

1. Chips on Their Shoulder

- a. Chinese government has been trying to build an indigenous semiconductor industry
 - i. Muster \$100 billion - \$150 billion in private and public funds
 - ii. Meant to catch up technologically by 2030 and cease being dependent on foreign supplies
 1. Want to produce 70% of chips consumed by Chinese industry
 - iii. Last year, consumed \$145 billion worth of microchips
 1. Only one-tenth of the value
 2. High value semiconductors are imported
- b. Authorities realized they must buy as much foreign expertise
 - i. Joint venture with Qualcomm
 - ii. Shareholders in Powertech Technology
 1. Believed it was strategic
 2. America, Europe, and other parts of Asia lavished on domestic semiconductor industries
- c. China's microchip gap is half what the raw figure shows
 - i. Sizeable proportion of the imported chips go into gadgets
 - ii. Profit margins are usually 40% or more, China can enjoy a bigger share of global electronics of controlled some of the technical standards
 - iii. Previously spread among local firms and moved to limited group
 1. Tsinghua Unigroup was successful
 2. Bought chip designing firms and its rivals
 3. Plants to finance the building of a giant memory chip plant
 - iv. Branched out to Netherlands, Singapore
- d. Approaches to foreign firms were not always welcomed due to political opposition
 - i. Bought a Taiwan firm but was bought back from another firm
 - ii. Tsai Ing-Wen declared China's investment as a big threat
- e. Taiwan was successful in developing chips
 - i. Moving towards a model of separating the design and the fabrication of chips
 1. Recent attempt to become bigger failed
 2. \$8 billion globally in profits but excluding Samsung and SK Hynix the rest lost \$13 billion
 - ii. Taiwan was entering during a heady expansion whereas China did it slowly and difficult in a time of slow growth
- f. Three things to accomplish in order to succeed
 - i. Must shift from "a culture of cost to a culture of innovation"
 1. Export controls and other policy barriers in Taiwan, South Korea and America inhibit the transfer of the latest technologies to Chinese firms.
 2. Lag behind global leaders in invention and development
 3. Need to attract many more experienced scientists and engineers

4. should run multiple R & D centres
 - a. Samsung invested heavily in R&D and became a huge industry
 - b. could pull this off because the government will be the main investor and is in a strategic priority rather than for profit
 - ii. Need to shift to a global frame of mind
 1. Mostly catering to booming local consumption
 2. Should prepare for global markets
 3. Unlikely to remain satisfied with subpar chips just because they are made at home
 - iii. Investors need to get ready for a long, hard slog
 1. Top one or two firms account for profits, the rest lose money
 2. officials are funnelling a large chunk of their initial investment—around \$30 billion—through a handful of state-backed investment funds.
 - a. To make more market-minded investments
 - g. Have a fair chance of being in global industry
 - i. regulators may increase requirement but China may end up with firms that are strong at home but not globally
 - ii. Should persuade the largest foreign firms to form technology sharing alliances
 1. developing planes that are still not ready for the market, and will be outdated by the time they arrive
 2. may eventually catch up technologically, but in the process undermine the industry worldwide, as happened in solar panels, through excessive capacity-building.
2. Market Solutions for Taiwan
- a. Taiwan grown dependent on China for its outward bound foreign direct investment
 - i. Regional economic agreement and liberalization would fully operationalize its economy's comparative advantage
 1. Currently not sustainable
 - ii. Taiwan Relations Act, have recognized that a Taiwan that is free to make its own decisions, free from coercion by the People's Republic of China (PRC),
 - b. China is Taiwan's largest trading partner (40% of Taiwan's Export and 16% import)
 - i. Taiwan has large trade surplus with China, Taiwan runs a trade deficit
 1. China's import from Taiwan decreased while Taiwan increased
 - ii. China has become increasingly important in Taiwan's external trade, Taiwan's importance in China's overall trade is decreasing.
 1. Relations with the US dropped by half
 - iii. \$14 billion invested in China

1. 84%
- iv. Moved from labor-intensive industries led by small and medium-sized enterprises (SMEs) to high-technology sectors led by large enterprises
 1. Locked out of FTAs
- v. GDP decelerated and only averaged 3.6% for last three years
- c. Taiwan is an export-oriented economy
 - i. Service sectors 69% (domestically orientated)
 - ii. Industry and agriculture sectors 29% and 2%
 1. In 1980s: industry is 40%
 - iii. Low productivity
 1. Service industry move offshore to respond to Chinese domestic demand basic-components assembler of manufactured goods and transform into a comprehensive supply chain that includes sales and aftermarket services.
 2. Scored below regional competitors
 3. bureaucratic hurdles, an uncompetitive tax system, weak protection for investors, weak contract enforcements, and relatively poor regional economic integration are believed to be responsible for Taiwan's lackluster foreign direct investment.
 - a. increased labor costs and appreciation of the Taiwanese dollars were previous reasons how is attracted business
 - iv. Taiwanese total trade summed to \$574 billion (\$305 billion and \$269 billion of exports and imports, respectively) or 118 percent of GDP at current exchange rates.
 - a. inbound investment has been consistently less than outbound investment
 - b. attracted minuscule private equity capital in recent years, depriving the most active channels of investment capital and managerial expertise.
 - c. historically low fertility rates.
 - i. shrinking workforce and less patents
 - v. Three important reasons why Taiwan is experiencing a falling market for Chinese imports
 1. rising labor and land costs in China
 2. Taiwanese companies shifted for purchasing intermediate goods from China instead of importing them from Taiwan
 3. Taiwan's falling share in China's total import
 - a. Demands decrease
 - vi. ECFA also has the potential, over time, to make Taiwan even more dependent on the Chinese market unless Taiwan starts diversifying the destination of its exports by signing FTAs with other nations.

1. Cross-Strait Services Agreement, is a subject of intense controversy in Taiwan and there are some questions whether and in what time frame it will be ratified.
 - a. Speculated to give economy a boost
 - b. Concerned with China's growing power over Taiwan and the impact on small or medium sized enterprises
 - i. China was able to avoid the recession with an enormous stimulus package
 - ii. Taiwan's small market holds no interest for China's giant state-owned enterprises. Moreover, the Taiwanese high-technology sector, which would be of great interest for Chinese investors, is still regulated and closed off
 - iii. the lion's share of Taiwan-China trade falls within the same sectors as Taiwanese outbound investment in China.
 - c. trade agreement will serve as a gateway for investment from China
- vii. Beneficial effects
1. A regional common market provides a much larger market than that offered by the domestic market of a single country, so economies of scale become possible.
 2. The larger market created would permit a higher degree of specialization. This would encourage the flow of investment into industries that have a comparative cost advantage, producing greater gains from trade.
 3. The increased possibilities of competition in a regional common market would ensure that many of the benefits accruing to the producers from the existence of a large market would be passed on to the consumer.
 - a. Taiwan is isolated and only 2 to trade that aren't diplomatically recognized
 - b. The inability of Taiwan to participate in FTAs is creating an incentive for Taiwanese businesses to invest in other Asian countries and therefore take advantage of the tariff preference for exports from these countries to other FTA parties.
 4. undermine investors' confidence in Taiwan's economic prospects, and discourage domestic and foreign direct investments in Taiwan at a time when it needs more investment and research and development to diversify its exports and move to higher value-added goods and services to tackle the challenges of slower economic growth.

- d. Asides from FTA, Taiwan needs domestic reform agenda
 - i. Production mix of software and software services
 - 1. not just microchips
 - ii. Low cost energy
 - 1. Cheap energy esp the nuclear power controversy
 - iii. Improved competitiveness
 - 1. Poor in labor freedom
 - 2. paying taxes
 - 3. enforcing contracts
 - iv. Investor protection
 - 1. Well on the approval and disclosure of related party transactions
 - 2. Mediocre liability of CEO and board of directors
 - v. Rebalanced growth
 - 1. Increasing domestic consumption
 - 2. Encourage private sector investment domestically
 - a. Foreign business brings new tech and skills
 - vi. Consumer protection laws
 - 1. Increasing benefit to consumers
 - vii. More transparent investment process
 - 1. private equity engagement is low
 - viii. More inward FDI
 - 1. commitments to liberalize investment restrictions and include rules on investment protection
 - ix. Regional FTAs
 - 1. Separate agreements
 - x. End ban on US pork and beef imports
 - 1. Major source of contention
 - 2. Casts doubt on Taiwan's commitment to science-based regulatory standards
 - xi. More Taiwanese
 - 1. Low birth rate
 - xii. USA sign TPP with Taiwan