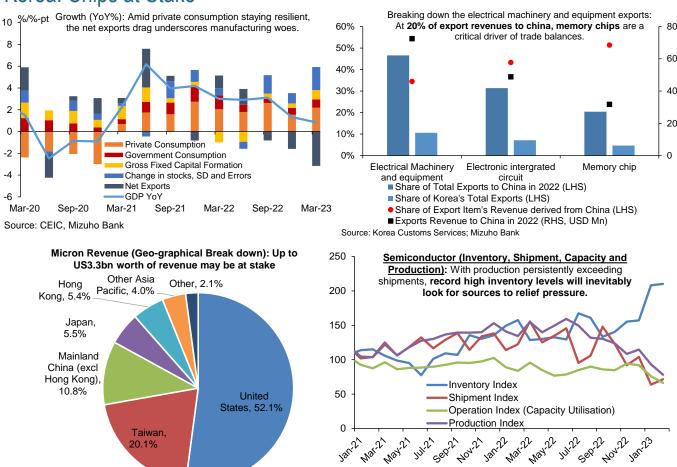
## Mizuho Chart Speak: Korea



Economics & Strategy | Asia ex-Japan

April 25 2023 | Tan Boon Heng | Market Economist

## Korea: Chips at Stake



• Q1 GDP rose by 0.8% YoY representing a 0.3% QoQ SA economic expansion. The silver-lining of averting a technical recession borders on being an optical illusion from a soft base. The 3.3% YoY drop in manufacturing sector value-added (Q4: -2.7%) lays bare the turbulence from chip sector downswing. Financial spillovers are also coming home to roost as the finance and insurance sector suffered a 1.5% QoQ SA contraction (or -0.4% in YoY terms).

Source: CEIC, Mizuho Bank

- The elephant in the room is how long consumer resilience which eked out a mere 0.5% QoQ SA expansion (after Q4's 0.6% QoQ SA contraction) will be able to hold out amid higher rates (and inflation). The domestic pains will be compounded by external headwinds revealed by net exports drag on YoY growth (approximately 3.2% points) which underpinned KRW woes.
- Given the dire external demand situation and Korea's significant sway in semiconductors, it is little wonder that Korean chipmakers are embroiled in the US-China tussle over chip technology.
- Despite an overall trade deficit of US\$48.7bn in 2022, **Korea ran a trade balance surplus with China** at US\$1.1bn in 2022. Notably, electrical machinery and components (of which semi-conductors is a sub-set) is the main contributor at 14 fold the bilateral trade balance.

Source: Bloomberg, Mizuho Bank

- Drilling this down, memory chips revenue from China at US\$31.7bn in 2022 which represents 4.6% of export revenue (from China) is 11 times the bilateral trade balance. This underscores a key comparative advantage from Korea's perspective given the large domestic value add.
- At this juncture, the woes of the semiconductor industry in Korea are increasingly laid bare as inventory accumulation soars due to production levels which persistently exceeded shipments. In short, the situation has turned from **shortage to surplus**.
- Given the inventory pile-up, organic pressures to seek relief in the event of restriction placed on Micron looks inevitable. With 51% of memory chip export revenues being accrued from China, the dependence is clear and so are the profit incentives.
- That said, it is **unlikely** that the **entirety** of Micron's US3.3bn revenue will be subjected to outright replacement/ban **given domestic economic needs**. Strategic design, research and development gains ought to be the priority rather than denting short term final product revenues.
- In addition, domestic competitors in China imply that **Korean exports** are **viable substitutes not** clear cut replacements. Admittedly, **capacity is certainly available for ramp up in production given the sheer under-utilisation** in Korea's semiconductor industry.
- All in, the positive spill overs from Micron's woes are likely to be near term with pragmatic front-loading of required chips as what was evident in the episodes of 2019 trade wars. Meanwhile, any overt attempts for long term advantages in China necessitates deftly navigating geo-political tensions and associated business concerns over CHIPS act subsidies for investments and Inflation Reduction Act on Electric Vehicles.

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