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US High Grade Focus

The Taipei Paradox

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- Taiwan emerged as an important investor in global credit markets in the aftermath of the global financial crisis, offering much-needed debt capital to hungry U.S. and European banks and industrial issuers. In return, Taiwan's enormous life insurance industry unlocked a source of income far beyond what was available locally, which could be paid out to households via savings vehicles structured as life insurance. With each passing year, the challenge of sustaining the flows grew, and portfolios moved deeper into the risk spectrum. Today, the staying power of insurers' $500 billion in overseas investments has come under much greater doubt by investors fearing a disorderly unwind of those positions.

- Facing stricter accounting standards and heightened public attention, some insurers have pledged to curtail savings policies or lower guarantees within 6-12 months, media reports say, moves that if realized could sharply curtail inflows into USD credit markets. Taiwan's central bank also spoke out this week to assert that its financial system does not threaten global market stability, stating that debt holdings are relatively modest within the US capital markets, that currency exposures are prudently managed, and that the risk of losses from an extreme move in exchange rates can be mitigated.

- In this note, we expand on our earlier work about Taiwan's foreign investment flows by drawing on a dataset of issuer-level exposures compiled from public filings. We attempt both to dispel myths and highlight valid elements of concern about the scale, concentration and format of the life insurers' foreign bond investments during the later stages of a global credit cycle. Insurers' sizable bank bond holdings create a cross-border channel of contagion between Taiwan and advanced economy financial systems if exogenous forces lead insurers – which are more highly levered than global peers – to unwind positions. Insurers have moved aggressively to offload currency exposure to policyholders, and are taking steps to modify the structure of their liabilities to alleviate pressure on investment portfolios. The question is, is it too late?

- Without action, multiple vectors of risk in insurers' portfolios – illiquidity, subordination, issuer quality, and currency exposure – could be tested in the context of insurers' legacy guarantees, the scarcity of good local alternatives, forthcoming challenges from the adoption of global accounting standards, and regulatory constraints designed to check insurers' risk-taking. Legacy liability costs look high relative to available yields, suggesting that insurers may need to rely on riskier investment strategies to generate mark-to-market gains or harvesting gains through targeted bond disposals.

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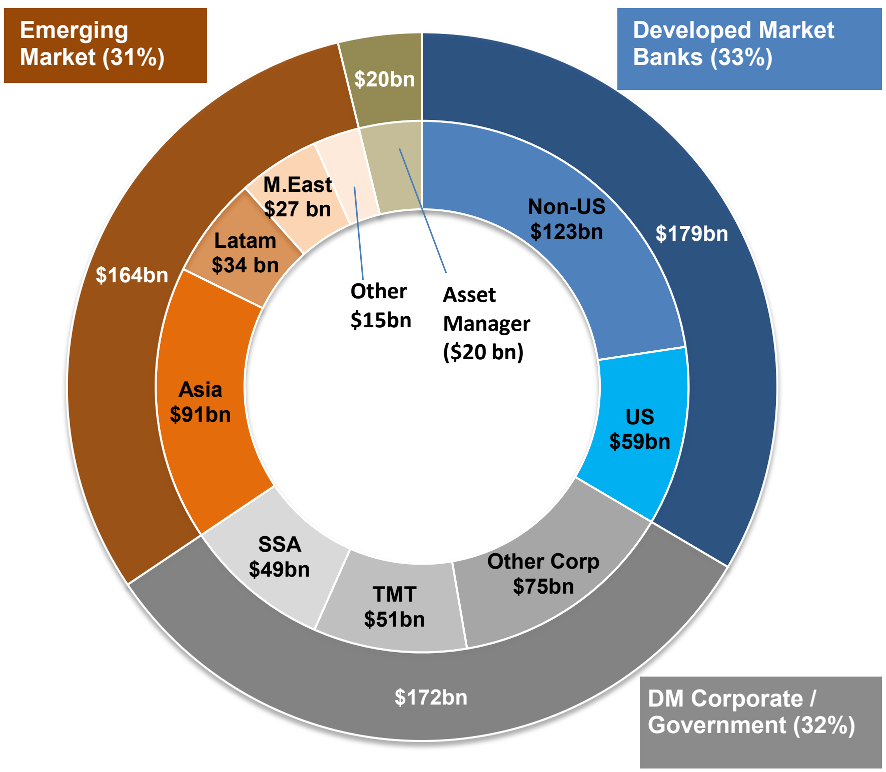
Composition and growth of foreign investments by Taiwan's life insurance sector

What's Inside? Taiwanese life insurance companies report sizable exposures to more than 300 global bond issuers, with expansive stakes in emerging-market sovereigns and corporations ($167 bn), as well as developed-market banks ($179 bn), other corporations ($126 bn), and government-related issuers ($49 bn). In 2018, foreign investments grew 20%, outstripping total investment growth of 10%. Especially pronounced is the estimated $123 bn of exposure to 39 banks in Europe, Australia, Canada and DM Asia, as well as to US telecom firms. Relative to 2017, insurers' broad asset allocation strategy appeared little changed.

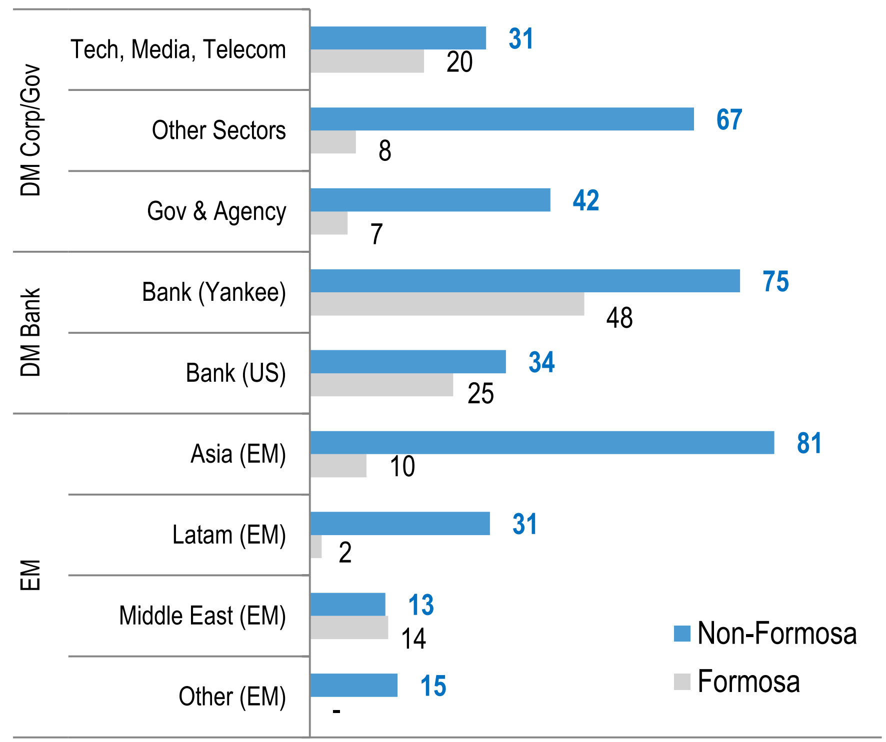
Demand tucked away. Taiwan life insurers hold one-quarter of their foreign bonds in a non-traditional format known as Formosa, with few direct links to the globally traded bond market. (Roughly 40% of life insurers' exposure to DM banks and TMT paper comes via Formosa bonds.) Formosa bonds have fallen out of favor with regulators, who last year imposed new caps on insurers' Formosa holdings, and the growth rate for that market has stalled. As insurers rely more on secondary-market purchases, the impact of their buying on index-level spreads should increase. One possible catalyst: $21 billion of Formosa bonds will reach their first-call date before 2021.

Figure 1. Estimated foreign exposure of Taiwan life insurance companies, Dec 2018



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC issuer filings

Figure 2. Estimated exposure to foreign issuers by market



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC issuer filings

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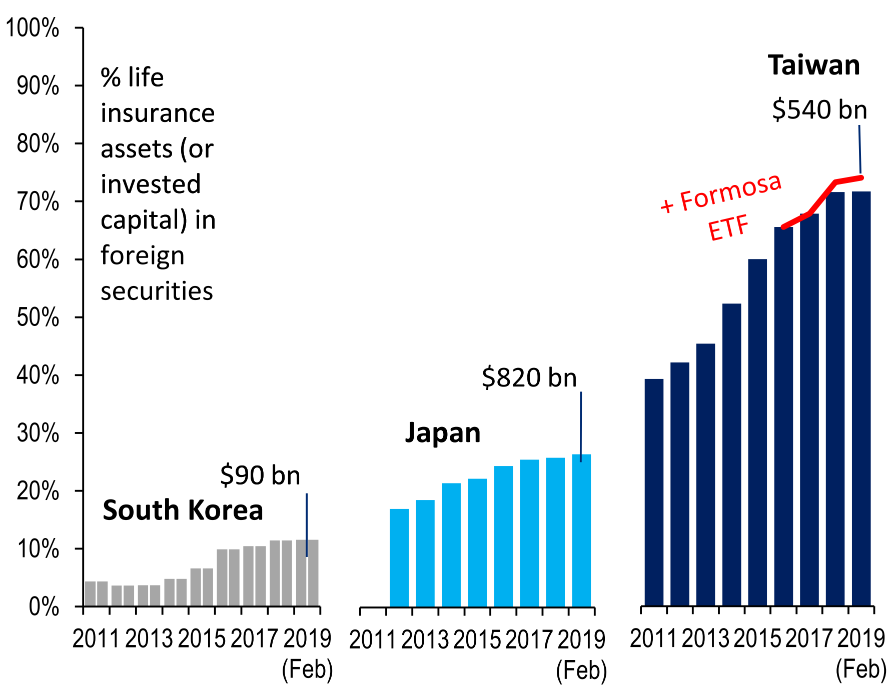
The context of Taiwan's life insurance investments

Asian Context. Insurers' foreign investments (including local ETFs that acquire foreign bonds) now exceed 70% of their invested assets, according to official data, far higher than peers in South Korea or Japan. Taiwan accounts for $334 bn of the $590 bn that flowed over the past five years into of foreign investments from the region's insurance sector. One-fifth of foreign investment growth in 2018 came via local currency funds that hold foreign bonds in unhedged form, prompting FX-mismatch concerns from the central bank. Local alternatives are scarce, with only $282 bn of TWD government and corporate bonds outstanding. While overseas investments formally capped at 45% of assets, lifers can receive special exemptions that raise the effective cap toward 80%. It is clear however that further net inflows into foreign bonds will be driven more by the pace of asset growth than by portfolio shifts.

Yield hunt. With liability costs around 4% and portfolio-wide hedging costs around 80 bps, insurers would tend to seek out at least 4.8% yields on USD-denominated securities – a threshold met, as of Tuesday, by less than 10 percent of the index-eligible, developed-market corporate bonds with at least 20 years to maturity and at least one rating that is BBB+ or better. Citi equity research has highlighted that insurers may need to rely on bond disposals and mark-to-market gains to maintain a positive investment spread. (30-year credit returned 10% over 1y.) Fed easing and a shift toward selling USD policies may partially alleviate the strain. Meanwhile, Citi equity research states that lifers' leverage ratios of 18x-27x (ex-preference shares) at the end of 2018 are high relative to global peers and concluded that "capital levels could come under pressure when the investment market is turbulent."

Figure 3. Foreign investments of Asian life insurance companies



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC issuer filings

Figure 4. Option-adjusted yields of DM IG by duration and best rating of three agencies

Best Rating — Duration/ Rating	1..2	2..3	3..4	4..5	5..6	6..7	7..9	9..14	>14
AAA/AA	2.47	2.41	2.48	2.61	2.80	2.89	3.10	3.61	3.69
A1	2.45	2.50	2.64	2.81	2.90	3.13	3.21	3.85	3.84
A2	2.56	2.61	2.72	2.94	3.10	3.26	3.35	3.89	4.01
A3	2.52	2.60	2.85	2.96	3.19	3.33	3.51	4.31	4.32
BBB1	2.74	2.81	2.95	3.11	3.32	3.53	3.75	4.70	4.42
BBB2	2.86	2.98	3.14	3.36	3.56	3.93	4.00	5.03	4.75
BBB3	3.17	3.31	3.59	3.93	4.34	4.48	4.37	5.63	5.10

Source: Citi Research; Data as of June 4, 2019.

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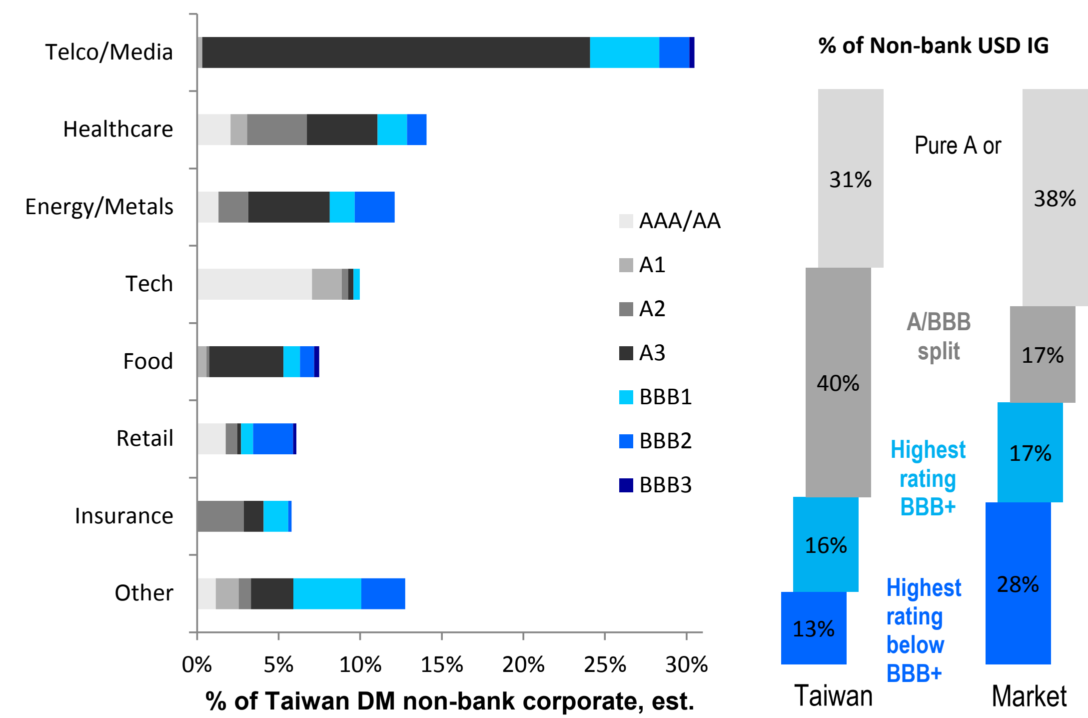
Sector allocation within Taiwan life insurance portfolios

Sector preference. Within their developed-market, non-bank credit portfolios, Taiwan lifers have tilted toward issuers in media / telecommunications (30%, vs 14% across all index-eligible DM IG >20-yr BBB+ and better paper), and energy/metals (13% vs 9%), with an underweight in utilities. Portfolios exhibit a particular focus in issues with at least one single-A rating. Relative to the broad IG non-bank index, Taiwan lifers hold more than twice the proportion of bonds that straddle both single-A and triple-B, and less than half the proportion of bonds with a highest rating (of three agencies) below BBB+. This allocation is consistent with insurance regulations that tightly restrict holdings of corporate bonds with ratings lower than BBB+, which are limited to between 6% and 7.5% of insurers' offshore investment limit. More than half of lifers' portfolios sit uncomfortably close to the regulatory threshold. The rise of Formosa ETFs

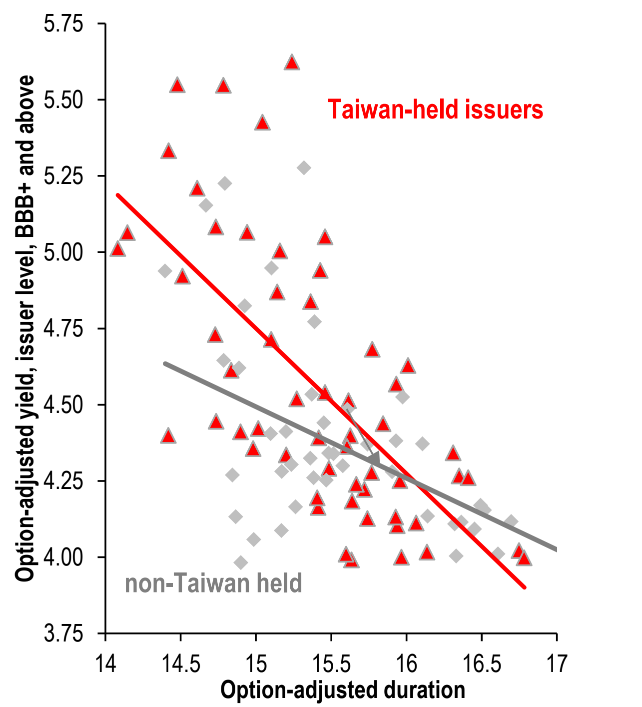
Downgrade reaction? The regulations may induce buying of very high-quality issuers that are downgraded toward, but not below, BBB+. On the other hand, names at risk of losing BBB+ at all agencies could see selling, and thus steepening those issuers' 10s30s credit curves. Taiwan's holdings have grown steadily for more than seven years of economic expansion, and have not been stress-tested through recession. Unwinding of positions in split-rated A/BBB issuers that fall to mid-BBB in a recession could strain liquidity if Taiwan's ratings limits stay firm; alternatively, regulators could loosen the ratings cap, as they did once before.

Figure 5. Estimated sector and rating distribution of non-bank, developed market portfolios



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC

Figure 6. Issuer-level yields, Taiwan-held names vs all >BBB+



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC

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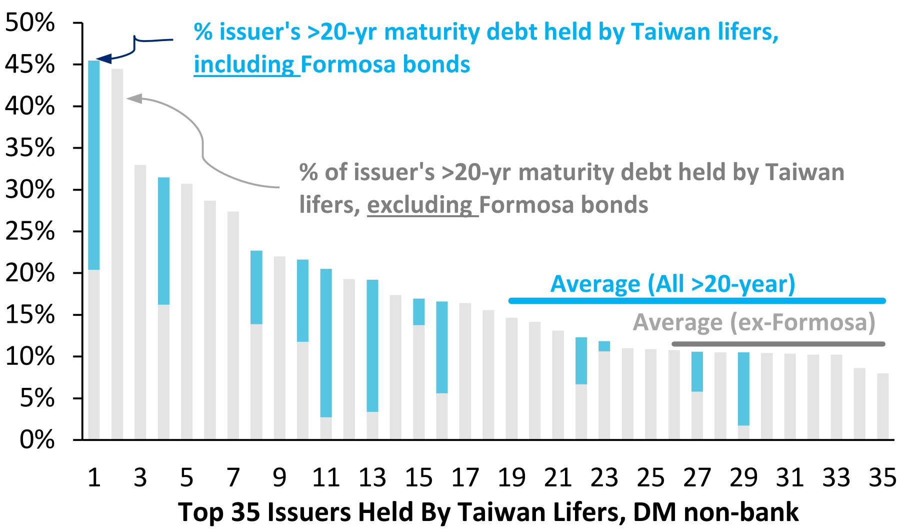
Issuer-level concentrations and spread curve impact

Issuer-level concentrations. We estimate that Taiwan lifers hold roughly $75 bn of long-maturity bonds within their largest 35 non-bank DM corporate holdings, or roughly 17% of the outstanding 20-year-and-longer debt stock of these issuers. The proportion of long-end debt held within the top 35 holdings is slightly lower, 12%, when Formosa bonds are excluded from the analysis. Taiwan's share of the long bonds of the US telecom majors is even larger – 26% including Formosa bonds, and 16% of non-Formosa long bonds. And we identified seven issuers (within energy, insurance, metals, pharma and tech) for which Taiwan is estimated to hold more than one-fifth of long-maturity non-Formosa bonds. Our estimates are based on exposure-level data disclosed by the parent companies of Taiwan life insurance companies representing roughly half of the foreign assets of that market, grossed up to the total disclosed foreign investments at the end of 2018 by official industry data. Across all debt, Taiwan lifers hold less than 5 percent of the top 35 non-bank names.

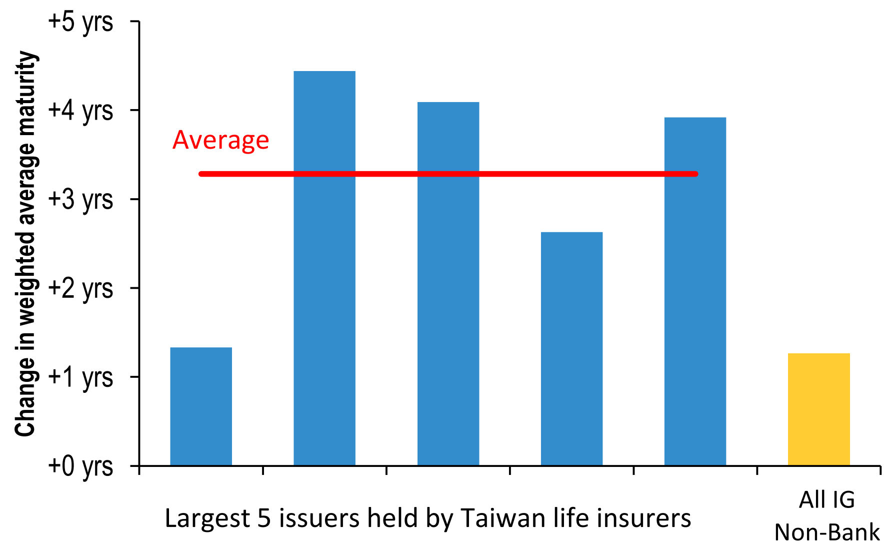
Spread curve impact? Interestingly, high-grade corporate issuers that have attracted Taiwanese life insurance capital do not appear to enjoy flatter 10s30s credit curves relative to similar issuers without notable Taiwanese buy-in. To test this, we regressed the 30-year yields of 76 IG non-bank issuers against their 10-year yields and the proportional holdings of Taiwan lifers within the back end of each issuer's capital structure. A high p-value (0.8) for the Taiwan holdings variable suggests that changes in the proportion of Taiwan holdings is not associated with changes in curve shape. The somewhat counterintuitive result (more 30-year demand should in theory drive flatter 10s30s curves) may be the result of a bias by issuers that have received Taiwan life insurance funds to extend the maturity of debt. The largest five non-bank DM issuers held by Taiwan life insurers extended maturity of fixed-rate debt by an average of 3.2 since Taiwanese flows began accelerated at the end of 2011, compared to a 1.3 year extension of all IG non-bank index bonds.

Figure 7. Taiwan's share of long bonds among largest 35 non-bank DM corporate



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC issuer filings

Figure 8. IG DM non-bank issuers held most by Taiwan extended maturities more from



Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC issuer filings

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The global banking nexus and an intractable liquidity challenge

Deep ties into global banks. Taiwan life insurance companies play an underappreciated role as a source of capital for global banks, which have spent the last decade seeking out willing providers of funds for long-term capital buffers that regulators imposed in the wake of the global financial crisis. The emergence of Taiwan on the global bond stage over this same time period was a fortuitous development for banks. Today, Taiwan's exposure to developed-market banks sits at close to $180 billion, spread across 47 separate banking organizations in a dozen countries. At the same time, these exposures open a potential cross-border channel of contagion between Taiwan and advanced economy financial systems, which could be tested in the event of a shock to the developed-market banking system, or in reverse, if exogenous forces lead Taiwan insurers to unwind positions. Ties are especially pronounced between Taiwan and banks in the United Kingdom, France, Australia and Canada. Life insurance regulations exempt bank bonds from ratings limits on industrial paper, although in general bonds of large global banks must be rated within the investment-grade spectrum.

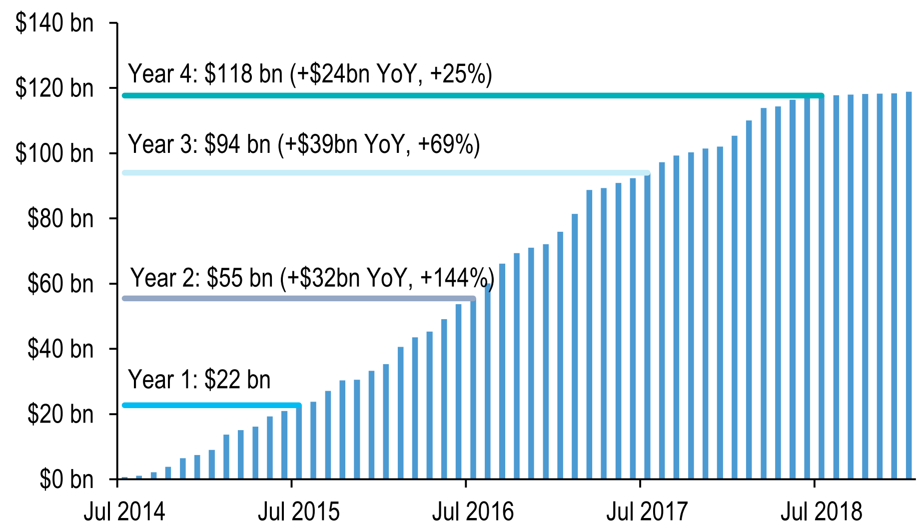
Liquidity challenge. The development of the Formosa bond market was a cornerstone of the rapid rise of Taiwan as a major player in the IG bond market, offering 1) a way for insurers to obtain exclusive access to primary issues and 2) a work-around to strict limits on foreign bond exposures (since Formosa bonds are classified by regulators as 'domestic' even when issued in foreign currency by overseas companies.) Banks have been the largest issuers into the Formosa market, and today have $73 billion of Formosa debt – representing roughly 40% of insurers' exposure to the sector. Because Formosa bonds are not actively traded and typically have long maturities, it is not clear whether, or how, insurers could unwind these positions following a market shock. Instead, outflows would be channeled through the 60% of bank debt ($109 bn) held outside the Formosa market. This potential negative volatility shock into the traded (non-Formosa) IG market is a latent source of anxiety among high-grade credit investors, even in the absence of an obvious trigger for such an event to occur. Questions about the staying power of Taiwan insurers over a credit default cycle are likely to remain in focus considering the concentration of insurers' positions and the liquidity challenges embedded in the Formosa market.

Figure 9. Taiwan life insurer exposure to developed-market banks, by region and YoY

Country	% of bank exposure	YoY Chg	# Tickers
US	33%	-3%	8
UK	18%	-2%	6
France	12%	+2%	5
Australia	8%	+1%	5
Canada	7%	+2%	7
Switzerland	6%	+1%	2
Germany	5%	0%	2
Netherlands	5%	-2%	3
Japan	4%	0%	4
Spain	2%	0%	2
Italy	0%	0%	2
Sweden	0%	0%	1

Source: Citi Research; Company regulatory filings; Note: extrapolated across sector from FHC issuer filings

Figure 10. The rapid growth of the Formosa bond market in Taiwan



Source: Citi Research; Bloomberg Financial LP; Note: >20yr USD corporate bonds ex-Taiwan issuer

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Appendix

A note on methodology. Taiwan life insurers are typically organized within financial holding companies, which under local law must periodically disclose entity-level exposures to major counterparties. The foreign exposures of these financial holding companies can be categorized by investment type and then extrapolated to known industry-wide holdings levels to provide a broad map of insurers' exposures. The data are broadly consistent with each insurers' top-level, publicly disclosed foreign bond position, as well as with known bond-level exposures via the Formosa bond market. Our data set is assembled from the disclosures of four financial holding companies representing roughly half of the assets of the Taiwan life insurance industry, following the same methodology as that of our 2018 publication, US High Grade Strategy Focus: Taiwan's foreign bond hot-pot. There are multiple potential sources of estimation error in our analysis, although we have taken steps to minimize these errors. First, exposures are reported at the holding company level, not at the insurer level, and thus could be attributable to other units within these holding companies, such as banks. We then multiply these exposures to match the total holdings of foreign bonds reported by the overall lifer community. However, we found that publicly reported aggregate levels of life insurance units' foreign exposures tracked well to the aggregated foreign exposures reported at the holding company level. Second, exposures are to counterparties as a whole, and are not necessarily indicative of bond holdings. However, lifers' public filings do indicate that their foreign exposures of lifers are almost entirely in fixed income, not equities. Third, we use an average 5-year FX exchange rate to translate currencies into USD, on the assumption that portfolios are valued at book exchange rates, and have accumulated over several years.

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Appendix A-1

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