

International Investment and Market Trends, 2017 (October – December)

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I. Investment Trends Worldwide and in Taiwan

Abstract

- The IMF has changed its 2017 and 2018 global economic growth forecasts of 3.5% and 3.6% to 3.6% and 3.7%. The Euro area, Japan, Russia, and newly developing countries in the Asia and Europe areas have done better than expected in the first half of 2017.
- The total value of Taiwanese imports and exports from January to November 2017 was 287.88 billion USD, which is 13.1% greater than the previous year. The amount of foreign orders was 444.33 billion USD, an increase of 10.2% over last year. The main export was information communication products and electronics.
- The amount of Chinese investments that have come to Taiwan from January to November 2017 has increased over last year's amount. However, the amount of outside investments made in China has decreased. However, Southeast Asian countries have increased their investments in Taiwan over last year by 22.57%. Also, the amount Taiwan invested in Southeast Asian nations increased over last year by 59.22%

1. Global Economic Outlook

According to the IMF's October update of the "World Economy Outlook" report, the 2017 and 2018 global economic growth forecasts have been raised from last April's 3.5% and 3.6% to 3.6% and 3.7%.

Although the growth outlooks for the U.S. and U.K. for 2017 and 2018 have been slipping (and causing the global growth rate forecasts to be lowered by 0.1%), the influences of better than average forecast performance in the Euro area, Japan, Russia, and newly developing countries in the Asia and Europe area have countered the influence of the U.S. and the U.K.'s performance.

However, the IMF reminds that even though the outlook has improved, many countries' economies are still slow. The inflation of many developed countries'

economies is still lower than their goals. Big export countries have suffered because their economies are still recovering from the huge decrease in foreign income. Therefore, short-term risks are balanced, but medium-term risks remain skewed to the downside (as the economic performance may drop). Because of this, the IMF suggest that the amount of economic growth is an opportunity for countries to improve their domestic finances. This time is also suitable for multilateral cooperation, which can be achieved by mutually beneficial cooperation projects including consolidation of the global trade system, strengthening financial supervision, strengthening the global financial safety net and tackling international tax-evasion.

Global Economic Outlook(%)

Country or Area	2016	2017^a	2018^a
World	3.2	3.6	3.7
Developed Markets	1.7	2.2	2.0
U.S.	1.5	2.2	2.3
European Union	1.8	2.1	1.9
Germany	1.9	2.0	1.8
France	1.2	1.6	1.8
Italy	0.9	1.5	1.1
Japan	1.0	1.5	0.7
U.K.	1.8	1.7	1.5
Canada	1.5	3.0	2.1
Other Developed Markets	2.2	2.6	2.5
Newly Opened and Developing Markets	4.3	4.6	4.9
Russia	-0.2	1.8	1.6
China	6.7	6.8	6.5
India	7.1	6.7	7.4
ASEAN-5	4.9	5.2	5.2
Latin America/Caribbean	-0.9	1.2	1.9
Middle East, North Africa, Afghanistan, and Pakistan	5.0	2.6	3.5
Sahara/South Africa	1.4	2.6	3.4

Source: IMF

a: forecasts

2. Foreign Trade

According to the Finance Ministry's Import/Export statistics, the total value of Taiwan's imports and exports from January to November is 287.88 billion USD, an increase of 13.1% over last year. Also, according to the economic ministry's statistics, the amount of foreign orders from January to November of last year totals 444.33 Billion USD (Overseas production ratio: 52.9%). This is a new high for a yearly period, increasing over last year's total by 10.2%.

According to the analysis of receiving countries for foreign orders, overall, the originators of these orders are the U.S. (124.61 billion USD), Mainland China and Hong Kong (111.64 billion USD), and Europe (88.98 billion USD). Main exports were information communication products (9.3% increase over last year) and electronics (5.9% increase over last year). Because of the year-end U.S. peak season and new international mobile devices entering the market as well as the increase in demand for netcom products, orders for the two types of products mentioned above set new highs for two months in a row last year.

January to November 2017 Foreign Order Statistics(%)

Year/Month		Total Orders			
		(100 Million USD)	Monthly Growth Rate	Monthly Growth Rate after fixing for season	Yearly Growth Rate
2017 November to January		4,443.3	-	-	10.2
	January	359.7	-12.8	6.3	5.2
	February	337.5	-6.2	-0.3	22.0
	March	411.2	21.8	-0.7	12.3
	April	356.1	-13.4	-4.7	7.4
	May	368.1	3.4	1.6	9.1
	June	403.5	9.6	5.9	13.0
	July	387.2	-4.0	0.0	10.5
	August	407.8	5.3	0.7	7.5

	September	459.2	12.6	0.6	6.9
	October	466.0	1.5	1.5	9.2
	November	486.9	4.5	1.5	11.6
Total compared to last year	Amount				%
	410.3				10.2

Source: Ministry of Economic Affairs

3. Foreign Investment

The Economic Ministry Investment Review Committee announced the state of approved outside investments, Chinese investments in Taiwan, investments in foreign companies and Taiwanese investments in China for January – November 2017. These statistics show that Chinese investments in Taiwan have increased over the last year. The other three areas have seen a decrease. However, Southeast Asian nations have increased their investments in Taiwan by 22.57% over last year. The amount Taiwan has invested in Southeast Asian nations has also increased by 59.22%.

Overall, the value of approved outside investments from January to November 2017 is 6,111,807,000 USD, a decrease of 42.52% from last year. The main reason for the decrease is the Micron case of May and the Hermes Microvision case of September. These two big investments had a big effect on the base period.

From the standpoint of different industries, the electronic peripheral manufacturing industry had the highest amount of investments of up to 2,106,582,000 USD (34.47%). In second place, there is the finance and investment industry which made 844,473,000 USD (13.82%). In third place, there was the wholesale and retail industry which made up to 737,051,000 USD (12.06%). Fourth and fifth place went to the real estate and the professional science and technology service industries. These big five industries take up 78.64% of foreign investments combined.

January to November 2017 Foreign Investments for the Big 5 Industries

Units: 1000 USD; %

Industry	Cases	Amount (ratio)	Previous year	Comparison to last year's performance
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International Investment and Market Trends 2017

			investments over the same time period	Amount	Growth Rate
Electronic Peripheral Manufacturing	85	2,106,582 (34.47)	3,614,773	-1,508,190	-41.72
Finance and Insurance	251	844,473 (13.82)	1,110,858	-266,385	-23.98
Wholesale and Retail	1,071	737,051 (12.06)	1,109,470	-372,420	-33.57
Real Estate	149	697,688 (11.42)	278,583	419,106	150.44
Professional Science and Technology Services	446	420,081 (6.87)	319,893	100,189	31.32

II. Key Industrial Information

1. Information and communications industry

- **Silicon Wafer Supply and Expansion Conservatism Becomes the Reason for Increased Prices**

End market electronic products enhance wafer businesses for two reasons.

The first is that the demand for data computation by these devices has increased. The second is that their features have grown more complex.

According to TrendForce's statistics, 2018 currently has the largest scope of silicon wafers being used in end market electronic products. Smart phones have grown by 5% over the year, and aside from the small decrease in the PC market (NB/DT/Tablet), the other markets have shown a growth rate, and overall, the demand is showing an obvious increase.

As for the supply end, SUMCO and its subsidiary Formosa Sumco Technologies used the de-bottlenecking method to add 135,000 wafers, making up 2.6% of the global total. Although Shanghai's Xinsheng has a plan for 12 inch production capability, it has to pass a certification test, so its overall impact on the market is limited. Other companies like Wafer Works and Global Wafers have continued to focus on the expansion of their 8-inch (or less) production capability. Overall, the increase in capacity on the supply end has grown less than demand has, so wafer prices were more or less steady.

- **The Development of Biometrics is Android's Main Direction**

Although Apple first opened road for mobile phone biometrics technology, 2016 and 2017's fingerprint recognition technology penetration showed that overall, in the 40 to 50% of shares represented by fingerprint recognition, the share of iPhone's Touch ID did not even comprise half. Therefore, if the market is to be opened, Android must enthusiastically catch up, and the progresses of related key suppliers must be observed. Among these technologies, Synaptics's Natural IDTM FS9100 optical fingerprint recognition technology is already leading. It has also been selected for the CES 2018 Innovation Award

and may enter the market along with China's first line customers in the end of 2017 or the beginning of 2018. In addition, Egis Technology, Taiwan's large fingerprint recognition producer, recently stated that it has also already started sending samples to fingerprint recognition customers and is confident that it will begin producing in the second half of 2018.

Another matter that deserves attention is the Xiaomi sales group report on recent year's Indian market. In the third quarter of 2015, Xiaomi's sales numbers in this market climbed to 1 million. In the third quarter of 2016, the shipment number had climbed to 3 million, and in the same quarter of the following year, that number increased greatly, to 9.2 million. Due to the fact that most Xiaomi devices have fingerprint recognition technology, the entrance of these devices into India will bring great advantages to fingerprint recognition technology producers.

- **Qualcomm announces 5G patent licensing fees. The first set of 5G phones is set to come out in 2019.**

Global mobile chip producer Qualcomm already announced the details of its patent licensing agreements for 5G technology. According to the Qualcomm 5G basic patent licensing plan, single 5G mobile phone patent royalty rates will be 2.275% of the selling price. Multi-model (3G/4G/5G) licenses will have rates of 3.25%. These patent licenses' usage terms can be applied to OEM brand mobile phones across the entire world's market.

Qualcomm points out that the general terms of its 5G patent licensing agreement are the same as the ones that are used for more than 150 of its 3G/4G clients since 2015. In the future, Qualcomm will provide 4G follow-up version license agreements, and the first 5G license agreement. Also, special license fees used under these types of agreements will not increase. 5G communication networks will begin business transfer in 2020, and the first batch of 5G phones will begin business use in 2019.

Likewise, Ericsson, a company that is also doing hard work in the 5G market, is using a different method in its 5G license plans. The director of the Ericsson intellectual property rights department, Gustav Brismark, has leaked the fact

that Ericsson's license fee for high-end hand held equipment will be no more than 5 USD. The license fee for low-level hand held equipment will be no less than 2.5 USD. However, Ericsson's 5G license fee only covers 5G-necessary cases for technology standards and does not include application cases.

2. Pharma & biotech industry

● **Development of Medical Artificial Intelligence Technologies in China**

The application of artificial intelligence in the medical field currently extends to health management, auxiliary diagnosis and treatment, medical imaging, pharmaceutical mining, nutrition and hospital management, virtual assistants, etc. In the December 2017 world internet conference, LinkDoc showed the Hubble AI decision support. Using AI and big medical statistics core technologies and the cooperation of more than 500 general and specialized hospitals, China's largest online tumor treatment information center was created, paving the way for the development of its Clinical Decision Support System. Tencent also announced the enlarging of efforts being put into the medical health field. An AI lab was also established, and the first overseas lab was established in Seattle, U.S.A. Recently, at the 2017 Hanzhou Computing Conference, Alibaba also announced that it would be strengthening its overall efforts in the health industry via its health subsidiary company, Ali Health, between 2018 and 2020. Its main goal is to establish an AI based imaging platform that helps hospitals diagnose and treat their patients more effectively. In the near future, Alibaba will also create platforms that collect and store patients' medical records using blockchain technology, accumulate big data, and strengthen clinical support policies.

● **The First Approved Novartis CAR-T Treatment Method in the World**

The Novartis CAR-T (chimeric antigen receptor T cell) treatment product Kymriah (tisagenlecleucel) has recently obtained U.S. FDA approval, thus becoming the first approved type of CAR-T treatment method in the world and reached a new milestone for cancer treatment.

Kymriah's use is for refractory/relapse B-cell precursors acute lymphoblastic leukemia (r/r B-cell ALL) in people ages 25 or younger. The standard chimeric

antigen receptor is protein CD19, and includes 4-1BB co-stimulation zone to strengthen chimeric antigen receptor performance and sustainability. There are about 5,000 people a year in the U.S. who are diagnosed with Acute Lymphoblastic Leukemia (ALL). Among these, about 60% are under age 20, and 80~85% are of the B-cell type. From the standpoint of the treatment results, there is about an 85% treatment rate. Also, 15 to 20% of children and teenagers will have the disease return. The stem cell treatment method only has a 15% survival rate after 2 years. ALL is the leading cause of death by disease for children and teenagers.

Despite the fact that Kymriah has excellent results in the clinical trials, it is predicted to have difficulty in gaining market access. Novartis announced that the price may be as high as 475,000 USD per treatment. This price includes the sales revenue that Novartis hopes to achieve and the necessary resources for Kymriah, R&D costs, REMS execution, long-term medicinal treatment follow-ups, etc. If 450 people used the Kymriah treatment method every year, using the similar clinical endpoints of the B2202 trial as the standard of effectiveness, the medical costs could be as high as 170 million USD. Therefore, the market accessibility and actual revenue of Kymriah will be limited by the economic conditions of families and the actual coverage given by those in the insurance industry (including amounts and prices).

● **ESMO Observes the Newest Developing Trend in Cancer Medicine**

ESMO, along with ASCO and AACR, have attended one of the largest Cancer Medical Oncology meetings in the world. In the meeting, the medicine development results that were stated all impacted the pharmaceutical market's competition patterns.

Observing the newest trend of ESMO 2017: (1) AstraZeneca has obtained large gains in lung cancer medication. The revenue from this is predicted to make up for the losses caused by Imfinzi's previous failure in first-line non-small cell lung cancer treatment, allowing AstraZeneca cancer prevention and treatment medicine to have an opportunity to enter the lung cancer area. (2) Merck & Co's Keytruda announced the statistics of many clinical trials. Among those, reports focused on late-term urothelial carcinoma, non-small cell lung cancer,

and late-term melanoma trials were published. (3) Opdivo and Yervoy's combined first line treatment test, which focused on late term and migratory renal cell carcinoma, has shown that combined treatments are objectively more effective than sunitinib groups (ORR 41.6% vs. 26.5%). In comparison, sunitinib, Opdivo, and Yervoy can significantly decrease the risk of death by 37%, giving Opdivo an opportunity to expand into migratory renal cell carcinoma first line treatments. (4) Roche's PI3K suppressant Taselib has shown new results that should be noticed in the field of breast cancer treatment. In the field of migratory breast cancer, the LORELEI test produced the effect of PI3K suppressants detecting breast cancer in its early stages. However, because LORELEI trials are the clinical second term, their clinical advantages and safety have to be followed up with larger scale clinical third term test confirmations.

3. Fintech industry

● **Japan Pushes Digital Currency to Cope With the Mobile Payment Wave**

Through analysis of statistics behind mobile payment, the spending habits of consumers can be understood, as well as their habits, and their use circumstances. Then, a link with the industry can be established to execute accurate marketing. Therefore, following the development of mobile payment technology, all kinds of internet money management tools and methods have emerged. For example, Alipay and WeChat have both aggressively expanded to the whole world. According to the statistics of the Chinese Ministry of Information and Industry Technology, the scope of Chinese mobile transactions has already reached 81 trillion RMB.

Recently, the Bank of Japan announced that a new type of digital currency will be pushed for the 2020 Tokyo Olympics (tentatively named J coin). This is being used as a method to protect the financial system and enterprise development. This plan will be a cooperation of the Mizuho Financial Group and the Japanese post office, along with many banks and financial groups. Currently, this plan has already obtained the approval of the Central Bank of Japan and the financial surveillance organization. J coin will be actualizing currency exchange into Japanese Yen, and can be tied to one's bank account.

Since J coin will be “the digital version of national currency” and is connected to the value of Japanese Yen, consumers can use an app to directly withdraw money from their bank accounts. J coin can also be used at convenience stores and in restaurants. Users can also transfer money between accounts. If the plan is successful, it will quickly push Japan into the “cashless” age.

- **Biometric Applications Gradually Enter the Consumer Market**

Biometric technology has matured over many years, and its biggest universal breakthroughs are limited by cost and hardware issues. After the more difficult problems are solved, biometric recognition technology has the potential to bring even more benefits, safety, and convenience to consumers. This is especially true for the financial transaction applications which are set to co-exist and develop along with biometric recognition technology. For example, after fingerprint recognition goes through many years of mutual support with mobile payment technology, great opportunities will be created for wafer producers.

Recently, the Apple iPhone X brought up the hot topic of facial recognition payment applications, and now many supermarkets and stores are fervently testing “unmanned stores” and inviting consumers to test their technology applications’ maturity as well as their convenience. Since biometric facial recognition or iris recognition does not require the user to touch the equipment, the technological application is more suitable for use in smartphone mobile payment apps or intelligent debit cards. It is predicted that in the future, facial, iris, fingerprint, vein, and other touch-free biometric recognition technologies will be in wide use at ATMs, stores, and other public places.

4. E-commerce industry

- **11/11 Product Companies Set Marketing Strategy for China during This Important Holiday.**

11/11, from its inception until now, has become the biggest driver for Chinese e-business. The scope of the sales is large enough to move international brands to set a marketing strategy for the Chinese market during this

important holiday. The influence extends from Chinese e-businesses to global retailers. Many platforms compete with each other in their goals of sales expansion, platform statistics, logistics, and marketing.

Alibaba, based on its large flow and complete online environment is firmly atop the Chinese e-business chain. JD.com is in a close second, using cooperation with websites to expand and complete its business short board. For example, JD.com established a fashion industry department in 2017, investing in global luxury e-business platform Farfetch and cooperating with Fashion media ELLE to push the fast service of an express delivery service. Afterwards, there will also be a luxury product platform established called TOPLIFE.

The announcements of the two big e-business companies' "new retail" and "border-free retail" strategies, which have become the centers of attention during the 2017 11/11 holiday, both emphasized online, offline channels and used the combination of technology and the consumption scene to obtain orders. This includes consumers browsing online and their buying offline, or consumers experiencing the store offline and then buying online. No matter which method is used, all types hold consumer action statistics at their cores so that the "many consumption" paths idea can be enacted. Aside from combining the paths, due to the fact that the large single-day transaction amount creates an overly large load and logistical paralysis, e-businesses have begun to expand the 11/11 period using sectional marketing to ease the logistics problem and extend marketing effectiveness.

● **JD.com Brings In Robotic Vision to Create an Intelligent Logistics System**

Chinese e-business JD.com is fervently developing intelligent logistics, expanding its stores system, and using advanced artificial intelligence technology to decrease costs. In 2016, JD.com established the "X Affairs Department" to put effort into intelligent logistics research and development. Even now, it has developed an unmanned warehouse and unmanned machines and cars as three supporting pillars of intelligent logistics. Among these, the unmanned warehouse has brought in 3 types of robots: a large

mover, a small shuttle car and a robotic selector.

One of these unmanned machines represents area-wide air logistics, which is an area that logistics industry insiders must compete for after ground logistics is increasingly perfected. Along with Amazon, UPS, DHL, Mikaway (Japan) and other logistics couriers, new efforts are put into developing unmanned delivery, fully automated packaging and loading, automatic take-off, automatic cruise, automatic landing and unloading, and automatic return processes which have almost no need for human effort; fully automated, unmanned delivery will soon be able to be realized.

JD.com's innovative lab has stated that among its unmanned JDroner and unmanned JDrover, the JDroner is about to enter into high-altitude delivery. However, the unmanned drones and cars in use now still have to solve the problems of human face recognition and traffic light obedience. Therefore, JD.com and NVIDIA are cooperating in the AI field and have brought in Jetson supercomputing modules on their unmanned cars to actualize robotic autonomy. Due to the fact that Jetson can provide deep learning and vision capability as well as the advantages of small size and low energy cost, it is predicted that after JDroner and JDrover are brought in, they will have human facial recognition capability and be able to follow traffic lights and pedestrian lights, along with other capabilities that allow them to operate on the more complicated roads of the cities.

5. Startups industry

● Inkjet Solar Battery Creates a New Energy Source

A new French solar energy company called Dracula Technologies has started development on a sticker solar battery that is made from a unique conductive plastic. This battery is used to capture outdoor solar power or indoor artificial lighting energy. Traditional solar batteries use silicon wafers to capture solar energy. According to current experiments on silicon-based solar batteries (not silicon air batteries), the efficiency of mono-silicon battery is 25%. Poly-silicon batteries have efficiencies of 20.4%. CIGS film batteries have efficiencies of 19.8%, CdTe film batteries have efficiencies of 19.6%, and a-Si batteries have

efficiencies of 10.1%. The Dracula Technologies Group started development on capturing more wavelength-scale conducting plastics. This technology is called “LAYER” and is formed from 5 print layers. The most central layer is the photosensitive layer which is covered by a semiconducting layer. This layer helps the conductive color ink that is printed on the outside extract charge. Scientist Sadok Ben Dkhil stated that mainstream direct light intake silicon materials cannot win over the energy capture scope of this kind of semiconducting materials. Also, film batteries have the advantages of being light, toxin-free, foldable, and having low production costs.

Current technology can print 5cm-width square battery modules within an hour; color and shape can both be customized. This means that with objects with more exposed area, such as home curtains, electricity can be provided for lights, air purifiers, and other small home electronics. Dracula Technologies currently prints 30cm (length and width) square solar battery boards and is also looking for a way to further reduce the solar battery charging time.

- **Global Manufacturing Industry Increases Investment in Automation, and Large Japanese Robot Producers’ Sales Reach a New High**

The Japan Robot Association (JARA) released statistics for January to September 2017 (including Fanuc, KUKA, ABB, Yasukawa Electric Corporation, and other JARA members). Due to the increase in global market demand for industrial robots driven by industry 4.0 and smart manufacturing, (especially EMS demands from China’s production of smartphones and other products), the number of industrial robots produced in the third quarter of 2017 has increased by 49.3% to 56,258 from the number in the third quarter of 2016. Also, this number has been continuously increasing for 17 quarters. As for the revenue from industrial robot sales, the amount gained in the third quarter of 2017 was higher than the third quarter of 2016 by 39.9% at 195.9 billion Yen. This number has been increasing for 5 seasons, creating a new record.

According to JARA’s third quarter statistics, revenue from exports to other countries (except China) has been continuously increasing. Exports to the United States have increased 13.6% to 27.43 billion Yen. Exports to Germany have increased 46.8% to 13.19 billion Yen. Exports to Korea have increased 20.9% to

7.78 billion Yen, and exports to Taiwan have increased by 79% to 5.19 billion Yen. This is mainly because the demand for automation of production line equipment from the EMS field or other production industries has greatly increased.

III. Investment case study

The important events in investment of this period are the passing of an anti-monopoly inspection by Advanced Semiconductor Engineering Inc. and Siliconware Precision Industries Co. Ltd's co-created holding company and the new co-operative project by Neo Solar Power, Gintech, and Solartech Energy that has shaken up the domestic industrial scene. Due to the fact that these events greatly impact the domestic scene and can be seen as key events, we have analyzed them below.

Major investments

Event	Related Companies	Event Analysis and Future Development Evaluation
November 2017- Advanced Semiconductor Engineering Inc. and Siliconware Precision Industries Co.'s new holding company passes anti-monopoly inspection. The large Taiwanese Semiconductor Packaging and Testing producers Siliconware Precision Industries and Advanced Semiconductor Engineering announced in May of 2016 that they would cooperatively create a holding company following the Domestic Fairness Association and the American FTC's approval. Afterwards, the two companies will immediately begin the merger process.	Advanced Semiconductor or Engineering Inc. , Siliconware Precision Industries Co, and Tsinghua	<ul style="list-style-type: none"> Advanced Semiconductor Engineering Inc and Siliconware Precision Industries Co.'s, merger agreement was signed in 2016 by both companies and turned into a stock agreement. Both companies are willing to organize a corporate stock holding company. 100% stock rights on both sides was obtained by creating a new stock holding company and keeping the company's current name and structure. This project was approved by the domestic fairness group in the same year it was announced. Also, in May of this year, the American FTC approved this project. These companies then applied to the Chinese Business Ministry which usually takes over a year to complete. The Chinese Business Ministry waited until the last day of transactions (December 31, 2017) until approving this project. Something that should be noted is that the same day the Chinese Business Ministry approved this project, Siliconware sold 30% of the stock rights of its Suzhou subsidiary to China's Tsinghua

		<p>Group to strengthen bilateral cooperation. In the near future, Tsinghua will use an investment, shares and debt layout. It is predicted that, after this transaction, Tsinghua will have an opportunity to obtain the high-level production capabilities of Siliconware's Suzhou subsidiary.</p> <ul style="list-style-type: none"> • Due to the growth of the global semiconductor industry in recent years, a large trend is obviously emerging. According to a Topology evaluation, the 5 biggest packaging and testing specialized producer earners in 2017 were Advanced Semiconductor Engineering, Akmor Technology, Jiangsu Changjiang, Electronics, Siliconware, and PTI. Among these, Advanced Semiconductor and Siliconware respectively held 19.2% and 9.9% of the global market. Together, they held 29.1% of the global packaging and testing market. • As of now, this project has been approved by all of the main anti-monopoly organizations. Therefore, these two companies can finish their merger projects in 2018. In the future, aside from helping strengthening important R&D on package testing and developing new technology to continue leading the field, this project will also help in offsetting the pressure that the fervency of overseas package testing has brought. This will allow domestic package testing to be more stable in the competitive international market.
<p>October 2010: Neo Solar Power, Gintech, and Solartech Energy Announce Merger. The Taiwanese solar</p>	<p>Neo Solar Power, Gintech Energy, Solartech</p>	<ul style="list-style-type: none"> • Due to the fact that Gintech and Neo Solar Power will merge their respective subsidiaries Utech Solar and GES, making them into 100% subsidiaries first and then merging them, this merger will also affect

<p>energy producers Neo Solar Power, Gintech, and Solartech Energy announced that they have signed a merger agreement and cooperatively established the “United Renewable Energy Co.” With Neo Solar Power as the surviving company, they are predicted to complete the merger agreement in the third quarter of 2018.</p>	<p>Energy, Utech Solar, GES, and Giga Solar: 6 companies in total</p>	<p>the silicon wafer producer Utech Solar and the Solar Energy producer GES, combining all five of these companies. Also, the solar conductive paste producer Giga Solar has also announced that it will also become a shareholder.</p> <ul style="list-style-type: none"> • The capital invested in this is estimated to be NTD 21 billion with the co-operative creation of the “United Renewable Energy Co.” and the national funds injection. The cell production capacity will be calculated using domestic 3.5 GW and Thai, Vietnamese, and Chinese 1.5GW. After the merger, the total production capacity will reach 5GW, becoming the largest cell producer in Taiwan and the 5th largest in the world. This is the biggest merger in the history of the domestic solar energy industry. • From the standpoint of product and development strategies, Neo Solar Power is currently fervently transitioning to single chip PERC high-efficiency products. Gintech has the subsidiaries Utech Solar and ASEC, which have vertical integration strategic values. Solartech Energy, on the other hand, focuses on multi-chip products. After the merger, the three big producers can complement each other’s strengths and weaknesses, completely control their resources, distribute production capacity and markets, and break through the current lacks of each company. • In the upcoming strategic use of resources, the merger can lower repeated management expenditures to centralize resources on equipment and high-tech research and development. There can also be bargains in the purchase of equipment
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		and natural resource purchases as well as flexibility in the use of capital. Also, the European, American, and Japanese markets can be reached in the future.
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Sources: Energy Trend, TRI.

IV. New Domestic Industry System

To correspond to the updating and transition as well as raise the competitiveness of domestic industries, the Executive Yuan plans to create the “Foreign Experts Attraction and Hiring Law” and change some of the terms of the “Manufacturing Innovation Regulations”. These have respectively passed the Legislative Yuan’s three readings in October and November of 2017. These laws will be able to fervently push the development of the domestic manufacturing industry from areas such as manufacturing talent, manufacturing innovation, and investment in the manufacturing industry. The new main points are as follows.

Foreign Experts Attraction and Hiring Law	
Relaxation of Job, Visa, and Residency Regulations	<ul style="list-style-type: none"> ■ Gives a “job seeking visa” or no more than 6 months to foreigners who come to Taiwan planning to look for a job and need an extended period of time ■ Relax the requirement to be in Taiwan for at least 183 days each year that exists after a foreigner receives a permanent residency permit from the Immigration Department,
Relaxing Specific Professional Talent Requirements	<ul style="list-style-type: none"> ■ Those who plan to work a professional job in Taiwan must apply to the Immigration Department for a “Career Gold Card” (combining the work permit, residency visa, overseas Chinese residency visa and multiple entry visa). ■ Extend the work permit effective period from 3 years to 5 years. Once the period has expired, the holder must apply for an extension.
Parent, Spouse, and Children’s Residency	<ul style="list-style-type: none"> ■ Relax the requirements for residency of the spouses and children (not yet of adult age) of high-level professional workers. The stay period for the above mentioned will be extended from 6 months to 1 year.
Retirement Guarantees	<ul style="list-style-type: none"> ■ Experts who have been hired, after obtaining permanent residency, can be eligible for retirement funds. Teachers who have been employed by the Taiwanese public school system, after obtaining

	permanent residency, may be given retirement funds upon retirement according to the regulations of the public school teacher retirement system.
Health Insurance	<ul style="list-style-type: none"> Professional workers, their spouses, their children (not yet of adult age) and their disabled and unable to work children of adult age will not be under the 6 month health insurance limit.
Tax Discounts	<ul style="list-style-type: none"> When professionals arrive in Taiwan for the first time (after approval), and their total income exceeds 3 million NTD per year, they will have a half-off discount on taxes for 3 years.

Source: National Development Commission

Industry Innovation Regulations	
Limited Venture Partnership Tax Advantage	<ul style="list-style-type: none"> For limited venture partnerships, if the total funding exceeds NTD 300 million and the funding used in Taiwan is 50% of the total and the investment in a new company is 30% of the total income or 300 million NTD, this partnership can use the transparent taxation method.
Angel Investor Tax Advantage	<ul style="list-style-type: none"> Personal investment in a company that has not yet been established for 2 years will have no more than NTD 3 million taken from his/her personal income (as tax) per year.
Worker Reward Stock Tax Relief	<ul style="list-style-type: none"> The 5 year holdover for worker reward stock (worker reward stock, worker cash replenishment, re-purchasing treasury shares to issue to workers, worker stock options vouchers, restricted employee shares compensation etc.) will be changed to immediate taxation of the actual transfer value.
Founders of Research and Study Organizations Eligible for Stock Tax Deferral	<ul style="list-style-type: none"> Stocks held by founders (such as professors, researchers etc.) of research and study organizations will be taxed on the actual value of those stocks at transfer time. This is to improve the industrialization of scientific research results.
Innovation Purchases	<ul style="list-style-type: none"> Government purchasers will use a common supply contract to create priority purchase software and innovative product services.

Formless Information Evaluation System

- In order to improve the cohesion of government research and market application, a formless information evaluation storehouse will be created and managed. Also, financial and investment measures will be taken.

source: Department of Industry, Ministry of Economy