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Credit quality of South Korea's semiconductor industry remains stable amid lingering external uncertainties

by Li Mengyan

Amid the global economic slowdown, South Korea's economy is on track for one of its worst two-year growth periods in more than half of a century. The export-driven economy has reported a slump of 14.3% in exports in November 2019 from a year earlier. The semiconductor industry, accounting for around 15% of the country's exports, has been facing multiple headwinds from Japan export restrictions and US-China trade war. However, considering the positive signs emerged in the last quarter of 2019, the industry manages to keep its robust credit profile and outlook.

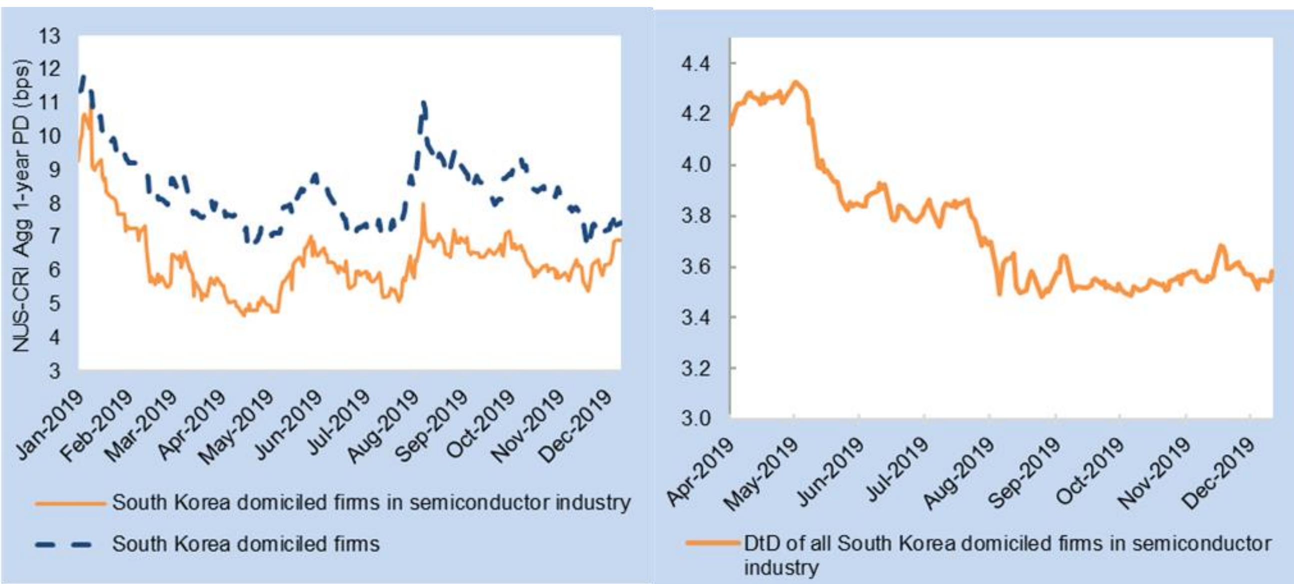

Figure 1a & 1b: NUS-CRI Agg 1-year PD for South Korea domiciled firms in semiconductor industry and for all South Korea domiciled firms (LHS); Distance-to-Default (DtD) of South Korean semiconductor industry from Apr to Dec 2019. *Source: NUS-CRI*

The NUS-CRI Aggregate 1-year PD (Agg PD) of South Korea domiciled firms and those in the semiconductor industry decreased from January to May 2019 and have fluctuated in the single-digit zone in the previous months. The Agg PD of the semiconductor industry keeps performing better than all South Korea domiciled firms, indicating a relatively stronger industry credit quality. As one of the input of the NUS-CRI PD model, the average 12-month Distance-to-Default (DtD) of South Korea's semiconductor industry showed a downward trend since May 2019 and stabilised at a lower but still safe level in Q3 and Q4 2019. DtD is the expected difference between the asset value of a firm and the default point, after adjusting for the volatility assets. A positive and higher DtD is expected for a company with solid credit quality. The falling but safe DtD level and the cease of DtD's downward momentum indicate that, facing several headwinds, the industry holds less headroom assets over total liabilities per unit of asset volatility but the credit profile remains strong in the short term.

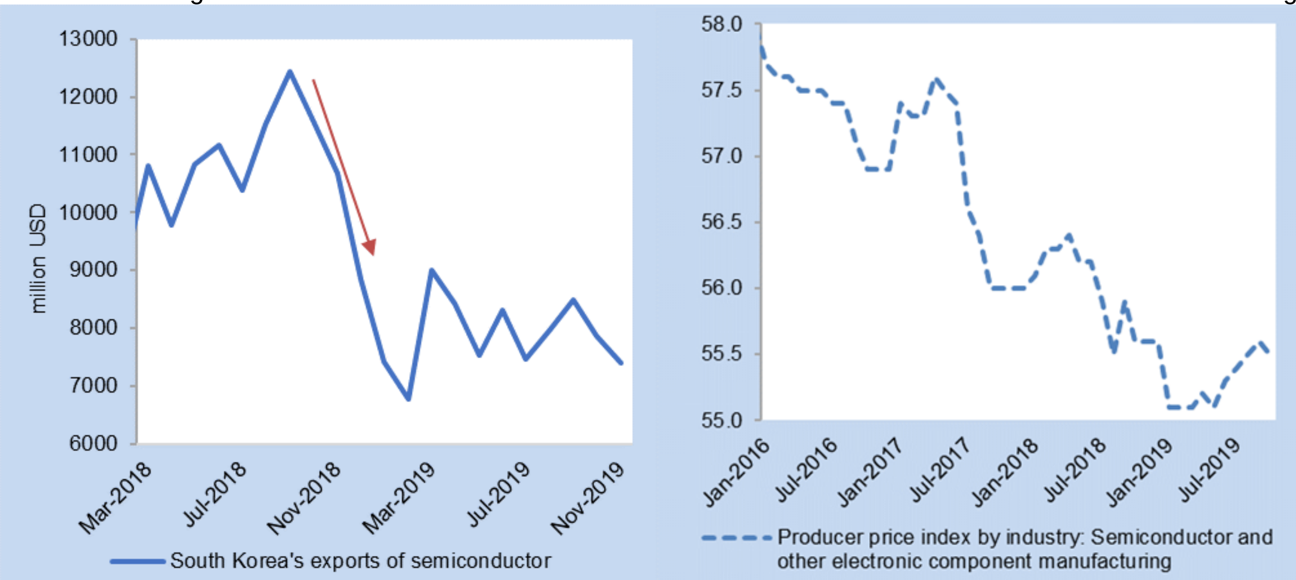

Figure 2a&2b: South Korea's exports of semiconductor from Feb 2018 to Nov 2019 (LHS); Producer price index by industry: Semiconductor and other electronic component manufacturing from Jan 2016 to Nov 2019 (RHS). *Source: Bloomberg*

As one of the world's leading semiconductor producers, South Korea supplies 60% of components used in memory chips all over the world. In the second half of 2018, South Korea's exports of semiconductor has dropped 40.5% due to the weak demand globally and chip price experienced an extended plunge since 2016, tracked by the Producer Price Index (PPI) of Semiconductor and other electronic component manufacturing. Since Q1 2019, the export amount has stabilised and chip price has rebounded.

South Korea's semiconductor industry has been facing the pressure from US-China trade war in the past two years. China imports substantial amount of intermediate semiconductor products from South Korea and exports finalised goods to other countries including US. Among the semiconductor products that China exports, 29% of broadcasting equipment, 32% of computers, and 4% of integrated circuits went to US in 2017. After the US-China trade war started, US has decreased their reliance on semiconductors imported from China and thus, the demand of intermediate semiconductor products from China slumped accordingly. The weaker demand from China has pressured the semiconductor producers in South Korea since the intermediate semiconductor products to China account for around 44% of the total semiconductors exported by South Korea.

On top of that, in July 2019, Japan restricted exports on three types of chip-making materials to South Korea. The restricted types are fluorinated polyimides, photoresists and hydrogen fluoride. South Korea sourced 94%, 92% and around 44% of these raw materials from Japan respectively in the first five months of 2019. After the launch of export restriction, the market worried about the high dependence on supplies from Japan and the price of semiconductors rose accordingly. PPI of semiconductor industry bounced back to a level last seen in late 2018. According to DRAMeXchange, the price of Dynamic Random Access Memory chip (DRAM) increased 15% and Non-volatile memory chip (NAND) reported a higher than expected price.

Till now, however, exceeding all expectations, South Korea's semiconductor industry has not been notably impacted by Japan's export restrictions thanks to their long-term contracts with suppliers and fast shift to alternatives. For example, Samsung Electronics, the largest semiconductor producer in South Korea, reported that its raw materials of semiconductor has actually piled up since 2019 Q1 till now, showing a positive signal of the company's ability to sustain its production line in the short run. The Trade Ministry, Industry and Energy of South Korea has not yet received any cases regarding production problems in the industry. Early in Dec 2019, US and China has reached an agreement on the first phase of a trade deal, which will suspend tariffs imposed by US on imported Chinese goods. The deal mitigates restrictions on China's export to US, and as a result, will ease the downward pressure on South Korea's export to China. In the long run, South Korean government plans to support domestic suppliers and develop their competitiveness to maintain self-sustainability, and South Korean semiconductor companies are now seeking new suppliers from China and Taiwan.

Despite all the headwinds, some positive signs have indicated that the tech cycle has bottomed out. The improved phone shipments globally in Q3 2019 and China's 5G roll-out with tide of new technologies signal a recovery of the tech cycle. According to Bloomberg, South Korea's total semiconductors and parts inventory decreased 9% from July to November 2019, since data centres started purchasing DRAM chips in the second half of the year.

The NUS-CRI Aggregate Forward 1-year PD (Forward PD) time series provides an improving outlook of South Korean semiconductor industry. The Forward PD computes the credit risk of a company in a future period, which can be interpreted similar to a forward interest rate. Taking June 2020 as the point of interest, figure 3 shows the change in credit outlook of South Korean semiconductor industry, based on information from different time horizons from January 2018 to December 2019. Although South Korean semiconductor industry has been suffering from multi-faced pressures, the Forward PD, however, has been decreasing since August 2019, which indicates a robust credit outlook of the industry.

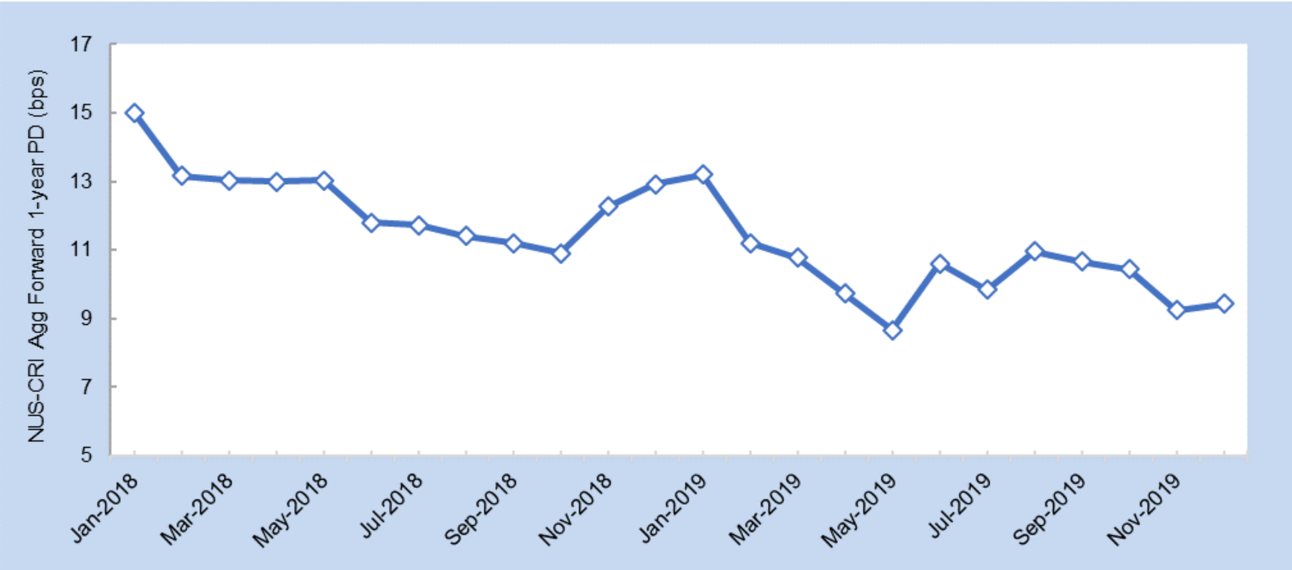

Figure 3: NUS-CRI Aggregate Forward 1-year PD time series for South Korea domiciled firms in semiconductor industry based on information from different historical months looking to Jun 2020. *Source: NUS-CRI*

Credit News
Banks curb their appetite for cheap ECB funding **Dec 12.** At the second auction of the European Central Bank's (ECB) targeted longer-term refinancing operation (TLTRO), total borrowing from the 122 Eurozone banks was EUR 97.7bn, much less than analysts' forecast. The curbed demand from the banks prompts concern that the banking sector's decreased appetite for cheap funding shows red flag to the economy. Banks will have five more opportunities to borrow under the current operation over the coming two years. Analyst expected the total borrowing to equal or possibly exceed the amount last TLTRO. (FT)
China hit by biggest dollar bond default by state company in two decades **Dec 12.** China's Tewoo Group, a commodities trader wholly owned by the city government of Tianjin, has forced investors to take losses on a US dollar bond. The move marks the largest failure to repay dollar debt by a state-owned company in two decades and provoking fears of a wave of defaults. Until this year, no Chinese company backed by the state had been allowed to default on its dollar debt since the collapse of Guangdong International Trust and Investment Company (Gitic) in 1998. Tewoo's restructuring represents a shift in how the Chinese government deals with failures at debt-strapped state enterprises by forcing investors to take losses. (FT)
Credit trouble puts risky-loan buyers on alert for 2020 **Dec 12.** European leveraged loans have returned about 4.6% in 2019 and is anticipated to be high enough again to lure yield-hunters and keep demand strong. However, building a strong portfolio with high credit profile will become more difficult. Better-rated borrowers are replacing loans with cheaper bonds, while a slew of downgrades in the last 12 months has left investors holding more assets that expected on the lowest B rating rung. Looking forward, private equity buyers will need to keep leverage multiples low and be prepared to pay more for their debt when they want to buy businesses in cyclical sectors. (Bloomberg)

China's industrial sector Is dogged by defaults as growth slows

Dec 12. China's industrial sector is flashing warning signs of more credit stress as a slowing economy makes it tougher for companies to refinance billions of dollar of debt. A rising tide of defaults at high-yield industrial firms this year is fuelling concerns of more debt pain as a wave of offshore repayments looms in 2020. Bank of America Merrill Lynch estimated that USD 12bn of industrial bonds will due 2020, and according to Moody's Investors Services, 63.2% of high-yield industrial firms it rated is facing tight liquidity conditions. For particular industrial segments, the automotive sector had been suffering a slowdown over last few months while larger state-owned enterprises may fare better within metals and mining. (Bloomberg)

China's smaller banks forced to act to support shares

Dec 11. At least 10 small Chinese listed banks have been forced to buy back shares to stabilize their stock prices following a series of bank bailouts and mounting pressure on the country's financial system. The steady stream of forced buybacks in recent months has exposed the plight of China's banking industry. Unlike most of their larger counterparts, a number of smaller Chinese banks have been saddled with high rates of non-performing loans (NPLs) with some exceeding 40% of total assets. Despite Chinese regulators playing down the problems facing small Chinese banks, China's central bank warned that about 13% of lenders, or 586 institutions, presented a "high risk" for financial distress. (FT)

A health check of India's shadow banks shows nascent recovery (Bloomberg)

Japan bonds rebound as benchmark yield's rise to 0% spurs demand (Bloomberg)

China's private firms face record default risk, to stay high in 2020 (Reuters)

Regulatory updates

Greek parliament approves bank loans restructuring plan

Dec 13. Greece's parliament has approved a government scheme to help its struggling banks remove up to EUR 30bn of non-performing loans from their balance sheets. The securitisation scheme calls for banks to set up special purpose vehicles that would issue bonds for sale to specialist investors. The senior tranche of the bonds will carry government guarantees of up to EUR 12bn, and the banks will be given 18 months to sell the riskier mezzanine and junior bonds. The scheme is expected to boost the stability of the country's financial system and open the way for funding the real economy but it also need regular monitoring of its progress, according to the finance ministry. (FT)

Fed keeps rates on hold, points to 'favorable' economic outlook next year

Dec 11. The US Federal Reserve (Fed) held interest rates steady and signaled borrowing costs will not change anytime soon as moderate economic growth and historically low unemployment are expected to persist through the 2020 election. This decision left the Fed's benchmark overnight lending rate in its current target range between 1.50% and 1.75%, which is three-quarters of a percentage point below where it started in 2019. Furthermore, the Fed now sees the connection between low unemployment and inflation as "very faint", with the Fed's projection showing inflation to end up at or just a little above the 2% central bank target despite unemployment rate staying below its long-term sustainable level. Fed Chair Jerome Powell stated that it would take a "material" change in the economic outlook for central bank to change rates again. (Reuters)

Turkey slashes key rate to 12% in bid to rev up economy (FT)

China to allow onshore bonds as collateral in short-term forex borrowing (Reuters)