Economics

DBS Focus

Taiwan: Made-in-Taiwan (MIT) back to the fore

Economics/Taiwan/Growth

Group Research

September 12, 2019

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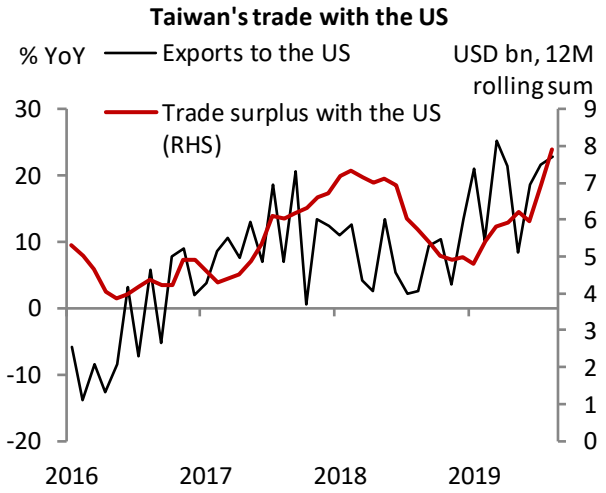
- *After two decades of investment exodus and industrial hollowing out, "Made-in-Taiwan" (MIT) is coming back to the fore, driven by a combination of external push and domestic pull factors*
- *We are observing: 1) the rise in Taiwan's exports to the US, 2) the decline in overseas production ratio, 3) the surge in investment applications under the "Invest Taiwan" campaign, and 4) the pickup in actual investment indicators*
- *Based on the comparison of 12 supply-side factors, we find that shifting from MIC (Made-in-China) to MIT could be justified for the high-value work, and the products destined for US market*
- ***Implication for forecasts**: There are modest upside risks to our 2019 and 2020 GDP growth forecasts, which currently stand at 1.9% and 1.8%, respectively*
- ***Implication for investors**: Better-than-expected growth performance will likely allow Taiwan's central bank to keep rates unchanged through 2019-20*

After two decades of investment exodus and industrial hollowing out, "Made-in-Taiwan" (MIT) is coming back to the fore. This is driven by a combination of external push and domestic pull factors. On the one hand, the ongoing China-US trade war has obliged some of the mainland-based Taiwanese firms to move back their production to Taiwan. Higher tariffs on the "Made-in-China" (MIC) products, sanctions on Chinese tech companies, and importantly, persistent uncertainties in China-US relations have boosted the need for supply chain diversification. On the other hand, the Taiwanese government has launched a so-called "Invest Taiwan" campaign to lure the companies with operations on the mainland to return to Taiwan to invest. A package of supportive measures has been offered since the beginning of this year, including rental concessions, low interest rate loans, employment subsidies, streamlining of administrative procedures, among others.

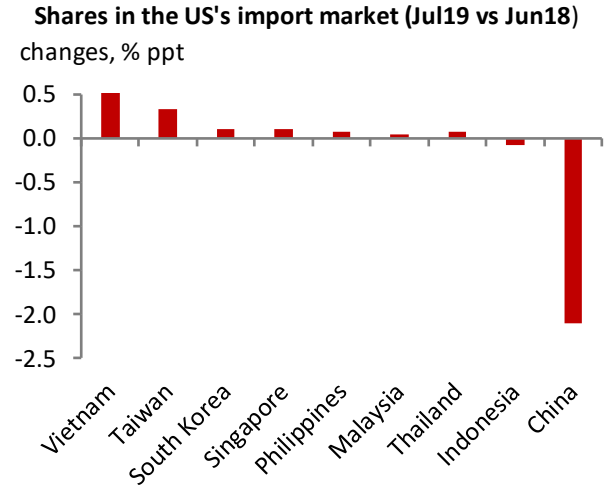
Encouraging evidences

There are encouraging evidences that MIT has begun to gain momentum. First, **Taiwan's exports to the US have risen notably.** Growth of exports to the US market picked up to an average of 18.6% in Jan-Aug19, compared to 7.6% in 2018. Trade surplus with the US widened to USD 7.9bn in Aug19 (12 month rolling sum), compared to USD 5.0bn in Dec18. In the US's import market, Taiwan has also gained shares – 2.2% in Jul19, vs 1.8% in Jun18 before the trade war broke out. The rise has

been most notable in the segments of office machinery, automatic data processing equipment, telecommunication and sound record equipment.



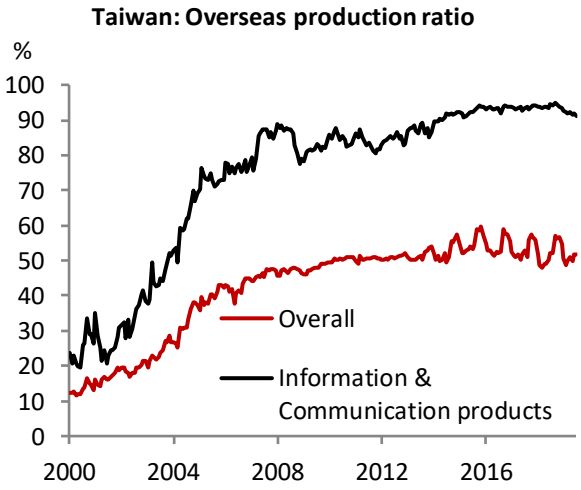
Sources: CEIC, DBS



Sources: CEIC, DBS

Second, **Taiwan's overseas production ratio (OPR) has declined.** The overall OPR fell to an average of 50.5% in Jan-Jul19, down from 52.1% in 2018. In particular, OPR for information and communication products dropped by 2 full percentage points during this period to 92%.

Third, **investment applications under the "Invest Taiwan" campaign have surged.** According to the Invest Taiwan Office, it has

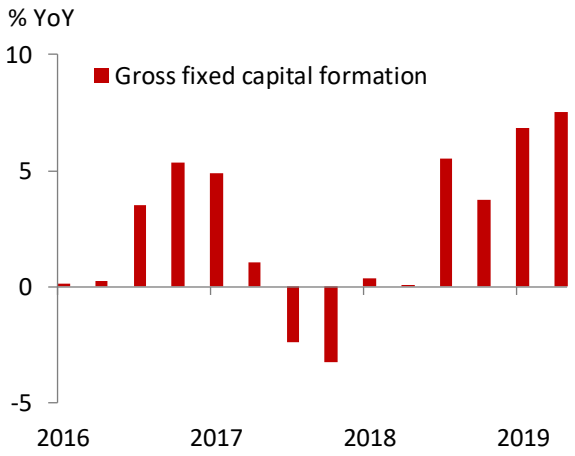


Sources: CEIC, DBS

received investment applications from 129 Taiwanese firms with overseas operations so far this year (as of September 6), with the amount totalling TWD 576.7bn (3% of GDP). For instance, Quanta, the world's largest contract notebook manufacturer, has announced to spend TWD 4.28bn to acquire land and buildings in the northern city of Taoyuan. Giant, the world's largest bicycle maker, announced to spend TWD 5bn to expand production lines in the central city of Taichung. Delta, the largest provider of switching power supplies globally, said that it will invest a total of TWD 13.2bn in Taipei, Taoyuan, Taichung, and Tainan over the next three years. Official estimate is that the total amount of investment applications will hit TWD 700-800bn in 2019, with TWD 186.8bn to be realised within this year.

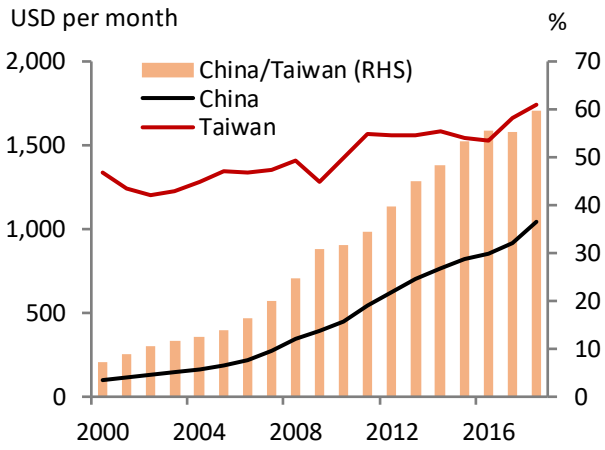
Actual investment indicators have also picked up. Gross fixed capital formation (GFCF) under the GDP account registered a strong 7.2% YoY growth in 1H19, far exceeding the 2.5% in 2018. GFCF is on track to achieve 5-6% growth in 2019, the highest over nine years.

Taiwan: GDP - investment growth



Sources: CEIC. DBS

China vs Taiwan: Average wages, all industries



Sources: CEIC, DBS

MIC vs MIT: a closer look

We compare 12 supply-side factors to examine whether it is economically reasonable to shift from MIC to MIT today.

1) **Labour cost:** Labour cost is still cheaper in China than in Taiwan today but the gap is narrowing sharply. Average wages in China increased by 14% annually from 2000 to 2018, as a result of rapid economic growth and aging of population. In contrast, wage hikes averaged a modest 2% per year in Taiwan during the same period. As such, China's compensation package is now equal to about 60% of Taiwan's, compared to 7% in 2000.

2) **Land cost:** Land is cheaper in China than in Taiwan and the gap remains large. While overall land prices have surged on the mainland in the past two decades alongside the rapid pace of industrialization and urbanization, they have also been on the rise in Taiwan due to tight supply. As showed in Table 1, industrial land prices in key Chinese cities remain far lower than in the counterpart Taiwanese cities today, equivalent to about 10%.

Table 1: Industrial land prices: China vs Taiwan

	RMB /sq m	USD /sq m		TWD /ping	USD /sq m
	Average, Jun19			Median estimate, Aug19	
Shanghai	1,841	271	New Taipei City	400k	3,904
Shenzhen	3,090	454	Taoyuan	150k	1,464
Nanjing	1,033	152	Taichung	150k	1,464
Dongguan	683	100	Kaohsiung	100k	976
Chengdu	843	124			
Xi'an	771	113			

Sources: CEIC, Ministry of Economic Affairs (Taiwan), DBS

3) **Energy cost:** Energy cost is not too different between the two economies (Table 2). China has experienced a steady rise in power and fuel prices in the past decades as a result of strong economic expansion and commodities demand. Taiwan has faced a similar issue, but mainly due to the passthrough effect from rising global commodities prices, as well as the reduced reliance on nuclear power generation at home.

4) **Logistics cost:** Logistics cost is not too different. The expansion of port/airport capacity and high-speed railway networks has helped China to improve shipping efficiency and reduce the related costs. The World Bank's Logistics Performance Index

ranked China 26th globally in 2018, on par with Taiwan (Table 3).

Table 2: Energy prices: China vs Taiwan

	Electricity	Gasoline	Diesel
	USD/kWh	USD/liter	USD/liter,
	Jun19	Sep19	Sep19
China	0.08	0.97	0.86
Taiwan	0.09	0.89	0.77

Sources: GlobalPetrolPrice.com, DBS

Table 3: Logistics Performance Index

	2018	2007
	Rank/160	Rank/150
Singapore	7	1
Hong Kong	12	8
China	26	30
Taiwan	27	21
Thailand	32	31
Vietnam	39	53

Sources: World Bank, DBS

5) Transaction cost: The institutional transaction cost in China is relatively high. Thanks to progressive reforms and deregulations, China has seen a significant advancement in its ranking during the World Bank's Ease of Doing Business survey (46th in 2019, vs 93rd in 2007). But it remains an underperformer compared to the relatively mature economies in the region, including Taiwan (Table 4).

Table 4: Ease of Doing Business Index

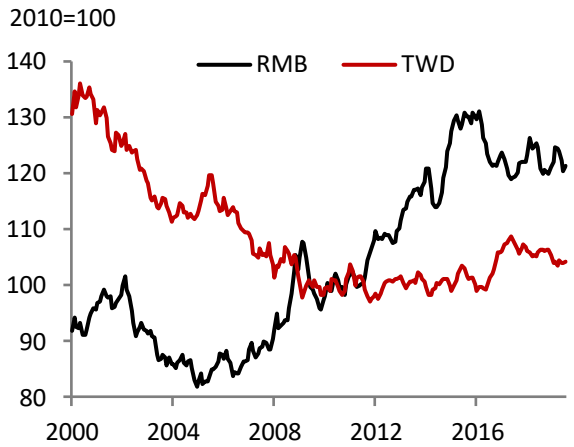
	2019	2007
	Rank/190	Rank/175
Singapore	2	1
Hong Kong	4	5
Taiwan	13	47
Thailand	27	18
China	46	93
Vietnam	69	104

Sources: World Bank, DBS

6) Funding cost: Funding cost in China is consistently higher than in Taiwan, a reflective of the strong borrowing demand and tight liquidity conditions. The average gap between 3-month SHIBOR and TAIBOR was as wide as 300bps in the last ten years (160bps if adjusted by inflation). At present, the 1-year loan prime rate in China stands at 4.25%, compared to Taiwan's base lending rate of 2.64%.

7) Exchange rate: China-based exporters had been facing extra cost burdens from currency appreciation since the renminbi officially de-pegged from the US dollar in 2005. But things have changed in recent years. The appreciation pressure on the renminbi has faded since 2016, as a result of the 2015 exchange rate reform, shrinking of current account surplus, and more recently, trade war with the US. The renminbi's co-movement with other EM currencies has increased – correlation between USD/RMB and USD/TWD was as high as 0.94 during Jan18-Aug19.

RMB REER vs TWD REER



Sources: CEIC, DBS

8) Tax cost: Corporate tax burdens in China, albeit declining on the back of progressive fiscal reforms, remain relatively high. The headline corporate tax rate is 25% in China today, 5ppt above that in Taiwan. The difference is even bigger if considering

employers' social security contribution (Table 5).

Table 5: Tax rates

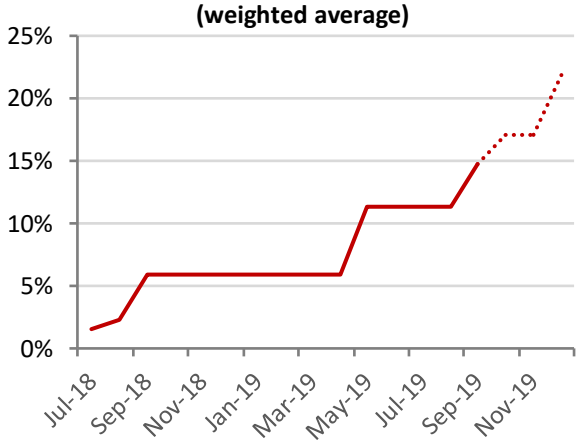
%, 2019	Corporate tax	Employer social security (highest)	Indirect tax
Hong Kong	16.5	0	0
Singapore	17	17	7
Taiwan	20	3.61	5
Thailand	20	5	7
Vietnam	20	21.5	10
China	25	32	16

Sources: KPMG, DBS

9) **Tariff cost:** Tariff cost in China is high and on the rise. The weighted average tariff rate imposed on imports is 3.83% in China, compared to 1.86% in Taiwan (World Bank, 2017). Due to the recent trade tensions with the US, tariffs on China's trade with the US have increased sharply. Based on our estimate, the weighted average tariff rate on China's exports to the US has risen to 15% as of Sep19, and is set to rise further to more than 20% by Dec19.

10) **Productivity:** Productivity gains could help to offset wage growth, keep the unit labour cost stable, and thus bolster manufacturing competitiveness. Measured by output per worker, labour productivity rose by an average of 9% per year in China during 2000-2018, far outpacing the 3% in Taiwan. Still, this was insufficient to offset China's rapid wage growth. And the level of China's labour productivity remains comparatively low today (1/3 of Taiwan's).

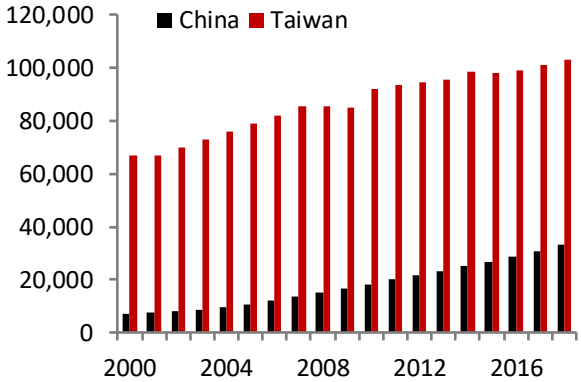
Tariff rate on China's exports to the US (weighted average)



Sources: USTR, DBS

Labour productivity : China vs Taiwan

Output per worker (USD, 2017p, 2011 PPP)



Sources: The Conference Board Total Economy Database. DBS

11) **Automation:** Automation is an essential way to boost productivity and tackle the problem of labour shortage. While Taiwanese manufacturers have started to install automation equipment in their mainland factories in recent years, they did the same at home. The overall process of automation advances faster in Taiwan than in China, as evidenced by indicators like robot intensity (Table 6).

Table 6: Robot intensity

Number of installed industrial robots per 10,000 employees in manufacturing industry, 2016	
South Korea	631
Singapore	488
Taiwan	177
China	68
Thailand	45

Sources: International Federation of Robotics, DBS

12) **Intellectual property:** Intellectual property protection is fundamental to innovation, technology advancement, and productivity improvement. China's weak IP protection is one of the key issues surrounding the ongoing trade disputes with the US. Taiwan has a relatively robust legal system for IP protection, as indicated by international surveys (Table 7).

Table 7: IP protection indices

	Global competitiveness index – IP protection	International IP index
	2018	2019
	Rank/140	Rank/50
Singapore	3	10
Hong Kong	9	n/a
Taiwan	29	20
China	49	25
Thailand	99	42
Vietnam	105	43

Sources: World Economic Forum, US Chamber of Commerce, DBS

In a nutshell, among the 12 supply-side factors discussed above, China remains more competitive than Taiwan in terms of labour and land costs today, though the labour cost gap is narrowing sharply. Taiwan outperforms in several other areas including funding/tax/tariff/transaction costs, productivity levels, degree of automation, and IP protection.

As such, shifting from MIC to MIT could be well justified for the higher-value, less labour-intensive work. It is reasonable for Taiwanese firms to manufacture the high-end products at home, taking advantage of Taiwan's skilled workforce, strong technology capabilities, and robust physical and soft infrastructures.

Meanwhile, MIT should be justified for the products that are destined for the US market. The steep tariffs imposed by the US on Chinese exports matter significantly for the mainland-based Taiwanese firms' profit margins. Specifically, workers in China earn 60% of their Taiwanese counterparts' wages today, meaning savings of 40%. Total savings would be 10%, if assuming labour represents 1/4 of the total costs. This, however, could be easily offset by the 15-30% tariffs on China's exports to the US.

The rise of MIT does not mean China will lose its position as a primary manufacturing hub for Taiwanese firms. For products that have a high labour content, and/or target at China's domestic market/non-US overseas markets, manufacturing in China would still make sense.

Finally, whether MIT can rise on a broader, more sustainable basis going forward would depend on tackling the labour and land issues in Taiwan. Effective measures would include further promoting the application of automation technology, relaxing foreign worker rules, cracking down land hoarding/speculation activities, increasing public land supply under industrial parks, among others.

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Sources: Data for all charts and tables are from CEIC, Bloomberg and DBS Group Research (forecasts and transformations).