneficiary within the global division of labor. Overseas returnees serve as major mediators of cross-Pacific talent circulation. However, recent studies provide different views of this unique pattern of IT globalization. For instance, Martin Kenney, Dan Breznitz, and Michael Murphree are skeptical about the importance of overseas returnees for Taiwan's IT development and globalization. They argue that overseas returnees established only three of the top ten firms for integrated circuit (IC) design in Taiwan; only one of the firms' founders has a direct connection to Silicon Valley, having worked there, while the other two have founders with Silicon Valley educations. Kenney and his colleagues claim that the returnee-centric version of Taiwan's development does not recognize the important role of multinational corporations, indigenous entrepreneurship, and the spin-off policy of the Industrial Technology Research Institute (ITRI) in creating an environment that would be attractive to returnees. In other words, scholars have underestimated the significance of the ecosystem that was built before the appearance of the returnee entrepreneurs, mostly in the 1990s. Such an ecosystem created the conditions within which returnees could utilize the education and skills learned abroad to provide the Taiwanese node of the structural niche they would fill and later expand.³

The overseas connection may not have had a substantial impact in terms of quantity, but it did improve the quality of Taiwanese IT production capabilities. Overseas returnees spread the seeds of cultural change in the IT sector. Instead of focusing on the impact of overseas returnees on the globalization of Taiwan's IT industry, Taiwanese companies have been increasing the learning curve to accumulate technological know-how in the IT and electronics sectors. The progress of such a learning model is reflected in the economic links between Taiwan and Japan. Expansion of the transnational division of labor and the long-term economic downturn in Japan sparked by global capitalism created a crucial strategic opportunity for dependency management within the Taiwanese thin-film-transistor liquid-crystal-display (TFT-LCD) industry. The Taiwanese effectively imported Japanese human resources, learning their manufacturing technologies directly from Japanese engineers. Taiwanese TFT-LCD manufacturers subsequently innovated their own next-generation technology without relying on Japanese engineers or continuously purchasing Japanese technologies.⁴

After May 20, 2016, the new government under the Democratic Progressive Party (DPP) launched new policy packages to promote innovation and IT development. The "Asian Silicon Valley" initiative is one of President Tsai's five major industrial development objectives. This project aims to increase Taiwan's share of the global IT market by creating a robust environment for entrepreneurs and start-ups. It also intends to upgrade Taiwan's IT research and design capacities by fostering innovative talent, facilitating the development of capital markets, and revising related laws. Furthermore, the Taiwanese government is going to establish a one-stop center to promote the integration of its R&D capabilities with California's Silicon Valley and other innovation hubs around the world.⁵

Unlike previous policies of IT development over the past two decades, the Asian Silicon Valley plan intends to promote Taiwan's participation in international standard formulation and certification of IT-related technologies. The policy goals include integrating Taiwan's hardware advantages into software applications and commercializing research findings of universities and research institutes. This plan also focuses on the consolidation of IT and other high-tech infrastructure. For instance, it plans to establish a quality Internet environment, build diversified smart test beds, and develop applications based on smart logistics, smart transport, and smart medicine.⁶

*Embracing the Chinese Market in the Global Supply Chain:
The Hon Hai Model*

It has long been argued that the most effective protection against Taiwan's economic dependence on China is to diversify Taiwan's economic engagements around the world. In addition to establishing technological linkages with the United States, Taiwan has depended on Japan economically in terms of industrial know-how, upstream technological innovation, and enhancement of the service

sector. For Taiwan, the main driving force of economic interaction has remained OEM and ODM types of investments in China. Major Taiwanese IT manufacturers like the Taiwan Semiconductor Manufacturing Company (TSMC) concentrate on perfecting the manufacturing process rather than the initial design. Because of their orientation, Taiwanese firms do not aspire to control the upstream core technologies. Even though these OEM/ODM firms link US and Japanese technologies, Taiwanese know-how, and mainland Chinese manufacturing capacities, the profit margin has been shrinking. Companies like Foxconn have had to squeeze their manufacturing costs, which results in problems like sweatshop-style factories and labor disputes. In response, Foxconn and other OEM manufacturers have tried to globalize their operations and make new breakthroughs in international markets. But well-known Taiwanese brand names like Acer, Asus, and HTC are still rarities in the global marketplace.

Despite all the setbacks surrounding labor disputes and controversies over sweatshop factories in China, Hon Hai/Foxconn remains one of the most successful Taiwanese OEM/ODM companies in the world. The major reason for Foxconn's ascendance in the world IT manufacturing arena is its close integration with Apple's global supply chain. Through Apple's comprehensive supply chain, Foxconn is also able to form partnerships with other manufacturers and establish extensive networks of mutual cooperation. For instance, Apple's iconic iPhone brings together several increasingly global production networks, one of which comprises one of the world's leading brand-name firms (Apple) and its manufacturing partner and the world's largest provider of electronics manufacturing services (Taiwan's Hon Hai). Another combines three specialized suppliers: the world's leading integrated semiconductor manufacturer (South Korea's Samsung), a leading fabless smart-phone chip design firm (Qualcomm from the United States), and a top semiconductor foundry (Taiwan's TSMC). In these intersections of multiple production networks across several segments of the ICT sector, the interfirm partnerships creating the market success of one major consumer product are realized.⁷

The Foxconn/Hon Hai model of globalization is noteworthy in that it does not reflect strong state intervention and support. Instead, it demonstrates the dynamics of self-reinforcement and innovative forces at the enterprise level. According to Henry Yeung, Hon Hai was not a direct recipient of state support. Its success cannot be attributed to the state's industrial policy. Hon Hai is not a "national champion" according to the standards of the developmental state. Instead, its emergence is largely due to its strategic coupling with leading global firms in the electronics industry. Hon Hai's competitive advantages are predicated on its ability to combine discretion with a solid record of quality control and competitive pricing. Yeung argues that Hon Hai's emergence as Taiwan's largest industrial firm owes neither to state-led industrialization efforts nor to indigenous industrial capabilities derived from the "brain circulation" of transnational technologist elites.

Instead, its success as the world's leading electronics manufacturing service provider can be explained by the changing industrial dynamics of global production networks, which offer critical windows of opportunity for it to serve as a strategic manufacturing partner of leading global firms.⁸

In addition to strengthening its status as a key manufacturer in the Apple supply chain, Hon Hai has extended its reach to high-tech service sectors and has formed various strategic alliances with other ICT vendors and service providers. Hon Hai released a plan for the establishment of a intelligent society that incorporates devices with services, integrating hardware and software. The company is set to transform itself into a technology services company to meet consumer demand and has no intentions of launching own-branded products.

In the future 5G era, the company will focus on the development of automation and artificial intelligence, combining hardware/software capabilities, using technology to improve human life, and creating greater value for its shareholders.⁹ For this reason, Hon Hai/Foxconn is working with Google on robots for use in the manufacturing process. It needs Google's help to step up automation at its factories, as the company has the lowest sales per employee among the contract makers, given its large workforce.¹⁰ Furthermore, the company is looking to trim labor costs and diversify its operations, seeking new avenues of growth as revenue from contract manufacturing slows. Hon Hai has established multiple relationships with its customers, including a cloud server cooperation agreement signed in late April 2013 with the American PC vendor Hewlett Packard.¹¹

Hon Hai has taken steps to reduce its dependence on Apple. In 2014, Apple accounted for 25 to 30 percent of Hong Hai's overall revenue. Since then, Hon Hai has acquired controlling shares in Taiwan's Asia Pacific Telecom and has made plans to expand into the automotive industry. In late December 2014 it publicly announced that it had taken a 10.5 percent stake in China Harmony, a major luxury car dealer in China. Recently, it announced that it has begun partnering with Tencent, which operates the Chinese social network WeChat, to build electric vehicles that will be connected to the Internet. It says it can build electric vehicles for under US\$15,000—significantly cheaper than the current models of major manufacturers.¹²

Foxconn's acquisition of the Japanese IT giant Sharp in 2016 demonstrates Gou's ambition to expand in the global arena. According to Gou, Sharp has lots of technology but isn't able to market it; Foxconn plans to accelerate commercialization of Sharp's patents, turning them to technology and then turning technology to products that will help turn the business profitable. Because Foxconn is now facing challenging market conditions, including a trend of growing protectionism in many countries, new strategic moves are necessary for survival and development.¹³

The \$ 3.5 billion deal, for a 66 percent stake in Sharp, is intended to make Foxconn a more attractive partner for Apple. The American technology company uses

Sharp screens, which could give Foxconn added leverage in dealings between the two. In recent years, Apple has been diversifying its supply chain, giving some production contracts to other assemblers and component makers, and Foxconn is grappling with China's rising labor costs and a slowdown in the global smartphone market. While Foxconn's revenue has been padded by a boom in orders for less expensive Chinese-branded smartphones, analysts have highlighted the concern of increased competition from China-based suppliers. Also, Apple, as part of its efforts to diversify its supply chain, has given orders for iPhone assembly to Pegatron, another Taiwan-based contract manufacturer, which operates a huge factory near Shanghai.¹⁴

Attempts to Establish the IT Brand: The Challenges of the HTC Model

Another issue to consider with regard to Taiwan's global links in the IT industry is the transition from an OEM to an own-brand manufacturing (OBM) model of production. As profit margins are increasingly squeezed, some Taiwanese OEM manufacturers have begun to shift their direction and take on more risks. The established smartphone manufacturer HTC provides an example. HTC was founded in 1997 and initially produced notebook computers. For years, it was a contract manufacturer of hand-held devices for other companies, pioneering phones with touch-screen interfaces. In 2006, it started making products under its own name, and a year later Google introduced Android, which became the operating system of choice for HTC products. By 2011, the company's market capitalization exceeded that of Nokia, once the Goliath of the industry. In 2011, HTC sold more smartphones in the United States than any other maker. Since then, shares of HTC have plunged almost 90 percent, shrinking its market cap from \$33 billion to \$4 billion.

However, the HTC case also demonstrates the competitive weakness of Taiwanese IT firms with regard to their own brands. World-class experience in the manufacturing process does not easily translate into a capacity for survival in the global marketplace. For instance, the HTC One, released in 2013, was named "Smartphone of the Year" at the Mobile World Congress held in Barcelona in February and became only the third phone to earn a five-star review. However, HTC's biggest problem is not a lack of sophistication in its design. Rather, it is HTC's biggest rival, Samsung, which last year spent \$14 billion on advertising—about the same as the GDP of Iceland. HTC posted its first-ever operating loss in the third quarter of 2013, after which ABI Research, a consulting firm, said that once such handset companies become unprofitable, only 10 percent can be expected to survive the next two years.¹⁵

In China, the world's biggest market of consumer electronics, HTC is being squeezed further by global brands and cheap local producers. As a brand-name manufacturer, HTC has difficulties in identifying its brand position in the Chinese market. Mainland consumers know relatively little about the Taiwanese

brand whose initials once stood for “High Tech Computer.” They navigate toward Apple and Samsung plus their own smartphone brands, such as Coolpad, Huawei, Lenovo, Xiaomi, and ZTE. Local brands sell for no more than HTC-equivalent handsets and in some cases have better specifications, while HTC is set back by higher production costs.¹⁶

HTC’s downturn and losses indicate how second-tier smartphone makers are struggling in a maturing market. HTC’s shares in Taipei sank to a record low of NT\$71 on June 30, 2015, compared with an all-time high of NT\$1,300 in April 2011. The shares ended flat at NT\$73.80, ahead of the company’s announcement. According to HTC chair Cher Wang, the company has recently launched a fitness band and a virtual reality device.¹⁷

In August 2015, HTC’s market value fell below its cash on hand, leading to headlines stating that the brand no longer had any value. This company with a proud tradition of design seemed to have lost a piece of its soul. If the company is going to avoid declining any further, it will need killer hardware, a revamped software experience, and a more coherent (and less defensive and negative) marketing message.¹⁸ In 2016, HTC shifted its strategies to serve as Google Android mobile phone Pixel’s OEM manufacturer. Responses from the market are mixed. Experts indicate that since Google emphasizes that the new mobile phone is “made by Google,” HTC has been relegated to the role of OEM manufacturer rather than coengineering the device with Google. This approach is no different from Apple’s partnership with iPhone builder Foxconn.¹⁹ For HTC, it is a retreat from an OBM to an OEM model of development. On the other hand, critics also argue that since the market performance of HTC’s own products is sluggish, using safer ways to accumulate revenues for the adjustments of the next stage is a rational choice for HTC. The potential target for HTC’s niche could be virtual reality devices.²⁰

The Hon Hai and HTC models provide mixed examples of the strengths and weaknesses of Taiwanese IT firms in cross-Strait economic relations. Taiwan has put cross-Strait economic relations in the global arena. However, China is no longer an underdeveloped market with low wages and technological know-how. “The rise of China” has become a key phrase in academic as well as political debates around the world. In other words, China is not just a processing zone for cheap, labor-intensive products. China has demonstrated strong ambitions to be the new global economic powerhouse on the basis of its newfound power and status in the international arena.

The following section will discuss China’s new political and economic grand strategies for reorienting itself given its new global position. In terms of cross-Strait economic relations, Taiwan is coping with a partner that is markedly different from the one circa pre-2000. These political and economic strategies help explain whether China will be a competitor, a dominant player, or a partner in economic interactions.

CHALLENGES OF CROSS-STRAIT ECONOMIC
RELATIONS: THE RISE OF CHINA'S MACRO POLITICAL
AND ECONOMIC INITIATIVES

The Emergence of China's New Global Political Initiatives

The term *grand strategy* is heavily influenced by international as well as domestic political calculations. The Chinese leadership has put special emphases on the linkages of domestic and external politics. The recent proactive actions of Chinese foreign policy are attempts to handle domestic and international situations—the “two major situations”—at the same time. In the Third Politburo Studying Meeting in January 2013, Xi elaborated upon a theory for integrating the two major situations. Such integration has become a focus of Chinese foreign policy under Xi's leadership. This policy directive can be seen in the context of integrating domestic development with external relations, Chinese development with global development, and the interests of the Chinese people with the interests of other countries. Guided by the principle of integration, according to Xi, the Chinese government should take a more positive and proactive attitude in international affairs and search for ways to contribute to global development.²¹

The policy of “handling the two major situations” reflects increasing Chinese confidence in managing foreign affairs. Moreover, maintaining domestic as well as international stability will contribute to the continuous development of China over the next few decades.

However, the policy still runs up against contradictions in international affairs. Wu Xinbo argues that contradiction is a normal situation in international affairs. As Chinese society progresses, the Chinese tend to use peaceful solutions instead of military solutions for contradictions in international affairs. They are searching for “natural ways” to cope with the contradictions. If the timing is not right, the best way is to put aside controversies and search for a balancing point where both sides' interests converge.²² Wu Xinbo also argues that the current relations between political entities in the Asia Pacific region are driven by a mixture of concerns to maintain hegemonic stability, balance of power, and collective security. The Sino-American relationship is characterized as one of controlled competition and limited cooperation. The bottom line is the avoidance of direct conflicts.²³ From Wu's point of view, China is facing an “unharmonious world” in the Asia Pacific region, a situation that is full of conflicts, contradictions, and opportunities. The classic balance of power and great-power politics will prevail in high politics. But in the sphere of human security, countries in the region tend to cooperate on mutually beneficial goals.

Chinese scholars have also studied the shift in China's attitudes toward international order and governance. For instance, Wang Jisi notes that since 2005 the State Council white paper has not mentioned a policy of “establishing international political and economic order.” Instead, the 2011 white paper emphasized the efforts

to participate in international affairs and shoulder responsibilities. For Wang, such adjustments imply that China recognizes the existing international political and economic order and is working to promote further reform. In other words, China has shifted its identity into that of a “central nation,” serving as a bridge between the North and the South.

The new identity of a central nation is facing new challenges. First, the greatest security challenges are from countries that have the closest economic interdependence, such as the United States and Japan. China’s economic linkages with the United States and Japan reflect the global division of labor, which extends far beyond bilateral relations. Second, in order to guarantee the security of neighboring regions, China has to broaden its horizons and play a more positive role in the Middle East, Africa, and Indian Ocean region. Involvement in comprehensive security issues will have a major impact on China’s domestic security. The only way to enhance the national security of surrounding areas is to develop a security policy that extends globally and integrates Chinese interests with global interests. Third, with such a new global strategy, China must stabilize relationships with major countries including Russia, India, Japan, and United States. It must shoulder more global responsibilities but be modest and prudent at the same time.²⁴

The Chinese acknowledge that China’s recent rise is due to its accumulation of wealth, not culture. The Chinese need to make their views heard in the international arena and upgrade their existing culture into “Chinese culture 2.0,” which will handle more complicated domestic challenges such as ethnic autonomy and “one country, two systems” arrangements in which distinct Chinese regions retain their own economic, political, and legal systems. This upgraded culture will accommodate different religious, cultural, political, and even local subsystems within the whole of the Chinese territory. However, as a report by the Institute of National Development of Peking University indicates, cultural pluralism must operate within the context of the socialist system of the Chinese party state. It is the historical precondition for China’s future development.²⁵

As the preceding analysis demonstrates, Chinese leaders and academics are searching for a new “grand strategy” to guide the external behavior of their country. According to Barry Buzan, the functions of a grand strategy might be thought of as follows:

- (1) To establish criteria for foreign and security policy formulation and evaluation.
- (2) To create coherence in foreign and security policy by providing a stable overarching framework for policy choices.
- (3) To embed and legitimize foreign and security policy politically by explaining it to the citizenry in broad terms, and especially to explain difficult choices.
- (4) To project an image of the country to the rest of the world.²⁶

On these four criteria, as Buzan argues, the Chinese policy of “peaceful development” qualifies as a grand strategy. It contains a theory about how the world works and how China should relate to that world in light of its overriding priority of development. It takes military, political, and economic elements into account and is sensitive to the kind of image China should project to the world. It thus sets a framework for defining China’s national interests and offers a basic principle about how to relate means to ends.²⁷

Under the general principle of peaceful development, Chinese leaders and academics are searching for new ways to balance a traditional low-profile foreign policy with more proactive diplomatic initiatives. For instance, Wang Jisi argues that a more sophisticated grand strategy is needed to serve China’s domestic priorities. He introduces four ongoing changes in China’s strategic thinking: (1) China’s new comprehensive concept of security that extends beyond power politics to include such issues as disaster mitigation and environmental security; (2) a shift from country-oriented to more multilateral and issue-oriented policy; (3) more attention given to economic efficiency, product quality, environmental protection, the creation of a social safety net, and technological innovation; (4) enhancement of Chinese cultural soft power and promotion of good governance.²⁸

In contrast to a more prudent and low-profile external strategy, recent Chinese foreign policy directives demonstrate China’s desire to adjust to its status as a major power in the international arena. Yan Xuetong uses the term *striving for achievement* to describe Xi’s more proactive grand strategy. Yan argues that for the sake of a favorable international environment conducive to its national reinvigoration, China has to actively shape the external situation instead of adapting itself to changes in external conditions. In addition to economic engagements, this approach targets regional cooperation in areas including politics, security, and culture. It also encourages China to take up international responsibilities consistent with China’s interests, capabilities, and status as the second-largest power in the world.²⁹

As Yan Xuetong argues, the most remarkable part of Xi’s grand strategy is the greater emphasis on China’s relationship with its neighbors. For many years, China has regarded Sino-American relations as the top priority. After Xi’s adjustment, greater significance is now attached to diplomacy with neighboring countries, and particularly to the establishment of cross-regional economic corridors—not only a Silk Road Economic Belt (connecting China to Europe via western and central Asia) and a Twenty-First Century Maritime Silk Road (connecting China to Southeast Asia, Africa, and Europe via the South China Sea, the Indian Ocean, and the Red Sea), but also a China-India-Myanmar-Bangladesh economic corridor, the goal of which is to promote integration in all three subregions.³⁰

Efforts to reposition China’s standing in the Asia Pacific region and to attend to more than great-power politics are reflected in China’s strategies to “regionalize”

its power. In an important address on China's foreign policy principles, Foreign Minister Wang Yi reemphasized the "Asia-Pacific Dream" introduced by Xi Jinping at the 2014 Asia-Pacific Economic Cooperation (APEC) meeting. In his remarks, Wang indicated that China would work to build consensus on how to advance all-around cooperation in the Asia Pacific region. He also pointed out the importance of promoting common, comprehensive, cooperative, and sustainable security in Asia and building a community of shared interests and destiny.³¹

As the previous pages indicate, Chinese leaders are striving for a more positive international environment in which to consolidate domestic stability and growth. As their comprehensive national power grows, the Chinese are utilizing their economic influence to reorient China's position in international affairs. This new policy must serve domestic interests and help allay suspicions of a "China threat." Moreover, the Chinese are searching for new strategies to reshape an international economic, political, and security arrangements in ways that will enhance China's leading role in the international arena.

The "One Belt, One Road" (OBOR) policy was announced by Chinese president Xi Jinping in 2013. According to the plan, China would set up a "Silk Road" infrastructure aid fund of US\$40 billion to assist nations along the Silk Road Economic Belt. It would resemble the fabled trade network during the Han dynasty that connected China with Europe and ran through central and western Asia. The Twenty-First-century Maritime Silk Road was also announced as part of OBOR.³²

Chinese foreign minister Wang Yi has elaborated that OBOR consists of projects designed to boost mutually beneficial cooperation between China and Eurasian countries in the spirit of mutual learning and harmonious coexistence reminiscent of the ancient Silk Road. China's leadership hopes that OBOR will serve as an overarching framework for China's endeavors in external cooperation in the modern era. Moreover, it will serve internal as well as external functions for national interests. As Wang indicates:

Internally, this initiative dovetails with China's development strategy of developing our central and western regions while addressing regional imbalances and fits well with our "go global" strategy aimed at building all-directional cooperation with the outside world.

Internationally, this initiative aims to secure common development and shared prosperity in all countries along the routes, as it upholds the vision for a community of shared destiny and highlights a win-win approach featuring consultation, joint development and sharing. The initiative is bound to bring new life and vigor to the ancient land of Eurasia and give this vast continent two strong wings on its journey toward prosperity.³³

OBOR reflects China's intention to depart from the previous low-profile, or *taoguan yanghui*, model of foreign policy. Some have viewed OBOR as China's

Marshall Plan, with a long-term goal of gaining geopolitical preeminence on the Eurasian continent. In this context, OBOR is also deemed an economic countermeasure to American rebalancing in Asia Pacific. The baseline is that China will tap the opportunity of OBOR to expand investment in its extensive western region and attempt to sustain its growth rate, which is declining. China could use this strategy to hedge against potential contingencies if its sea routes become threatened. In addition, China could wield more political influence when the region's economy becomes further dependent upon Beijing. Promoting the interconnectedness of Eurasian countries would entail resources beyond those of any one country's own treasury, so it has to be a copaying and cosharing arrangement.³⁴

OBOR also serves domestic interests by providing avenues for Chinese capital to "step out." In 2014, China was the world's biggest trading country with foreign exchange reserves of US\$39 trillion. Such reserves can lay the foundation for China's more proactive external strategies. At the same time, appropriate channels are needed to guide domestic capital into the international market. Since the launch of a stimulus plan in 2008 to cope with global economic stagnation, China's infrastructure industries have become economic champions under the state capitalist system. Large-scale infrastructure-related projects have helped create China's iron triangle of rail lines, roads, and airports (*tiegongji*). Equipped with China's experiences and technologies of infrastructure construction, the OBOR policy provides timely channels for these state-owned enterprises to develop new initiatives for international markets. Such moves will also be buttressed by new institutional arrangements like the Asian Infrastructure Investment Bank (AIIB).

Details of Taiwan's participation in OBOR and the AIIB are still coming to light. However, Taiwanese firms have formed various strategic alliances with this new investment initiative. For instance, in 2011, Taiwan's Asia Vital Components Co., a thermal solution provider, acquired a 45 percent stake in a subsidiary company formed with China's China South Locomotive & Rolling Stock Corp. Local institutional investors are expecting the company to benefit from expected growth in demand for high-margin railway heat dissipation and electrical products including power resistors, water-cooled transformers, and rackable connectors. Power Mate Technology Co., a power supply company, secured a role in China's railroad equipment supply chain in 2010 after its electronic equipment products received EN 50155 standard certification for railway applications. Since its founding, Power Mate's products have been used in a number of demanding industrial applications including medicine, weaponry, solar power, and automobiles. The company is an original design manufacturer and markets products under the brand name P-Duke.³⁵

China International Capital Corp., the largest investment banking and research firm in China, said it anticipates that Beijing will pour more than US\$1.65 trillion into its OBOR strategy over the next decade, much of which will flow to

neighboring nations in Asia. Meanwhile, the prospects of Taiwanese companies such as Asia Vital Components Co. and Power Mate Technology Co. have improved in the eyes of investors as they are deemed to be companies well positioned to reap rewards as the Beijing-led initiatives take shape.³⁶

China's New IT Policies: Challenging Taiwan's Role in Cross-Strait Economic Interaction

As is the case with its more proactive foreign policy initiatives, the Chinese government has demonstrated its strong ambition to rebuild the high-tech and IT industry by direct intervention of the state. Such actions reflect a typical developmental state style of using financial instruments and industrial policy to pick winners and support technological breakthroughs. The Chinese government is now putting significant funding and efforts into new policies related to the development of the semiconductor industry. Chinese officials have convened a unique task force charged with setting an aggressive growth strategy. This group helped develop a policy framework that is targeting a compound annual growth rate for the industry of 20 percent between now and 2020, with potential financial support from the government of up to RMB 1 trillion (US\$170 billion) over the next five to ten years. Investments will be made by a national investment vehicle (the National Industry Investment Fund) and provincial-level entities. These entities will invest across multiple categories, including project finance and domestic and foreign acquisitions, as well as traditional research and development subsidies and tax credits.

To avoid the fragmentation issues of the past, the Chinese government is focusing on creating national champions—a small set of leaders in each critical segment of the semiconductor market (including design, manufacturing, tools, and assembly and testing) and a few provinces in which there is the potential to develop industry clusters. What's different this time, however, is that the task force includes the top ten to fifteen leaders in China's semiconductor industry (convening executives from fabless designers, foundries, and equipment manufacturers), and overarching leadership for the project comes from Vice-Premier Ma Kai, one of the government's highest-ranking officials. This committee had a direct influence on the State Council during its drafting of the Guidelines of the National IC Industry Development Promotion, the high-level policy framework that was shared publicly in June 2014.³⁷

In June 2014, the State Council of China issued the "National Guidelines for the Development and Promotion of the IC Industry" to support the domestic semiconductor industry. The document addresses development targets, approaches, and measures. It has created waves throughout the semiconductor industry and attracted global attention because of its ambitious development targets and sizable support for a national IC industry investment fund.

Meanwhile, local IC industry investment funds have been established by the cities of Beijing, Shanghai, Wuhan, and Hefei. Of these, Beijing took the lead in establishing a fund in June 2014, totaling RMB 30 billion (US\$4.8 billion). It is structured as a “fund of funds” and two subfunds. One subfund, supporting IC manufacturing and semiconductor equipment, is managed by CGP Investment (the “fund of funds” is also managed by CGP); the other subfund, supporting IC design and packaging, is managed by Hua Capital. In addition, Shanghai’s IC industry fund, which is named the Shanghai Summitview Capital IC Information Industry Merger Fund and which totals RMB 10 billion (US\$1.6 billion), was established in November 2014. The total of all government funds is estimated to reach to US\$100 billion with the implementation of local industry funds.³⁸

As the majority of Taiwanese IT firms have set up their manufacturing centers in the Yangtze River Delta region, the new policy initiatives from the central government down to the local governments bring challenges as well as opportunities for the Taiwanese. Among various locations in China, Shanghai emerged as the center of IT development in the late 1990s. As Wang Zhan, director of the Shanghai Academy of Social Sciences, argues, the service sector is just one of the key sectors of an economic center. Shanghai’s economic development should not be totally reliant on the service sector. The main goal in building Shanghai into an economic center is still the establishment of a high-end, globalized, innovative manufacturing industry. The current problem in Shanghai is a lack of integration of scientific research, technological innovation, and industrial development. Private enterprises are mainly in the service sector, such as trading and real estate. Foreign enterprises concentrate on low-end technologies, focusing on China’s market instead of R&D capacities. State-owned enterprises are facing multiple institutional constraints. According to Wang, the most suitable policy for Shanghai is to combine market mechanisms and state guidance. The energy of innovation will come from small and medium-sized enterprises in the private sector. The duty of the government is to create an innovation-friendly environment, and the private sector does not need extra guidance from the government. However, under such policy schemes, the private sector will face uncertainties and risks when it encounters global competition.³⁹

Under the scheme of new policy initiatives led by the local state, Taiwanese firms are searching for new forms of partnership with local governments. Shanghai’s city government announced a ¥50 billion (US\$8 billion) funding program for new infrastructure in the IC industry, including two production lines of twelve-inch wafers. Prior to the funding program, the city had just set up an RMB 10 billion (US\$1.6 billion) fund, Shanghai SummitView IC Information Industry Fund, in which Taiwan-based chip designer MediaTek is an investor. MediaTek Inc. (Lianfak), the nation’s biggest handset chip maker, signed an agreement in November 2014 to invest RMB 300 million (US\$48.9 million) in a Chinese

government fund in an effort to benefit from China's fast-growing semiconductor industry. MediaTek is currently Taiwan's largest chip designer and has the largest market share for smartphone processors in China. According to MediaTek chair Ming-kai Tsai, through investing in the fund MediaTek expects to benefit from a closer relationship between high-tech industries in China and Taiwan and to gain a better position in the global semiconductor industry. The fund, initiated by the Shanghai city government and Chinese venture capital firm SummitView Capital, will have ¥3 billion in funding during the initial phase, and that amount will gradually increase to ¥10 billion. Besides MediaTek, Shanghai Jiading Venture Capital Fund, Semiconductor Manufacturing International Corp. (SMIC), Tsinghua University's Tsinghua Holdings Co., and Knight Capital of the United States have joined as investors in the fund.⁴⁰

The preceding pages demonstrate the new political and economic initiatives to consolidate China's economic autonomy and strength. The rise of China's comprehensive power creates direct challenges to the cross-strait economic division of labor. The next section will analyze the impacts of the combination of state-driven efforts and firm-specific incentives on Taiwan's attempts to maintain its primacy in cross-strait economic interactions.

THE EMERGENCE OF A "RED SUPPLY CHAIN" AND ITS IMPLICATIONS FOR CROSS-STRAIT ECONOMIC RELATIONS

New Policies of the Chinese Developmental State That Support the Emergence of a Red Supply Chain

The potential emergence of a mainland Chinese supply chain to supplant Taiwanese firms' role reflects strong state support of indigenous firms. In 2015 China's State Council unveiled a ten-year national plan, Made in China 2025, designed to transform China from a manufacturing giant into a world manufacturing power. Nine tasks have been identified as priorities: improving manufacturing innovation, integrating technology and industry, strengthening the industrial base, fostering Chinese brands, enforcing green manufacturing, promoting breakthroughs in ten key sectors, advancing restructuring of the manufacturing sector, promoting service-oriented manufacturing and manufacturing-related service industries, and internationalizing manufacturing.⁴¹ The ten key sectors are information technology, numerical control tools and robotics, aerospace equipment, oceanic engineering equipment and high-tech ships, railway equipment, energy-saving and new energy vehicles, power equipment, new materials, medicine and medical devices, and agricultural machinery.⁴²

In 2014, the Chinese government launched the "Outline to Promote National Integrated Circuit Development" program. The central government is going to

establish an investment fund of US\$20 billion to foster the development of the semiconductor industry. The Chinese government will become a direct player by establishing holding companies to boost the indigenous manufacturing of the semiconductor industry. Up until 2014, 80 percent of the domestic demand of China's semiconductor industry relied on imports.

In addition, the Chinese government is promoting the merger and acquisition of state-owned semiconductor firms. Increasingly, the Chinese government has encouraged firms to buy, rather than rent or steal, breakthrough innovation capabilities through acquisitions of both technology and talent.⁴³ For instance, in the past two years, the flagship Qinghua UNIS group acquired the Chinese IC company RDA for US\$ 1 billion; UNIS also acquired another major IC designer, Spreadtrum, for US\$1.78 billion. The obvious target, according to UNIS CEO Zhao Weiguo, is Taiwan's No. 2 semiconductor company, MediaTek. According to Zhao, his company will invest US\$50 billion to surpass MediaTek within five years.⁴⁴

In 2015, Apple added two more Taiwanese companies in consolidating its list of iPhone and iPad supply chain firms. Wistron Corporation was named as an iPhone assembler, and Compal Electronics was picked to build iPads. China's BYD was also added as a final assembler of Apple products. They join Hong Hai and Taiwan's Pegatron among the companies that piece together Apple products from China to Brazil. In other words, with Quanta making Macs and iPods, and Inventec supplying iPods, Taiwanese companies have maintained their dominance over Apple's assembly lines. BYD, which was previously on Apple's border supplier list, and Flextronics, which makes Macs in Austin, Texas, were the major non-Taiwanese players.⁴⁵

However, the rise of China's domestic manufacturers also threatens the position of Taiwanese vendors in Apple's iPhone supply chain. According to the estimates of Taiwanese manufacturers, Apple's long-term strategy is to foster China's domestic manufactures and enlarge its domestic market share. For instance, Sunwonda, a Chinese Li-on battery producer, has become a new partner in the iPhone 6 supply chain. Chinese newcomers like the electro-acoustic producer GoerTek and AAC Technologies have replaced the Taiwanese vendor Merry in the iPhone supply chain.⁴⁶

In a report released in 2014, Barclays Capital Inc. indicated that the rise of the Chinese supply chain could be a disruptive force for some second-tier players in the Taiwan supply chain that lack differentiating technology, scale, or relationships with Chinese domestic brands. Benefiting from the increase in scale and investment in R&D should also cause the Chinese supply chain companies to move up the chain and become internationally competitive component makers for top-tier brands. Among many factors leading to the decline of Taiwanese firms and ascendance of Chinese companies in the IT supply chain, the Barclay report indicates two key dimensions of the change. First, succession uncertainty and an

aging corporate culture are negatively affecting the Taiwanese IT hardware industry. Only a portion of Taiwanese technology companies have seen control passed on by the founders to the second generation of leaders or new professional management teams. A few Taiwanese companies, however, such as Acer, Asustek, and Compal, are currently being comanaged by both founders and professional managers during these firms' transition periods. Second, China's high-tech companies enjoy a competitive edge of government support that their peers outside China do not have. Government support comes in the form of favorable tax conditions, local government subsidies, and financial backing. Furthermore, the component subsectors where Chinese makers are gaining ground are traditional fiefdoms of Taiwanese suppliers, especially in the areas of batteries, casings, camera lenses and modules, handset antennas, and LEDs. The Barclays report argues that Chinese component makers are seizing market shares from their Taiwanese counterparts not only on the basis of price but also on the basis of service intensity and aggressive investment in R&D and capital expenditure, while the Chinese government is helping by offering subsidies and tax incentives.⁴⁷

Shift in Marketing Strategies: The Rise of Localized Chinese IT Firms

As was argued above, the case of Taiwan's HTC reflects the limitations of a medium-sized Taiwanese firm with aspirations for the global market. As China has become a world market instead of a world factory, putting the Chinese market first is a natural choice for business leaders. This new situation gives indigenous mainland Chinese IT firms a competitive edge over foreign ones.

Five years ago, during the heyday of HTC, Xiaomi was a mere newcomer to the Chinese market, which at the time was dominated by famous brand holders such as Apple and Samsung. Xiaomi may not currently rank as one of the world's most innovative companies, but it does get points for its slick marketing campaigns, rapid growth, and online sales campaigns. It has been touted as an up-and-coming Chinese high-tech company that might follow in the footsteps of Alibaba. Xiaomi is also actively working to address one of its innovation weaknesses—a relatively thin patent portfolio—by working to double the number of patent applications that it files every year.⁴⁸

One of Xiaomi's marketing strategies is to "gain strength at home first." The company has focused on China, with 97 percent of its shipments being local. It has been mentioned that Xiaomi's future targets will be in Southeast Asia and Brazil, Russia, and India. Hugo Barra, a former Google executive who himself hails from Brazil, has become new Xiaomi's international face. The company is not in a rush to enter more developed markets dominated by Apple and Samsung and prefers to stay focused on its own base, where the market is still booming.⁴⁹

According to Xiaomi CEO Lei Jun, the company sells smartphones at cost, or close to it, and will make money through services. They are selling not so much

smartphones as a lifestyle. The service Lei Jun is referring to—MiUI and Mi.com—sells the products and ties them all together, but they are all Xiaomi products in the end. The company does not just want to be a dominant player in smartphones; it wants the whole house.⁵⁰ This strategy is custom-made for the Chinese market and is geared especially to young professionals who want to furnish a new living space. It could also be applied to developing countries such as Brazil, Russia, and India. For the developed world, the house has already been furnished with brand-name products.

The Enhancement of China's R&D Capacities

Multinational high-tech firms, including Taiwanese IT companies, have enjoyed a technological advantage over Chinese firms for the past two decades. To move upstream in the supply chain and establish technological autonomy, the Chinese developmental state has endeavored to help consolidate firms' R&D capacities in various ways. In addition to governmental support of innovation, what China needs, according to foreign entrepreneurs, is "capable" companies far more than innovative companies. Having mastered the skills to assemble relatively simple products for foreign multinationals, Chinese companies next need to learn how to develop and manufacture more complex products themselves. They must become much more proficient at higher-order organizational capabilities, such as strategy formulation, multibrand management, relationship marketing, systems integration, and performance management.⁵¹

With foreign exchange reserves close to US\$4 trillion, China has the money to buy the foreign industrial capacity it thinks it needs. Recent acquisitions support the view that a noticeable shift is under way. For example, Lenovo recently bought Motorola Mobility, Dongfeng Motors made a bid for Peugeot-Citroen, and in the best-known case of all, Swedish carmaker Volvo was bought from Ford by Zhejiang Geely, an automobile company with enormous ambitions but lacking a strong brand and design expertise. In 2014, two-thirds of China's offshore investments were in services, where Chinese firms still have much to learn. Many Chinese firms have set up their corporate R&D centers in the United States and Europe through direct investment and acquisition. Their motive is to embed their companies in the innovation ecosystems of the developed world to acquire and develop foreign technologies, brands, and marketing know-how.⁵²

Attracting Highly Talented Forces in the IT Sectors

The Chinese government fully understands that to achieve takeoff or leap-frogging in the IT sectors it must attract the top technological elite around the world. In 2010, China released an ambitious talent cultivation plan called the National Medium- and Long-Term Talent Development Plan. In addition to investing in hardware, the plan spells out how China can utilize international financial institutions'

funds and foreign government loans to develop skilled labor programs. The plan stipulates that the overall talent pool will increase from its 2010 level of 114 million people to 180 million by 2020. The plan also lists six major categories of talent that the government will help cultivate: political leaders and officials; business entrepreneurs; technical professionals; highly skilled workers in various industries; those with practical skills for rural areas and agriculture; and professional social workers. Furthermore, to put more pressure on state-owned enterprises (SOEs) to change, the plan aims to cultivate around one hundred business leaders and CEOs who can lead Chinese firms to reach the ranks of the Fortune 500 companies by 2020. It also aims to have a total of forty thousand international business-savvy talented people working for SOEs by 2020, with 50 percent of them hired through market competition. This is actually quite an unusual move—in the past, almost all of the top managers of SOEs were promoted or hired from within the system.⁵³

Moreover, Chinese companies are more than willing to take shortcuts by poaching top talent from Taiwanese competitors to enhance their technological capabilities and market presence. Epistar Corp, Taiwan's top LED chip maker, indicated in early 2015 that if Chinese LED epitaxy maker Sanan Optoelectronics Co. continued poaching its talent it would consider requesting that the government scrap an investment deal Sanan had proposed in 2013 to buy a 19 percent stake in local LED chip supplier Formosa Epitaxy Inc. for US\$7.38 million.⁵⁴ In addition, Chinese local governments are copying the model of Taiwan's ITRI to establish public R&D facilities. China offers more than four times the salary of Taiwanese companies in recruiting ITRI's mid- and high-ranking managers. To cope with the brain drain to China, ITRI has enhanced its support for its talent to establish start-ups on domestic soil. What ITRI intends to do is to foster entrepreneurship instead of high salaries.

However, whether the Chinese system of authoritarian control can foster innovation and attract top elites is a highly debated issue. As the major agent of political socialization, the Chinese higher education system has experienced major upheavals in ideological indoctrination. In early 2015 China's Ministry of Education released a document of policy guidelines regarding propaganda work in colleges. According to the document, the government will promote the following four major tasks in colleges: (1) pushing materials of socialism with Chinese characteristics into the "classrooms and pupils' brains"; (2) improving the ideological purity of college teachers; (3) strengthening mainstream thought in colleges; and (4) enhancing the management of college ideological work.⁵⁵ Minister of Education Yuan Guiren, in elaborating these guidelines, indicated that China would consolidate the control of Western textbooks in colleges. China will never allow materials spreading Western values to penetrate college classrooms. Moreover, speeches attacking party leadership, socialism, the Chinese constitution, and legal systems will not be tolerated on college campuses.⁵⁶

CONCLUSION

Cross-Taiwan Strait economic relations have entered a new era with the rise of China. In the earlier stages of interaction, Taiwan relied on its unique position in the global supply chain and benefited from the expansion of mainland China's manufacturing capacities. In most cases, Taiwan's close technological linkages with American and Japanese high-tech firms helped create an economic niche based on mutual trust and benefits with upstream brand holders. Such a cross-border division of labor was founded in part on the weakness of Chinese domestic vendors and the lack of technological know-how of Chinese manufacturers. China was regarded as a world factory, instead of a market, for global brand holders.

Today US high-tech firms still retain their technological superiority, but the general cross-Strait division of labor is changing. As the preceding pages demonstrate, Taiwan's OEM model of manufacturing is now facing a dual threat in the form of shrinking profit margins and the rise of Chinese domestic manufacturers. The OBM model of IT production is constrained by the lack of marketing and global logistics capabilities. Moreover, Taiwan's domestic politics impede the flows of advanced talent between Taiwan and China. The advantage of the "made in China, by Taiwan" model of IT manufacturing is gradually diminishing.

In addition to economic connections, Taiwan's cross-Pacific strategy of IT development is closely linked with its security and political dependency on the United States. The grand strategy initiated by the Xi administration demonstrates a more comprehensive ambition to explore the broader definition of "the West" beyond the Sino-American rivalry. By making the Asia Pacific region its priority, the Chinese have accumulated the confidence to reshape the rules of the international game by combining maritime and land-based economic plans into a grand strategy. From the Chinese perspective, the recent "assertiveness" in foreign policy is merely appropriate to China's new status as a major power. OBOR and AIIB also exemplify Chinese initiatives to escape from Sino-American entanglement and to grasp new opportunities presented by emerging types of geopolitics.

The formation of a new grand strategy in China does not necessarily imply an attempted delinking from US-dominated high-tech development. The United States still enjoys relative advantages in innovation and entrepreneurship. But the deepening engagements between China and the countries of continental Europe are making it possible for China to embrace a more comprehensive global cooperative mechanism. Taiwan needs to adjust its economic strategies to incorporate Southeast Asian and European regions into its global strategies of logistics. One of the policy options is to create strategic alliances with Chinese firms to explore these booming markets. Such a strategic partnership does not aim to replace the Chinese market. The real purpose is to ally with the new engines of global development and guarantee economic security at the same time.

However, political changes in Taiwan may impede such a “strategic move” to embrace the global market by cooperating with new Chinese initiatives. As indicated in a recent article in the *Economist*, Chinese producers of petrochemicals, steel, computers, and digital displays have moved into terrain once occupied by Taiwan. Taiwanese firms with operations in China are themselves buying more materials and machinery from Chinese suppliers. Chinese firms are now trying to break into semiconductors, Taiwan’s last big industrial redoubt.⁵⁷ Enhancing integration with the Chinese domestic market in the manufacturing and service sectors could be a solution to the economic dilemma. But such a policy shift has turned out to be unacceptable in Taiwan’s domestic political climate. The Sunflower Movement mobilized against the Cross-Strait Service Trade Agreement in the early spring of 2015 proved the political infeasibility of further economic integration with the other side of the Taiwan Strait.

Whether Taiwanese firms can transform themselves from pure hardware manufacturers into IT service providers is still in question. Such weakness will constrain these firms’ ability to penetrate China’s domestic market. Furthermore, whether the Taiwanese state has the capacity to redirect Taiwanese capital to the Southeast Asian market is uncertain. Past experiences of Taiwan’s “Go South” policy in the 1990s proved that state-driven attempts did not have substantial impacts on business behaviors. Theories of economic statecraft may partially explain the enhanced competitiveness of Chinese IT firms. As the Taiwanese state meets with rising economic pressure from the other side of the Taiwan Strait, its bargaining power to boost its IT industry is limited.

All in all, China will be a key component in Taiwan’s global strategies of development. Understanding the risks and opportunities of the rise of China in global instead of bilateral terms will help illuminate how Taiwan can grow and prosper in the future. The traditional wisdom of economic statecraft and interdependence thus needs further revision. Coping with the rise of China involves hard choices on the domestic front in Taiwan. Only by shouldering more risks and perceiving the changing world from a more realist perspective will Taiwan be able to reverse the inward-looking tendencies of national development.

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