BondAdviser

BondAdviser AT1 Capital Index Primer

Credit Research

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Executive Summary

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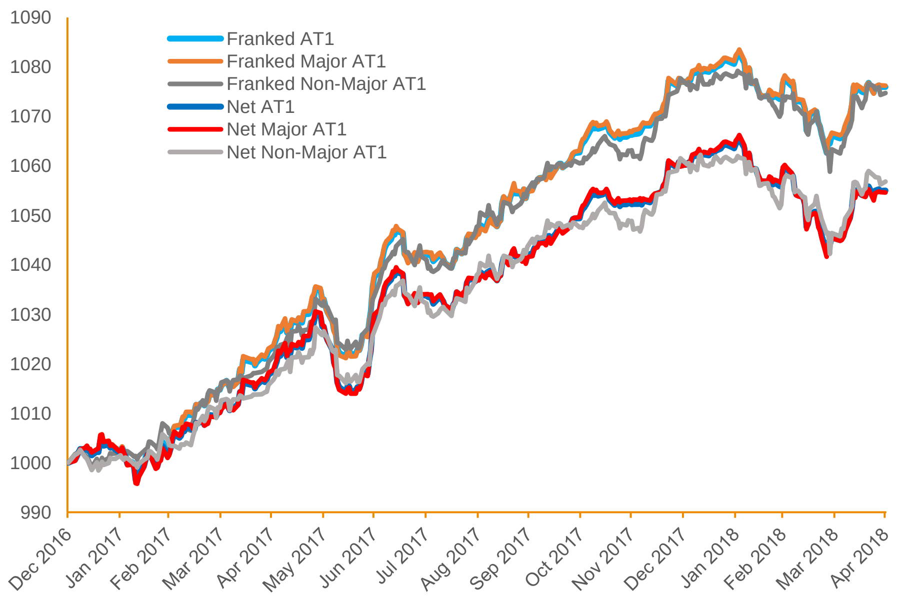
For the last few years (especially after the Global Financial Crisis (GFC)), fixed-income investors have been showing increasing interest in the hybrids market for its higher than vanilla debt returns and lower than traditional equities risk. This has been further evidenced by recent hybrid issuance often being heavily oversubscribed in the current low-yield environment.

Given that there is currently no standardised and independent index series covering the hybrids market for investors to benchmark their portfolios against, we have designed the BondAdviser ASX-listed Additional Tier 1 Capital Instrument Index to track the performance of this highly popular market, dating back to July 2004.

There are three primary categories within the BondAdviser ASX-Listed Additional Tier 1 (AT1) Capital Instrument Index: namely the AT1 Capital Instrument Index, the Major Bank AT1 Capital Instrument Index and the Non-Major Bank AT1 Capital Instrument Index. Within each, there are two sub-indices to measure total return performance (Accumulation Index) and non-accumulation performance (Non-Accumulation Index) with each sub-index also available on both a franked and a net (cash) basis (figure 1).

The index construction mechanics and logic are explained in detail in the BondAdviser ASX-Listed Additional Tier 1 Capital Instrument Index Methodology which includes security selection criteria, rebalancing and reweighting rules, data policy and index calculation etc.

Figure 1. Additional Tier 1 Capital Instruments Performance Since 2017



Source: BondAdviser

Index Rationale

Given the rapidly-changing regulatory landscape, the Australian credit market has evolved dramatically over the last few decades with a variety of new forms of fixed-income instruments becoming accessible for investors, including hybrid securities which exhibit both debt and equity traits. Also known as regulatory capital instruments, hybrid securities are generally categorised as Additional Tier 1 capital which provides additional buffers to issuers' "Common Equity Tier 1" (CET1). Unlike traditional fixed-income instruments, hybrid securities carry increased credit risks as they are subject to potential conversion into CET1 upon non-viability events or CET1 capital triggers (outright write-off). Principally for this reason, hybrid securities usually offer investors a substantial extra return for the extra downside risk when compared to other debt instruments.

Due to tightened fundamental credit conditions and the pervasive low interest-rate environment, hybrid securities have maintained a track record of high popularity on the back of their attractive returns, evidenced by frequent oversubscriptions in primary markets and high-volume secondary market transactions. With hybrid securities becoming a key return driver for fixed-income investors, there is an increasing demand for consistent benchmarks in the same category to measure market performance. Unfortunately, the wider domestic credit market has not been able to provide a standardized index suitable for the benchmarking of a hybrid securities portfolio and the most commonly used ones are either interest rate-based (usually the swap curve rates plus a preset margin) and/or the Bloomberg AusBond Index (which tracks the bond markets).

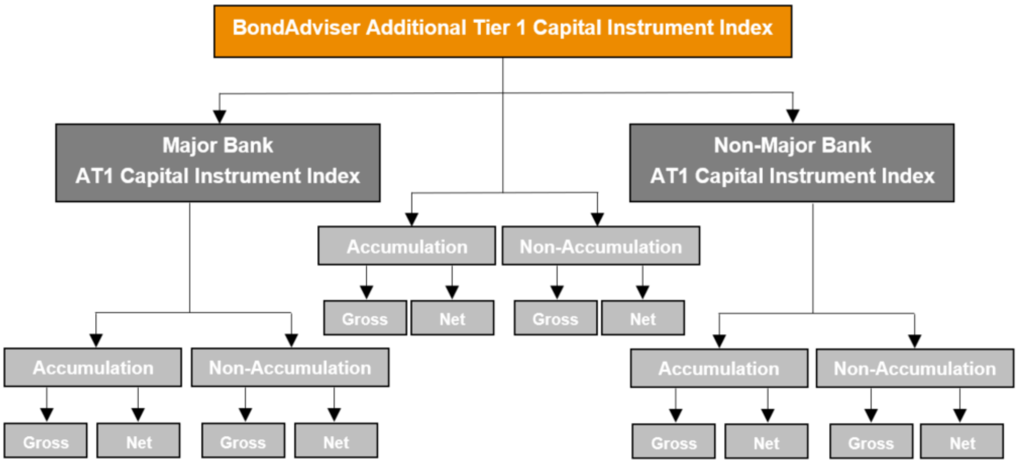
Despite the high recognition and the perceived efficiency, we find the above types of indices somewhat imprecise and inaccurate to track the performance of a specified sub-category of the credit market such as the hybrid market. Specifically, an interest rate-based benchmark (e.g. 1.50% cash rate + 1.50% margin) may be suitable to measure some traditional fixed-income investments (fixed-rate notes) and possibly Term Deposit products as it consists of two fixed components but loses effectiveness in tracking the performance of floating rate notes (FRNs) and other securities which are sensitive to the market's short-term volatility. The AusBond Index, on the other hand, better exhibits broad credit market movements including both FRNs and fixed-rate notes but dilutes the equity-like high volatility of capital notes which can be impacted by equity market movements.

For these reasons in addition to investors' increasing holdings in capital instruments, we believe that more standardized and bespoke benchmarks capable of accurately incorporating market swings incurred from more volatile equity markets should be in place to better reflect the market performance of capital instruments. Thus, BondAdviser has built such index series for investors to benchmark and further optimise their portfolios. BondAdviser's index covers listed Additional Tier 1 capital notes issued by major banks, regional banks and insurers with franking and net (cash) indices in each category. Designed to track the performance of variable interest income and capital gains (or losses), these index series should be able to provide investors with insights into how the hybrid market performs and how to identify the top and bottom performers during different investment horizons.

Index Construction and Scope

The BondAdviser AT1 Capital Instrument Index is designed to be an objective measure of risk and return for the ASX-listed universe of AT1 hybrids. Given the nature of these securities, the index universe comprises solely financial institutions primarily across the Australian banking and insurance sectors.

Figure 2. BondAdviser AT1 Capital Instrument Index Series



Source: BondAdviser

Full technical details for the index can be found in the methodology but broadly speaking, the index level reflects a value-weighted index with the inception date being the 1st of July 2004. The index series includes the parent index, the BondAdviser AT1 Capital Instrument Index. From this, two sector sub-indices are derived, namely the Major Bank AT1 Capital Instrument Index and the Non-Major Bank AT1 Capital Instrument Index. Classification of securities into these sub-indices is binary with all AT1 instruments not issued by a Major Bank (or a trust structure directly owned by a Major Bank) included in the latter. Within each category, there are two sub-indices to measure total return performance (Accumulation Index) and non-accumulation performance (Non-Accumulation Index) with each sub-index also available on both a gross (franked) and a net (cash) basis.

The index is rebalanced and reweighted on a monthly basis with all securities being revalued (marked to market) on the last trading day of every month. There might be occasions of nil transactions for some securities on a particular day, in which case proxy pricing is adopted which equals the capital price on the previous trading day plus accrued interest. During the rebalancing and reweighting process, new eligible securities issued since the last rebalancing and reweighting process will be added into the universe and existing securities which will mature prior to the next rebalancing / reweighting process or which fall below market value of $50 million will be removed, consistent with conventions in the industry.

There are three main return calculations in BondAdviser's index, namely total return, non-accumulation return and price return (with both franking and net indices in each category). The total return index is designed to track performance where distributions are reinvested, similar to the approach of Bloomberg's AusBond suite of indices. The non-accumulation index aims to benchmark performance where there is no reinvestment component and rather, distributions are simply paid out. The price return index simply tracks the aggregate gross value of index constituents with the objective of gauging capital returns across the index universe. Notably, any distribution amount is added back to the observed gross price during the ex-dividend period for index calculation purposes, to better reflect the universe performance.

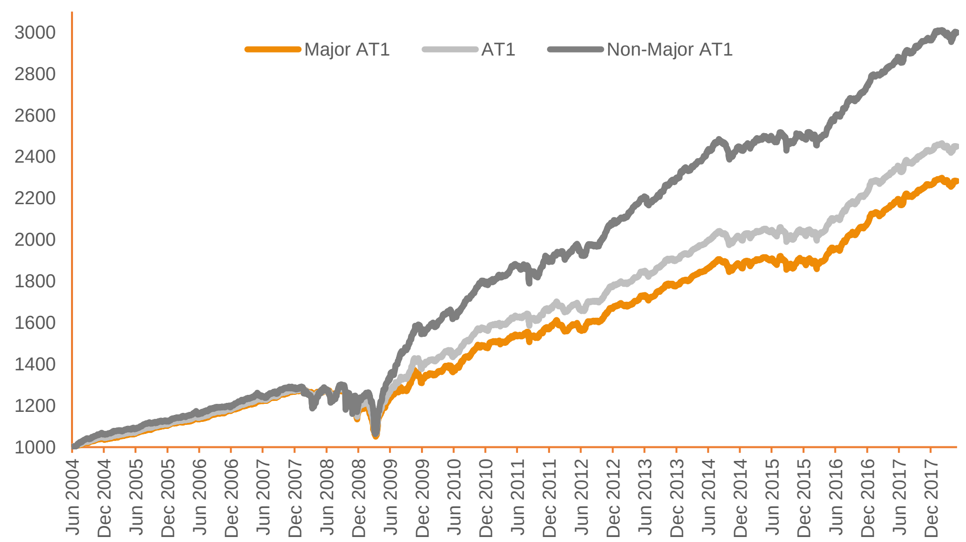
Securities are valued using an extended version of the Australian Financial Markets Association (AFMA) methods for pricing Fixed Rate and Floating Rate Securities. This provides a disciplined and consistent approach to valuation which is commonly recognised by market participants. However, due to the complex structures of some securities, variations to formulae can occur at BondAdviser's discretion to better reflect security parameters. All indices are calculated using the mid-closing price of each ASX trading day.

Performance

Since Inception…

As a relatively new form of fixed-income instruments, hybrid securities have maintained a track record of high popularity supported by their favourable returns. This can be demonstrated by the total return index of all listed AT1 capital instruments growing at an annualised rate of 6.74% from July 2004 to April 2018 (figure 3), well above traditional fixed income securities. The big four major banks saw their aggregate AT1 index rise at a slightly lower 6.20% during this same horizon whereas the non-major AT1 index increased at a higher 8.32%, similar to equity returns.

Figure 3. AT1 Capital Instrument Total Return Index (July 2004 – April 2018)

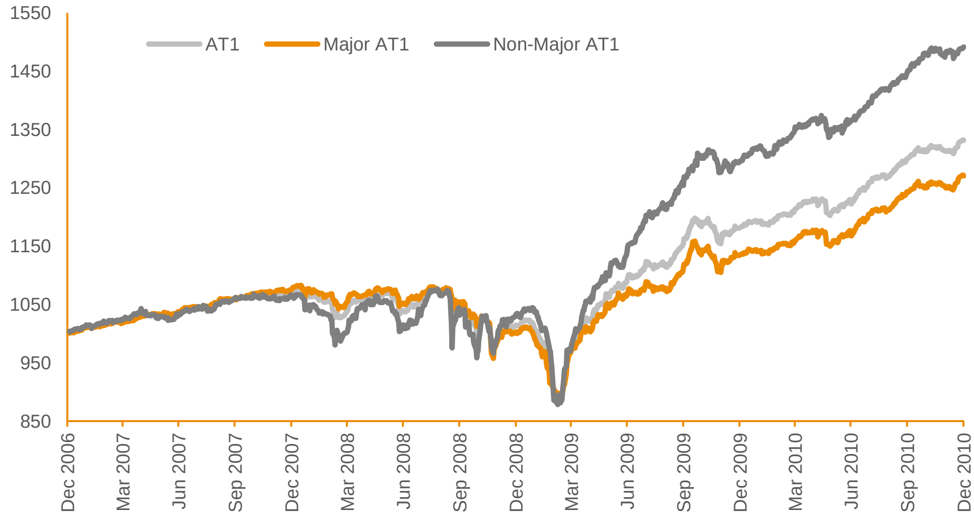


Source: BondAdviser

Through the GFC…

Consistent with their higher returns (for higher risk), hybrid securities are subject to increased downside performance, as evidenced during the GFC (figure 4). During this fear-dominated 'recession', the total return index for all three categories fell rapidly, more than offsetting all positive growth accumulated since inception (July 2004), before recovering quickly. It is worth pointing out that the non-major AT1 total return fell below the major AT1 index between March 2008 and November 2008, but, has strongly outperformed since.

Figure 4. AT1 Capital Instrument Total Return Index during the GFC



Source: BondAdviser

In response to the dramatically reforming regulatory landscape post the GFC, ADIs have been strengthened by better risk management as well as significant additions to common equity capital buffers. Increasing numbers of hybrid capital instruments have also been issued from 2010 onwards. Hybrid security investors began requiring higher yields with the growing perception of the possibility of total loss during the GFC. This was a large factor in AT1 hybrid indexes returning an annualised 9.52% from March 2009 to April 2018 comprising 8.77% and 11.91% for major AT1 and non-major AT1 respectively.

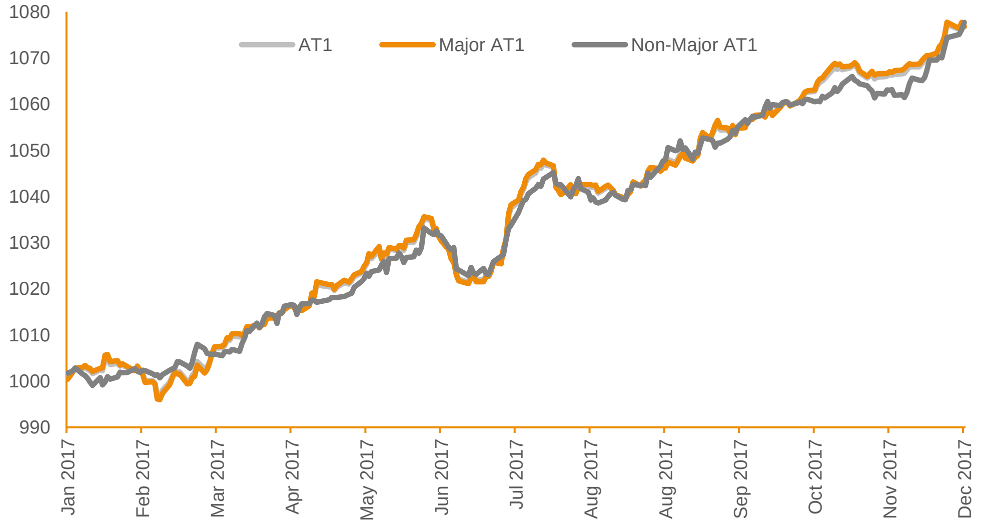
2017 in Review…

Following the election of Donald Trump in late 2016, the year of 2017 saw the domestic AT1 market perform broadly within our expectations of steady accretion.

By year-end, bar a little blip in late May and June, the aggregate total return index had climbed by 7.69% (Figure 5).

There were some very minor oscillations in performance between the Major Bank AT1 index and the Non-Major Bank index, but at the end of the calendar, all indices returned very similar results for the year.

Figure 5. AT1 Capital Instrument 2017 Performance



Source: BondAdviser

…So Far in 2018

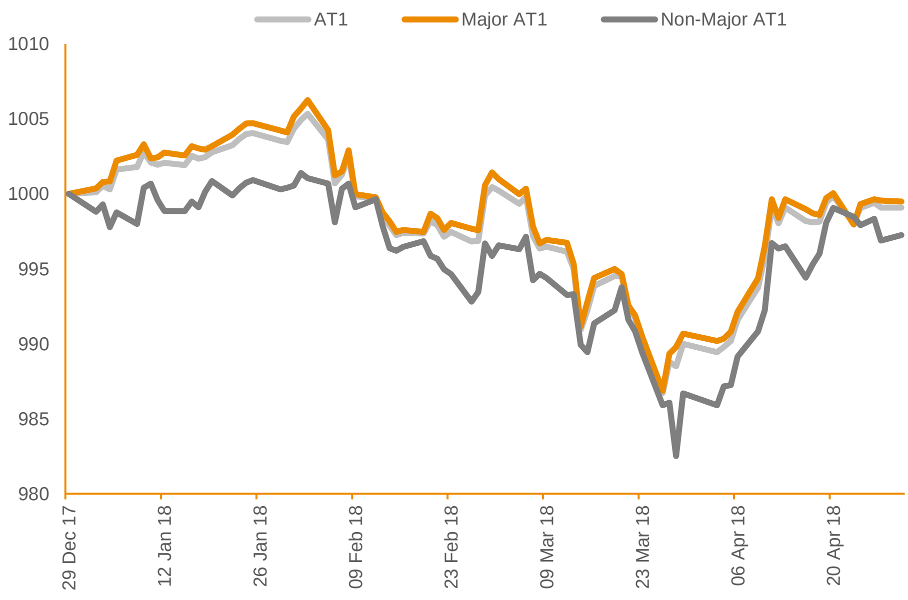
This was primarily driven by the four domestic major banks (WBC, CBA, NAB and ANZ) which contributed a total return growth of 7.68%. AT1 instruments issued by second- and third-tier banks and insurers rose at a slightly higher 7.78% but with a combined market share of less than 20%, this did not affect the overall index by much.

The AT1 capital instrument market in Australia in the 1st quarter of 2018 underperformed considerably against most expectations with February and March adversely impacted by the global equity market swings (figure 6).

In January, the AT1 capital instrument market for all three categories experienced moderate growth with the Major Bank AT1, Financial AT1 and Non-Major AT1 indexes climbing by 0.52%, 0.44% and 0.06% respectively. However, this soft growth was more than offset by higher global equity volatility during the last two months of the quarter. The index (total return) declined by an average of 0.43% in February and by another 0.98% in March before recovering and stabilising in April.

Due to the AT1 capital instruments' equity-like nature they are, unlike traditional fixed-income securities, highly sensitive to sentiment and contagion from equity market movements, as confirmed by the poor performance in February and March. However, this downturn is largely a function of a bear bond market (rising interest rates), investors' reduced confidence over "trade wars", possible changes to franking credit taxation treatment and other macro factors. In our view, this should only be short-term volatility, which is quite a common occurrence across our history set and the market will eventually restore itself once confidence returns.

Figure 6. AT1 Markets 2018 Performance



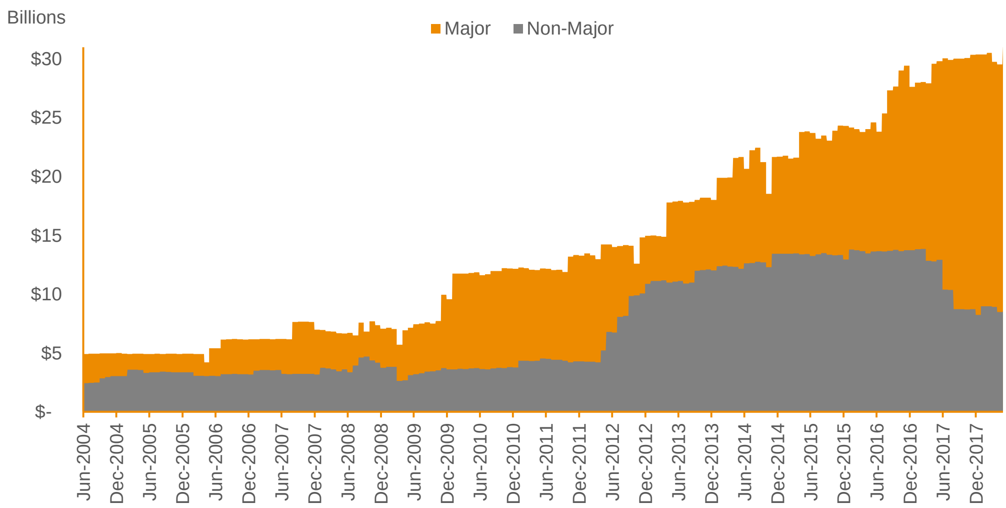
Source: BondAdviser

Key Index Themes

Majors vs Non-Majors

The domestic Additional Tier 1 (AT1) Capital Instrument market is split into the Major Bank Additional Tier 1 Capital Instrument market and the Non-Major Bank Additional Tier 1 Capital Instrument market based on the issuer set. Since July 2004, the domestic AT1 market has been dominated by the major banks (CBA, ANZ, NAB and WBC), which accounted for an ever-increasing proportion of total issuances (from ~70% in 2004 to ~80% in 2017 [figure 7]). This is primarily due to the majors' higher regulatory capital demands due to their larger scale and more complex risk profiles.

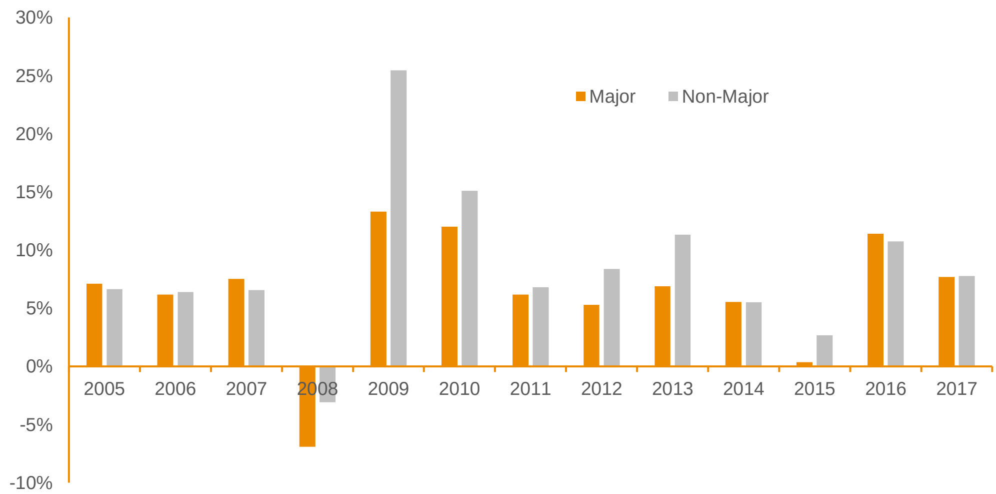
Figure 7. ASX-Listed Instrument Market Value (Major Bank vs Non-Major Bank)



Source: BondAdviser

Second- and third-tier banks, unlike the majors, are not currently able to use the advanced internal ratings-based methodology for calculating capital levels for credit risk, forcing them into a somewhat disadvantageous position which then negatively affects earnings capacity. In addition, these banks, due to their relatively smaller scale and weaker financial standing (compared to the majors), usually offer a premium to AT1 securities of major banks for hybrid investors. This is illustrated in figure 8 below where annual returns for both are compared side by side.

Figure 8. Annual Total Return (Major vs Non-Major)



Source: BondAdviser

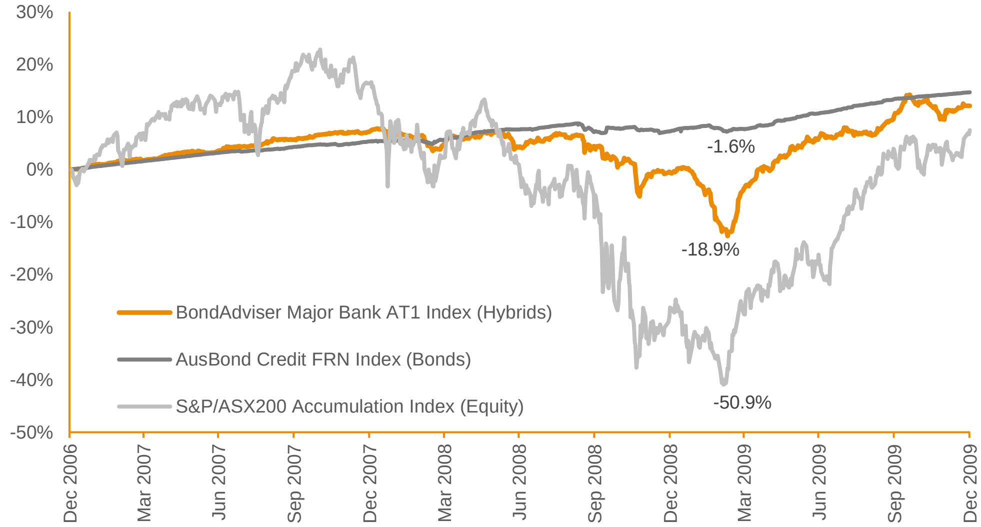
Between 2005 and 2017, the average premium in annual total return provided by non-majors was 2.13%, equivalent to a cumulative 70% extra yield since inception in July 2004. However, it is worth noting that the non-major AT1 capital notes' capital performance was more vulnerable during times of recession and that the bulk of the outperformance has been in the recovery years since. More recently, (in FY16 and FY17), returns have been much closer between the two categories.

Risk and Return

As the name suggests, AT1 hybrids reflect elements of both debt and equity, and for this reason the asset class exhibits a very unique risk profile. Specifically, these instruments act like high-beta fixed income instruments for a majority of the time but can experience capital downside, similar to that of equities in a volatile risk environment. As a result, the natural skew in these types of instruments is accentuated and essentially, investors receive a higher coupon for exposures to equity market downside risks whilst forgoing the symmetric upside.

This was best evidenced during the GFC where the S&P/ASX200 Accumulation Index lost half its value (50.6%) and the BondAdviser AT1 Capital Instrument Index shed 18.9% (from peak to trough). In comparison, traditional fixed income instruments declined by just 1.6% as demonstrated by the Bloomberg AusBond Credit Floating Rate Note (FRN) Index (figure 9). Note that we have used this fixed income comparison index to exclude the impact of duration-driven performance (i.e. fixed rate instruments recorded positive returns due to the sharp fall in interest rates).

Figure 9. Relative Performance During the GFC Period

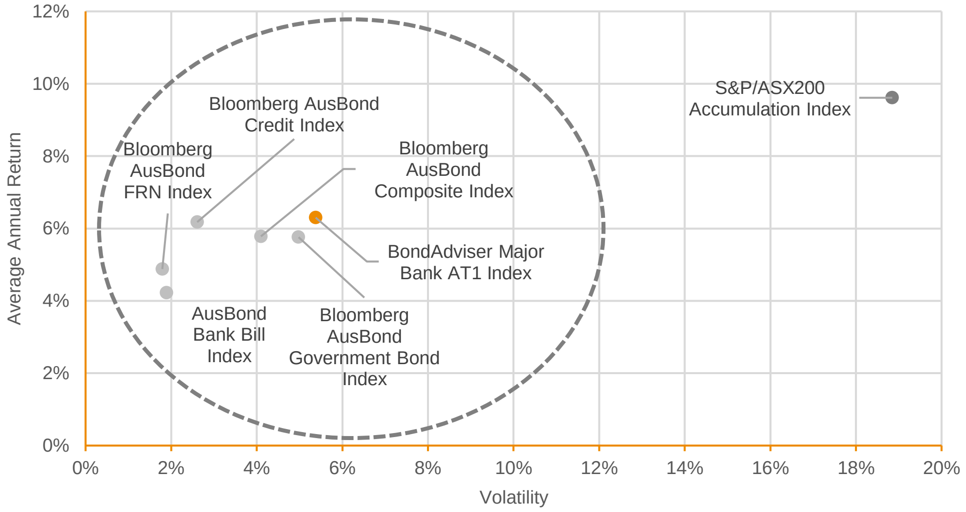


Source: BondAdviser

As implied, the equity correlation inherent is dynamic and will change based on a number of interrelated factors. If we consider the rolling 1-year correlation between the BondAdviser ASX-Listed Additional Tier 1 (AT1) Capital Instruments Index versus the Bloomberg AusBond Credit FRN Index (fixed income correlation) and against the S&P/ASX200 Accumulation Index (equity correlation) from 2004 onwards, the equity correlation dominates 25% of the time and almost half (11%) was during the GFC. As a result, AT1 hybrids had comparable performance to the broader fixed income asset class for the majority of the period highlighting that successful investment is highly dependent on minimising the equity-like behaviour embedded in these instruments.

This stronger relationship to fixed income markets is also demonstrated over the longer term where the volatility in annual returns (calendar year) since 2004 has been higher and hence, more unpredictable for the domestic equity market in comparison to the AT1 hybrid market. Instead, the AT1 hybrid market better reflects a fixed income risk-return profile and this is consistent with the results from other Australian fixed income indices (figure 10).

Figure 10. Average Annual Return versus Volatility (2004-2017)



Source: BondAdviser, Bloomberg

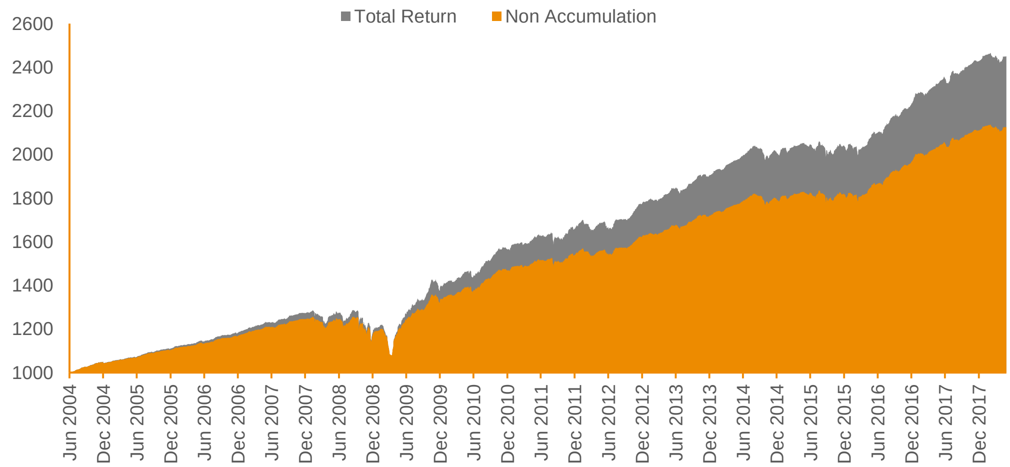
The Power of Reinvestment

As with most traditional fixed-income securities, hybrid securities pay interest periodically (usually quarterly, semi-annually or annually), leaving investors two options. Firstly, hybrid security holders can reinvest the interest into more securities as additional capital to generate future interest itself going forward. This "interest on interest" implies that the distribution amount received by investors should be enough to purchase whole units of original securities, which may not suit investors with smaller holdings (but is usually the case for wholesale investors). Secondly, payments can be withdrawn out of the investment pool once paid and is generally done by ETFs and other funds with obligations to distribute returns to investors.

Whether it is worth rolling interest payments over into the capital pool is always a tricky question for investors, and involves many factors to consider, including current capital price, investment horizon, transaction costs, liquidity risks, market conditions and alternative investments.

We use the BondAdviser AT1 Capital Instrument Index (figure 11) to illustrate the power of reinvestment by analysing the two components of return: interest return and capital gains. Interest returns grow consistently with increases to the underlying capital pool from the reinvested funds but capital gains present more of a risk and are a mixed result of the macro landscape as well as changing fundamental conditions.

Figure 11. BondAdviser AT1 Capital Instrument Index



Source: BondAdviser

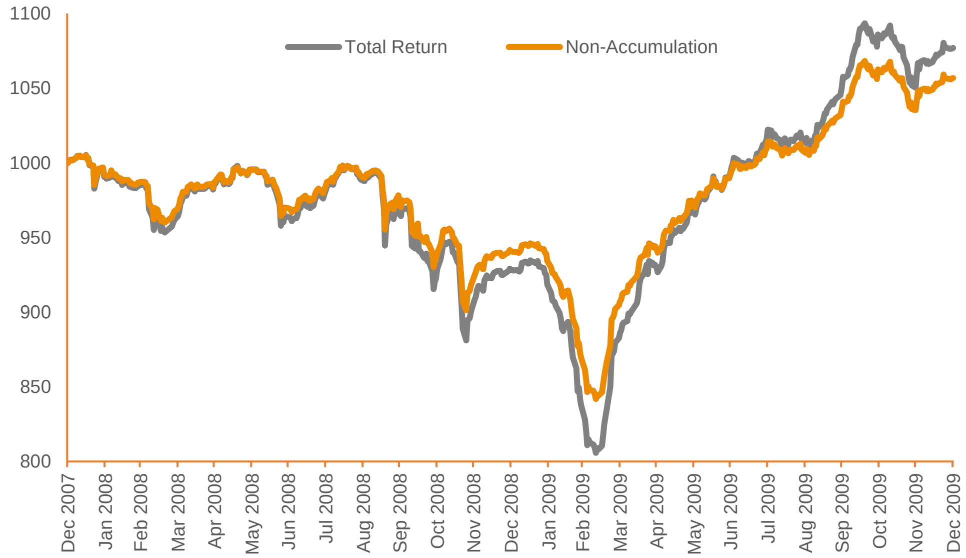
As a general simplification, when capital levels are depressed below par (100), investors reinvesting distributions can capture more upside benefits in the future but are also exposing themselves to possibly more losses if there is a credit or fundamental problem with the issuer.

As a security's return is a combined function of independently variable interest and capital components, there is no certain way to favour one versus the other. However, from the sole perspective of return accumulation, reinvestment offers investors an option to explore the possibility of more attractive returns.

The power of reinvestment is further evidenced above by the outperformance of the total return of the BondAdviser AT1 Capital Instruments Index, which grew at an average annual rate of 6.72% from July 2004 to April 2018, compared to 5.62% growth without accumulation. This translates into an extra 30% return from the all financial AT1 universe with payments reinvested since inception (July 2004).

As we discussed earlier, worsening market conditions including economic recessions can also expose investors to increasing downside risks. During the GFC, the total return index underperformed the non-accumulation index during 2008 and early 2009 (figure 12) as the newly-injected capital suffered further losses. As the recovery progressed in 2009, the total return index reversed this underperformance through higher capital positions recovering more value as prices returned to normal levels.

Figure 12. BondAdviser AT1 Capital Instrument Index (2008-2009)



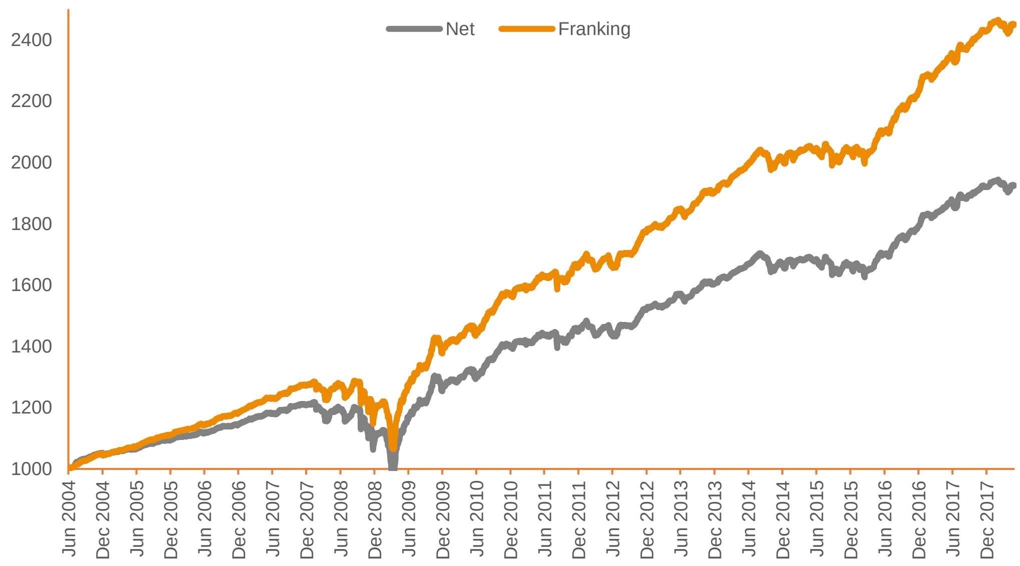
Source: BondAdviser

Overall, interest reinvestment may not create a material difference to returns in the short- (or medium-) term but over the long-term (and particularly so if additional capital units are acquired during downturns), reinvestment should amount to substantial gains for investors. We note that the majority of hybrid investors are income-focused and would not ordinarily apply this strategy.

Franking Credits' Contribution to Returns

Franking Credits, also known as imputation credits, are a type of tax credit that allows companies in Australia to pass on tax paid at the company level to shareholders, entitling investors to a potential tax reduction or in some cases, outright refunds. Unlike equity, franking credits for fixed income securities require investors to hold securities at risk for at least 90 days (rather than 45) to be eligible to claim. For this reason, securities bought and sold within this period should only be priced on net (or cash) basis. As the potential tax benefits that can be received through franking credits are an essential factor for investors to consider, we produce franked (gross) and net versions of our indices (figure 13).

Figure 13. AT1 Total Return Index Jun 2004 – April 2018 (Franking vs Net)

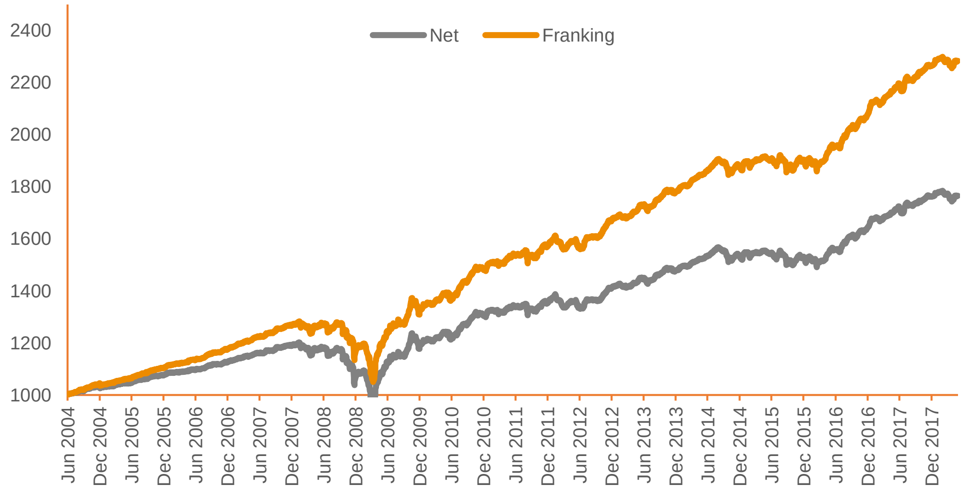


Source: BondAdviser

The benefits of franking credits (up to 30%) can add substantial amounts to total returns over the long term. The AT1 Total Return Franking index accumulated at an annual rate of 6.72%, compared to 5.62% for the net index. The total extra 'yield' investors received from franking credits amounted to more than half of the initial capital investment at inception over the period from July 2004 to April 2018.

The Major Bank AT1 index also exhibited this outperformance (6.18% gross versus 4.22% net) as the universe (except for ANZ StEPS and NAB Income Securities) has full franking credits applied to each security (figure 14).

Figure 14. Major Bank AT1 Total Return Index Jun 2004 – April 2018 (Franking vs Net)



Source: BondAdviser

Australian AT1 Capital – Data Pack

Figure 15. Additional Tier 1 Capital Instrument Yield

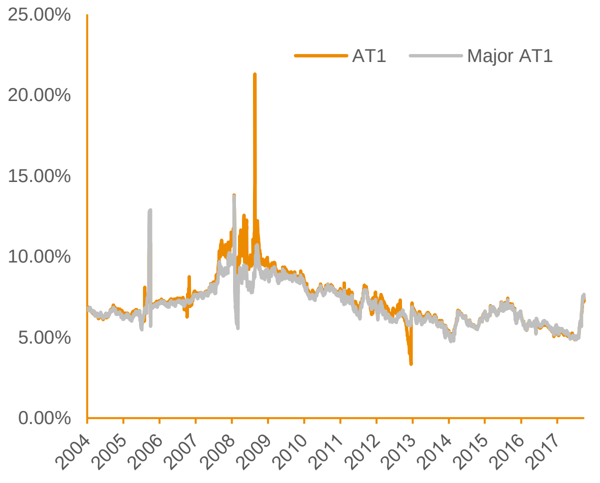


Figure 16. AT1 Capital Instrument Trading Margin

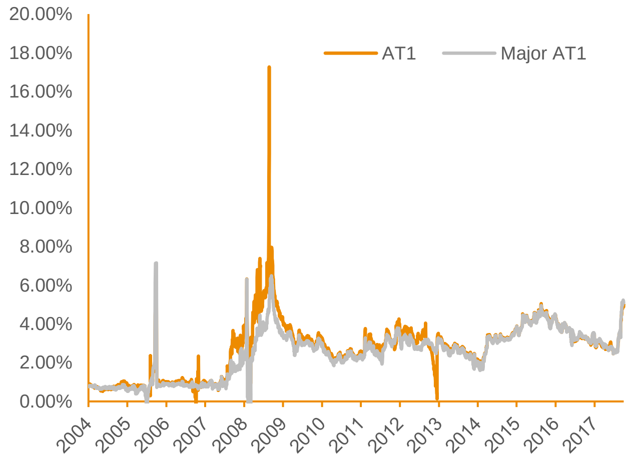


Figure 17. Additional Tier 1 Capital Instrument Issuance

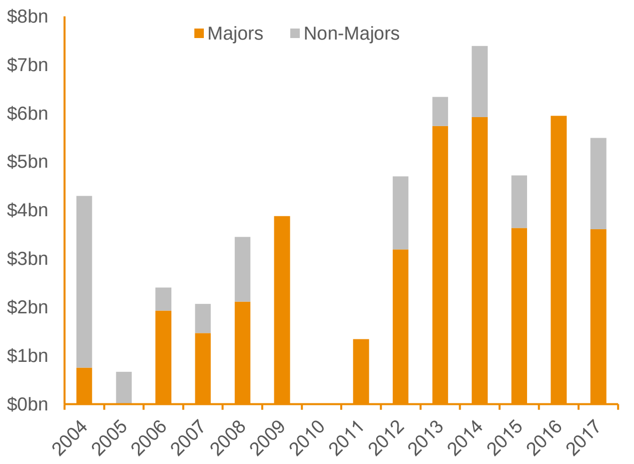


Figure 18. AT1 Capital Instrument Outstanding Value

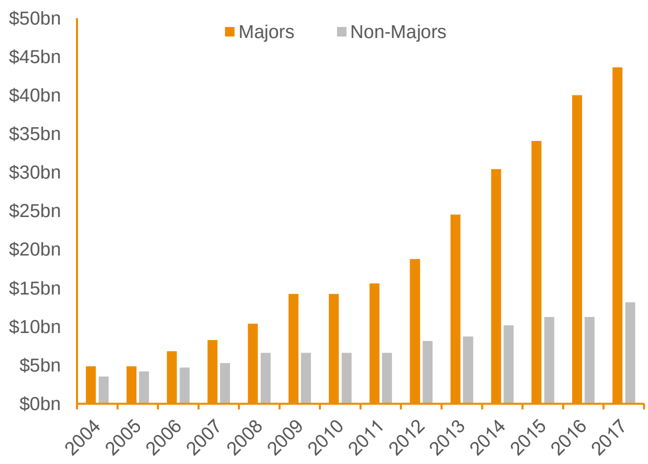


Figure 19. 2018 Capital Instrument Market Composition

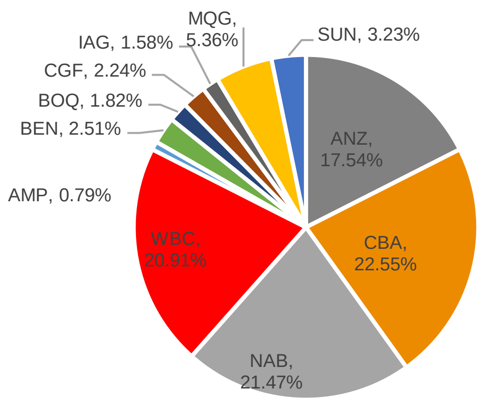
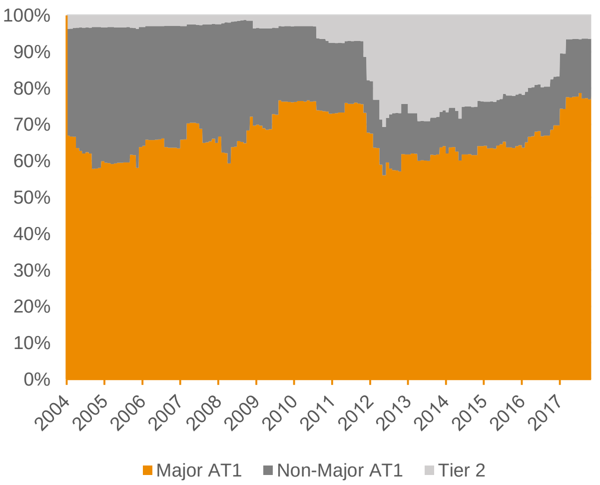


Figure 20. Historical Capital Instrument Composition



Source: BondAdviser, Bloomberg, ASX

AT1 Capital Instrument Tracker

Description					Valuation				Income							Change in Trading Margin				Risk			
Ticker	Issue Size	Expected Maturity	Term	Sector	Last Price	Accrued	YTM	Trading Margin	Fixed/Floating	Interest Margin	Frequency	Current Rate	Cash Payment	Ex-Date	Payment Date	1 month	3 months	6 months	12 months	Modified Duration	Credit Duration	Max Drawdown	Breakeven Price
Additional Tier 1 (AT1) Hybrids																							
Major Banks																							
ANZPD	1120	1/09/2021	3.4	Banks	100.9	0.778	5.859%	3.337%	Floating	3.40%	Semi-Annual	5.360%	1.91	23/08/2018	3/09/2018	-0.27%	0.55%	0.43%	-0.13%	0.36	3.0	-15.0%	94.76
ANZPE	1610	24/03/2022	3.9	Banks	99.03	0.413	6.233%	3.649%	Floating	3.25%	Semi-Annual	5.165%	1.80	13/09/2018	24/09/2018	0.11%	0.69%	0.71%	0.15%	0.39	3.4	-16.6%	93.45
ANZPF	970	24/03/2023	4.9	Banks	99.5	0.44	6.514%	3.823%	Floating	3.60%	Semi-Annual	5.515%	1.93	13/09/2018	24/09/2018	0.15%	0.68%	0.52%	0.21%	0.39	4.2	-4.3%	93.55
ANZPG	1622	20/03/2024	5.9	Banks	104.35	0.621	6.696%	3.930%	Floating	4.70%	Quarterly	6.410%	1.12	8/06/2018	20/06/2018	-0.01%	0.56%	0.41%	0.06%	0.25	4.8	-4.6%	97.32
ANZPH	931	20/03/2025	6.9	Banks	100.75	0.537	6.608%	3.760%	Floating	3.80%	Quarterly	5.510%	0.88	8/06/2018	20/06/2018	-0.04%	0.41%	0.30%	-	0.16	5,5	-5.5%	94.70
CBAPC	2000	15/12/2018	0.6	Banks	101.35	0.615	4.791%	2.630%	Floating	3.80%	Quarterly	5.755%	1.02	6/06/2018	15/06/2018	-0.48%	0.90%	0.28%	-0.08%	0.15	0.6	-9.3%	94.98
CBAPD	3000	15/12/2022	4.6	Banks	96.701	0.508	6.405%	3.752%	Floating	2.80%	Quarterly	4.755%	0.84	6/06/2018	15/06/2018	0.01%	0.72%	0.36%	0.04%	0.06	4.0	-16.5%	91.44
CBAPE	1450	15/10/2021	3.5	Banks	105.901	0.764	6.042%	3.515%	Floating	5.20%	Quarterly	6.975%	1.18	21/02/2019	15/03/2019	0.01%	0.76%	0.30%	-0.06%	0.22	3.0	-3.7%	98.16
CBAPF	1640	31/03/2022	3.9	Banks	101.58	0.626	6.198%	3.621%	Floating	3.90%	Quarterly	5.855%	1.03	6/06/2018	15/06/2018	-0.17%	0.59%	0.42%	0.04%	0.16	3.4	-3.4%	95.10
CBAPG	1365	15/04/2025	7.0	Banks	99.05	0.253	6.472%	3.618%	Floating	3.40%	Quarterly	5.440%	0.73	6/06/2018	15/06/2018	-	-	-	-	0.11	5.6	-2.4%	93.36
NABHA	2000	Perpetual	-	Banks	79.25	0.553	5.654%	2.453%	Floating	1.25%	Quarterly	3.010%	0.73	27/04/2018	15/05/2018	0.04%	0.02%	-0.11%	-0.17%	0.25	-	-43.6%	75.69
NABPA	1514	20/03/2019	0.9	Banks	100.91	0.481	4.882%	2.709%	Floating	3.20%	Quarterly	5.165%	0.91	1/06/2018	20/06/2018	-0.10%	0.80%	0.19%	-0.37%	0.16	0.9	-11.0%	95.26
NABPB	1717	17/12/2020	2.7	Banks	99.95	0.5	5.896%	3.473%	Floating	3.25%	Quarterly	4.950%	0.86	27/05/2019	17/06/2019	-0.18%	0.76%	0.51%	0.06%	0.15	2.4	-15.2%	94.50
NABPC	1340	23/03/2020	1.9	Banks	101.4	0.467	5.297%	2.985%	Floating	3.50%	Quarterly	5.210%	0.93	31/05/2019	24/06/2019	-0.51%	0.58%	0.44%	-0.27%	0.18	1.8	-2.0%	95.72
NABPD	1499	7/07/2022	4.2	Banks	104.9	0.268	6.297%	3.691%	Floating	4.95%	Quarterly	6.995%	1.31	28/06/2018	9/07/2018	0.04%	0.70%	0.34%	-0.03%	0.29	3.6	-5.2%	97.64
WBCPD	1384	8/03/2019	0.9	Banks	101.3	0.643	4.594%	2.422%	Floating	3.20%	Quarterly	5.105%	0.90	30/05/2018	8/06/2018	-0.35%	0.79%	-0.05%	-0.55%	0.13	0.8	-11.6%	95.55
WBCPE	1311	23/09/2022	4.4	Banks	97.43	0.42	6.455%	3.826%	Floating	3.05%	Quarterly	4.760%	0.83	14/06/2018	25/06/2018	0.14%	0.93%	0.67%	0.41%	0.11	3.9	-17.1%	92.25
WBCPF	1320	22/03/2021	2.9	Banks	102.3	0.526	5.795%	3.334%	Floating	4.00%	Quarterly	5.710%	1.00	30/05/2019	24/06/2019	-0.14%	0.57%	0.49%	-0.02%	0.19	3.6	-2.8%	96.06
WBCPG	1700	20/12/2021	3.7	Banks	104.9	0.46	5.998%	3.451%	Floating	4.90%	Quarterly	6.935%	1.22	21/06/2018	2/07/2018	0.00%	0.56%	0.36%	-0.05%	0.26	3.0	-4.4%	97.51
WBCPH	1690	22/09/2025	7.4	Banks	97.95	0.576	6.526%	3.646%	Floating	3.20%	Quarterly	5.125%	0.99	13/06/2018	22/06/2018	-0.05%	-	-	-	0.07	5.9	-4.8%	92.25

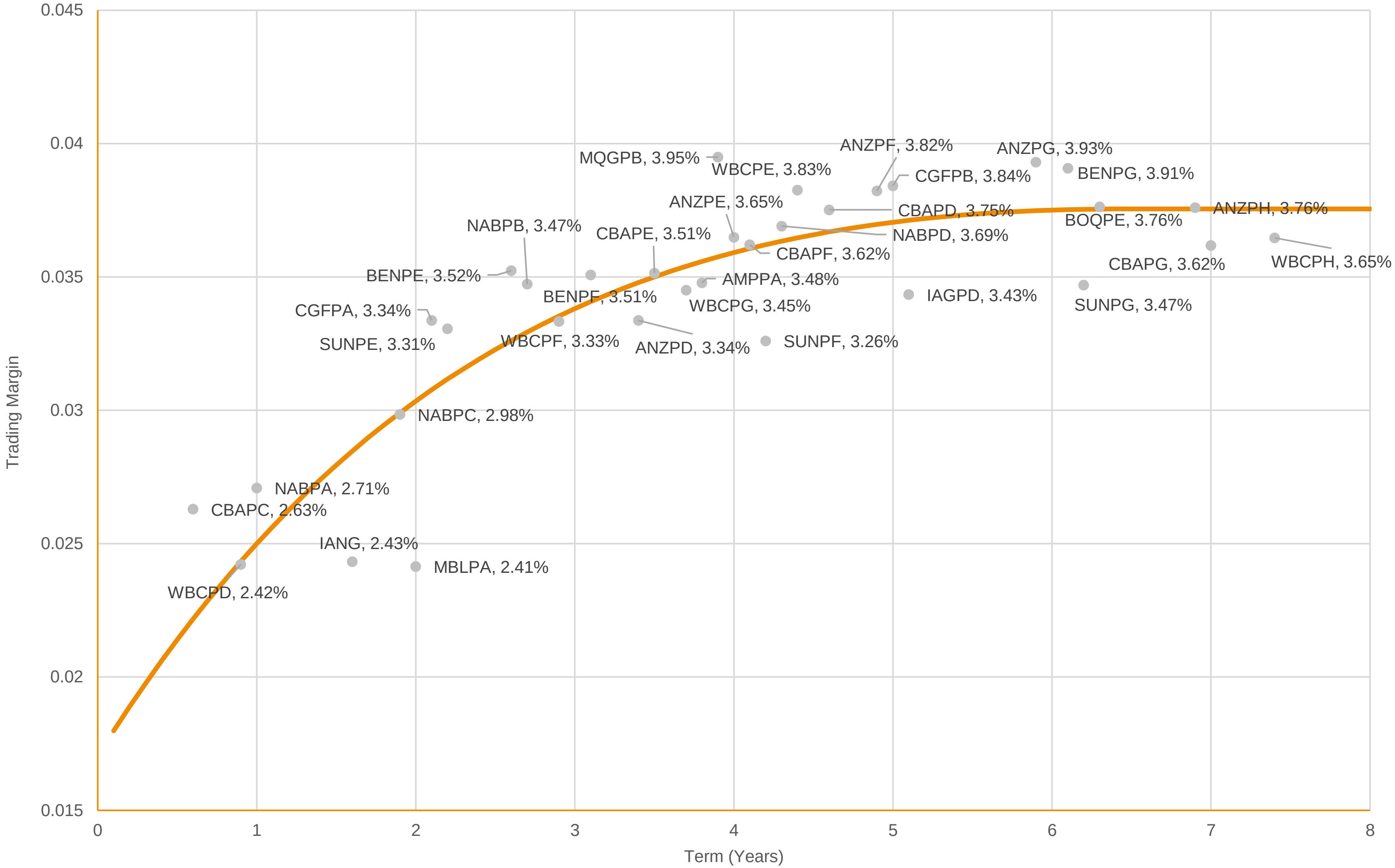
Source: BondAdviser (23 April)

Description					Valuation				Income							Change in Trading Margin				Risk			
Ticker	Issue Size	Expected Maturity	Term	Sector	Last Price	Accrued	YTM	Trading Margin	Fixed/Floating	Interest Margin	Frequency	Current Rate	Cash Payment	Ex-Date	Payment Date	1 month	3 months	6 months	12 months	Modified Duration	Credit Duration	Max Drawdown	Breakeven Price
Additional Tier 1 (AT1) Hybrids																							
Other Financials																							
AMPPA	268	22/12/2021	3.7	Insurance	105.92	0.621	6.025%	3.478%	Floating	5.10%	Quarterly	7.085%	1.23	13/06/2018	22/06/2018	-0.04%	0.88%	0.25%	-0.10%	0.25	3.2	-5.0%	98.21
BENPE	292	30/11/2020	2.6	Banks	101.24	2.02	5.947%	3.524%	Floating	3.20%	Semi-Annual	5.120%	1.78	17/05/2018	30/05/2018	-0.46%	0.70%	0.52%	-0.20%	0.09	2.3	-3.1%	94.10
BENPF	288	15/06/2021	3.1	Banks	103.478	2.103	6.007%	3.508%	Floating	4.00%	Semi-Annual	5.950%	2.08	1/06/2018	15/06/2018	-0.42%	0.54%	0.15%	-0.11%	0.17	2.8	-5.7%	95.43
BENPG	322	13/06/2024	6.1	Banks	99.84	0.637	6.692%	3.907%	Floating	3.75%	Semi-Annual	5.675%	1.00	30/05/2018	13/06/2018	-0.11%	0.61%	-	-	0.12	5.0	-5.3%	93.53
BOQPE	350	15/08/2024	6.3	Banks	99.6	-0.332	6.562%	3.763%	Floating	3.75%	Semi-Annual	5.510%	0.94	23/04/2018	15/05/2018	-0.26%	0.26%	-	-	0.06	5.2	-5.6%	94.42
CGFPA	345	25/05/2020	2.1	Insurance	100.9	0.792	5.675%	3.337%	Floating	3.40%	Quarterly	5.180%	0.87	16/05/2018	25/05/2018	-0.35%	0.75%	0.44%	-0.31%	0.09	1.9	-3.5%	94.93
CGFPB	460	22/05/2023	5.1	Insurance	103.395	1.011	6.539%	3.842%	Floating	4.40%	Quarterly	6.165%	1.05	11/05/2018	22/05/2018	-0.24%	0.49%	0.45%	-0.43%	0.14	4.2	-6.3%	96.22
IAGPD	350	15/06/2023	5.1	Insurance	106.26	0.711	6.137%	3.434%	Floating	4.70%	Quarterly	6.655%	1.17	6/06/2018	15/06/2018	-0.23%	0.33%	0.07%	-0.15%	0.27	4.3	-5.6%	98.89
IANG	550	15/12/2019	1.6	Insurance	103.1	0.636	4.706%	2.433%	Floating	1.20%	Quarterly	5.785%	0.98	21/02/2019	15/03/2019	0.14%	0.35%	0.49%	-0.35%	0.16	1.6	-10.6%	96.68
MBLHB	400	Perpetual	-	Banks	82.35	0.072	5.953%	2.753%	Floating	1.70%	Quarterly	3.780%	0.94	22/06/2018	16/07/2018	-0.03%	-0.05%	-0.12%	-0.44%	0.25	-	-71.5%	78.50
MBLPA	429	24/03/2020	1.9	Banks	102	0.413	4.734%	2.414%	Floating	3.30%	Semi-Annual	5.390%	2.18	3/09/2018	24/09/2018	-0.39%	-0.24%	0.07%	-0.90%	0.43	1.8	-4.6%	96.20
MQGPA	600	7/06/2018	0.1	Diversified Financials	101.72	2.215	9.751%	7.808%	Floating	4.00%	Semi-Annual	5.900%	2.47	17/05/2018	7/06/2018	3.84%	7.59%	6.20%	5.36%	0.12	0.1	-9.5%	93.61
MQGPB	531	17/03/2022	3.9	Diversified Financials	104.751	0.694	6.531%	3.949%	Floating	5.15%	Semi-Annual	7.240%	2.96	27/08/2018	17/09/2018	0.34%	0.59%	0.54%	0.05%	0.46	3.3	-3.2%	96.82
SUNPE	400	17/06/2020	2.2	Insurance	100.7	0.514	5.653%	3.306%	Floating	3.40%	Quarterly	5.365%	0.94	31/05/2018	18/06/2018	-0.14%	0.93%	0.44%	0.18%	0.15	2.0	-15.5%	94.82
SUNPF	375	17/06/2022	4.2	Insurance	103.49	0.582	5.861%	3.260%	Floating	4.10%	Quarterly	6.065%	1.06	31/05/2018	18/06/2018	-0.35%	0.36%	-0.05%	-	0.20	3.4	-4.8%	96.84
SUNPG	375	17/06/2024	6.2	Insurance	101.45	0.538	6.256%	3.470%	Floating	3.65%	Quarterly	5.615%	0.98	31/05/2018	18/06/2018	-0.25%	0.35%	-	-	0.18	5.0	-4.2%	95.30

Source: BondAdviser

Relative Value Monitor

Z-Scores	
0-4 Years	
CBAPC	1.45
MQGPB	1.30
BENPE	0.87
CGFPA	0.86
NABPA	0.66
SUNPE	0.58
NABPB	0.55
BENPF	0.24
ANZPE	0.08
CBAPE	(0.09)
NABPC	(0.17)
WBCPD	(0.19)
WBCPF	(0.22)
AMPPA	(0.46)
WBCPG	(0.49)
ANZPD	(0.69)
IANG	(1.75)
MBLPA	(2.54)
4-8 Years	
ANZPG	1.10
WBCPE	1.08
BENPG	0.95
CGFPB	0.85
ANZPF	0.78
CBAPD	0.54
NABPD	0.40
CBAPF	0.16
BOQPE	0.13
ANZPH	0.11
WBCPH	(0.52)
CBAPG	(0.68)
IAGPD	(1.47)
SUNPG	(1.50)
SUNPF	(1.93)



Source: BondAdviser

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