

Executive Summary

Although largely unknown to most investors, the global high yield bond market has grown to become a material pillar of the corporate debt market in recent decades. This has resulted in a rich universe of issuers, well-diversified by geography, industry and credit quality. While the asset class originated in the US, globalisation, ultra-low interest rates and tighter worldwide prudential regulation has seen both demand and supply grow hand-in-hand across a number of countries. The global market currently stands at US\$2.2 trillion and its significant investor base helps make it a transparent and liquid asset class.

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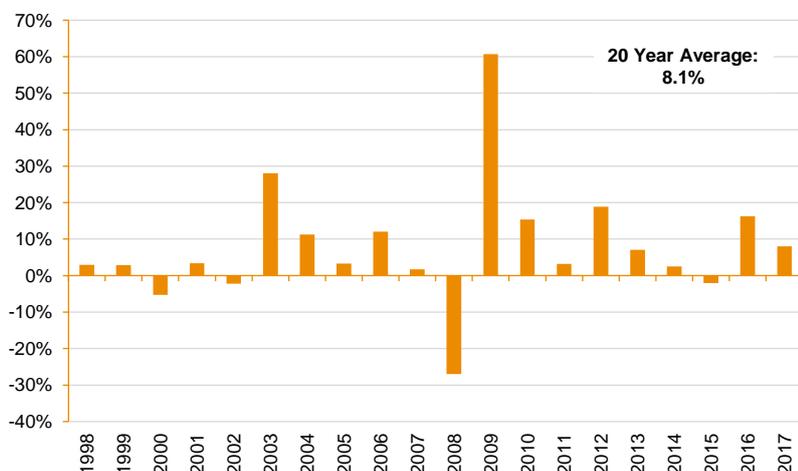
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Significant diversification benefits are a key advantage over Australian fixed income markets, especially given that ~80% of Australian corporate bonds are issued offshore. Consequently, the domestic universe is relatively concentrated in sectors such as real estate and infrastructure with only a handful of large and active issuers. Furthermore, Australian corporate credit almost entirely comprises investment-grade debt with limited scope to invest across the whole credit risk spectrum. Given the growing need for stable and reliable income, this limited opportunity set is a significant hurdle for involvement by domestic investors. This situation is arguably exclusive to Australia as a number of foreign nations already possess developed corporate bond markets across industries and credit quality, collectively contributing to the global high yield bond market. This asset class is mostly rated non-investment grade and is naturally higher risk - reflective of both issuer credit fundamentals (higher leverage) and required market returns (increased yield). However, this elevated risk can be mitigated by active portfolio management, making the risk-return profile increasingly attractive relative to other income alternatives.

Due to the limited opportunities to invest in the asset class domestically, we believe investor knowledge of the asset class, and more specifically, the global high yield market, is fairly limited. As a result, this primer is designed to be a useful reference for investors, including key terminology, an overview of the market and historical risk / return, while drawing comparisons to the Australian fixed income landscape for familiarity. Overall, the global high yield universe represents an attractive investment opportunity across different geographies and sectors, which cannot be fulfilled within the confines of Australia.

Figure 1. Historical Global High Yield Performance



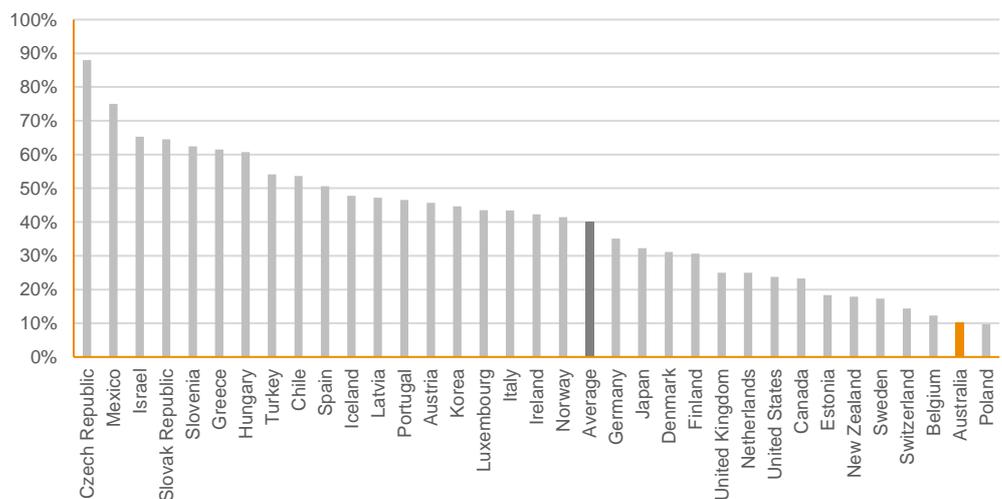
Source: BondAdviser, Bank of America Merrill Lynch (ICE BofAML Global High Yield Index)

Australian Fixed Income vs Global High Yield

According to the Bank of International Settlements (BIS), the global market for debt securities issued by non-financial corporations stood at ~US\$13.5 trillion at the end of 2017 with a rich diversity across sectors, geographies and credit quality. However, despite this deep universe, the fixed income asset class has been historically underrepresented in Australian investment portfolios relative to other developed nations.

Pension statistics compiled by the Organisation for Economic Co-operation and Development (OECD) show that Australia's superannuation system has a fixed income allocation of 27.4% - comparable to other major developed nations including the US (27.7%), United Kingdom (27.6%) and Canada (27.3%). However, it has the second lowest allocation to bonds (~10%) out of all OECD countries (Figure 2) because of a high preference to hold cash and term deposits - a feature unique only to Australia and Estonia.

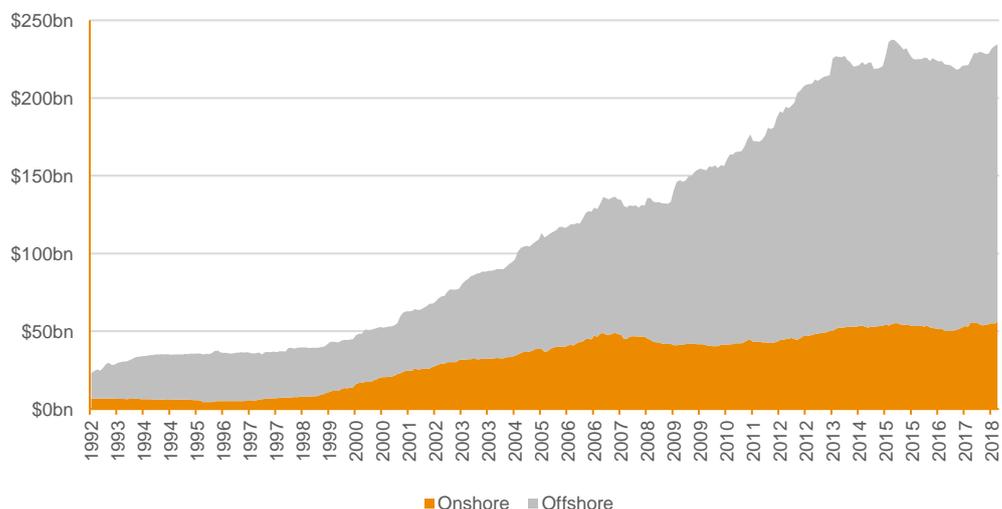
Figure 2. Asset Allocation to Bonds in Global Pension Systems in 2016



Source: BondAdviser, OECD

There are many factors that have contributed to the above phenomenon, but all mostly relate to the state of the domestic fixed income market, and, in particular, the non-financial corporate segment. While Australia has a reasonably-sized corporate bond market totalling ~\$235 billion, it is dominated by offshore issuance - largely inaccessible and unsuitable (foreign-currency bonds) for Australian investors. This leaves the domestic Australian corporate bond universe totalling ~\$56 billion, which is relatively small when compared to other domestic asset classes such as equities and property but does reflect current asset allocations.

Figure 3. Total Corporate Bonds Outstanding from Australian Issuers



Source: BondAdviser, RBA

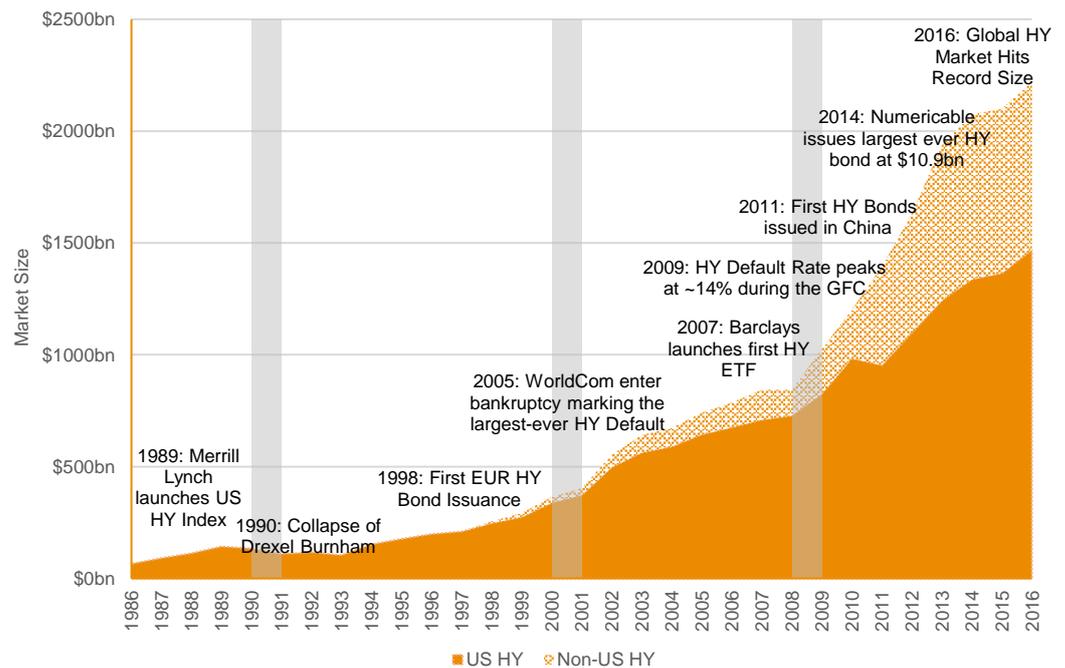
In stark contrast, the global high yield market has evolved across many regions and sectors providing end investors with significant diversification benefits. Strong economic growth, tighter banking regulation and a low interest environment setting has resulted in a vast range of issuers and investors with the global market sitting at US\$2.2 trillion at the end of 2017. Despite being unlisted, the size of the market gives it robust liquidity and transparency, with many participants proxying the asset class as a crucial indicator of financial market conditions. As a result, the high yield bond universe has become an integral component of the global financial markets. In line with general consensus and most index series, the global high yield market can be broadly defined as ‘Developed Markets’ and ‘Emerging Markets’ with the former mostly encompassing the US and Western European high yield markets.

The high yield asset class rose to prominence and largely originated out of the US throughout the 1970s and 1980s on the back of a wave of ‘fallen angel’ companies (companies downgraded from investment-grade to non-investment grade) and the significant funding requirements associated with the leveraged buyout (LBO) transaction boom. As the market grew in subsequent decades, the purposing of high yield bonds changed and became more operational rather than for distressed recapitalisation or M&A activity. In 2017, ~75% of high yield bond proceeds were used for either refinancing or general corporate purposes, reflecting the maturation of the high yield bond market.

The first signs of globalisation were seen in the mid-1990s as USD high yield bonds began to be issued by foreign companies, mostly out of Europe. A major milestone for the global universe was the first EUR-denominated high yield issuance in 1998 and since then, the European high yield market has grown to ~US\$411 billion. Interestingly, Europe holds the record for the largest-ever high yield transaction when French cable operation Numericable raised €7.9 billion (US\$10.9 billion) in 2014. Most European Union (EU) countries are classed as Developed Markets (DM), but there are several nations within the EU which are considered Emerging Markets (EM) such as the Czech Republic, Greece, Hungary, Poland, Russia and Turkey.

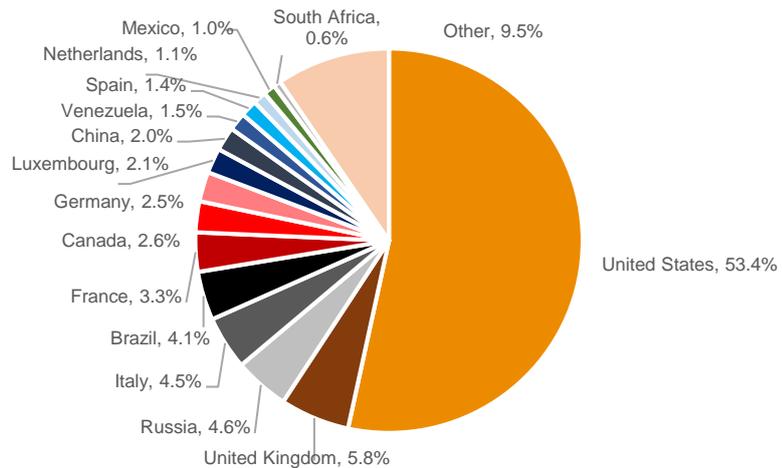
Alongside Western Europe, traditional EM nations have also become a material pillar of the global high yield market. As EM companies have grown and diversified their businesses, their funding needs and size of borrowings have evolved and led them to move from local market funding to offshore sources – this has led to EM companies issuing USD-denominated bonds, and in line with rapid economic growth, the EM universe has grown to almost ~US\$438 billion. In recent years, EM high yield debt has performed very strongly following China’s participation in high yield primary bond markets as well as the broader Asia-Pacific market.

Figure 4. Evolution of the Global High Yield Market¹



¹Shaded areas indicate recessionary periods.
Source: BondAdviser, Bank of America Merrill Lynch

Figure 5. Global High Yield Market by Country



Source: BondAdviser, Bank of America Merrill Lynch

Table 1 below outlines the key benefits and risks between Australian corporate and Global High Yield bonds. Each alternative has clear opportunities and accompanying risks when investing for income. While the Australian fixed income market has a lower risk profile, the opportunity set is relatively limited, and given the AusBond Corporate 0+ Yr Index currently offers a weighted-average yield-to-maturity of 3.14%, it is hardly a compelling investment for most portfolios. In comparison, the global high yield universe is vast and according to the ICE BofAML Global High Yield Index, the asset class exhibits a yield-to-maturity of 5.22%. There is undoubtedly higher risk for this pick-up in yield but when coupled with experienced credit research and active portfolio management, the risk-return trade-off can become increasingly attractive.

Table 1. Australian Corporate vs Global High Yield Bond Markets

Factor	Australian Corporate	Global High Yield
Market Size	A\$256 billion (\$56 billion onshore)	A\$2.9 trillion
Diversification	Lower: Large weighting to both the real estate and infrastructure debt with top 5 issuers comprising 15% of the onshore market.	Higher: Diversified across geographies, sectors and credit quality with more than 1,400 issuers.
Income	Lower: Although predominantly semi-annual fixed rate payments, yields will generally be lower due to smaller risk premia.	Higher: Larger risk premia will result in generally higher yields and are generally paid on a fixed rate semi-annual basis.
Credit Risk	Lower: Predominantly an investment-grade market heavily weighted towards Australia's largest corporations.	Higher: Non-investment grade by classification with issuers having higher leverage and/or more volatile operating environments.
Market Liquidity	Lower: A lower number of issuers and investors means there is less frequent issuance and a less active secondary market.	Higher: A higher number of issuers and investors means there is more frequent issuance and a more active secondary market.
Security Structure	Australian corporate bonds are mostly structured as a bullet term with some securities having call features.	Due to the diversity of the market, there are a number of security structures in the global high yield market including zero-coupon bonds, convertibles, PIK notes and callable/puttable bonds.

Source: BondAdviser

Back to Basics: High Yield Bonds

In its simplest form, a bond is a security which follows the same principle as a loan where the investor 'lends' capital to the borrower in exchange for interest and (eventual) principal payments. A high yield bond is a debt security that is of relatively lower credit quality or "non-investment grade" in nature. This determination of when the bond is high-yield is generally driven by two factors - the underlying credit quality of the issuer and the structural position of the bond (debt) obligation in the issuer's capital structure.

Classification

Globally, most bonds are rated by credit rating agencies which are nationally recognised by a country's government. While there are a number of these institutions, over 90% of these ratings are controlled by Standard & Poor's (S&P), Moody's and Fitch. Although each has a slightly different rating approach, they broadly follow the same ordinal ranking structure and hence classify non-investment grade bonds in a relatively similar manner (Table 2). However, it is important to note that different agencies can have different ratings of a specific issuer or security, which is known as a 'split' rating.

Table 2. Global Credit Rating Scale by Credit Rating Agency

Classification	S&P	Moody's	Fitch
Investment Grade	AAA	Aaa	AAA
	AA+	Aa1	AA+
	AA	Aa2	AA
	AA-	Aa3	AA-
	A+	A1	A+
	A	A2	A
	A-	A3	A-
	BBB+	Baa1	BBB+
	BBB	Baa2	BBB
	BBB-	Baa3	BBB-
Non-Investment Grade (High Yield)	BB+	Ba1	BB+
	BB	Ba2	BB
	BB-	Ba3	BB-
	B+	B1	B+
	B	B2	B
	B-	B3	B-
	CCC+	Caa1	CCC+
	CCC	Caa2	CCC
	CCC-	Caa3	CCC-
	CC	Ca	CC
Default	C		C
	SD	C	D
	D		DD
			DDD

Source: BondAdviser, S&P, Moody's, Fitch

Although credit ratings are the market standard for determining what constitutes a high yield bond, there is also a minority of bonds which are unrated. In this instance, the end investors will generally assign an internal 'shadow' credit rating based on the underlying principles of credit rating agencies. Large, high credit-quality companies are usually established debt issuers and are rarely unrated. For this reason, unrated debt is almost always issued by lower credit-quality companies which would be classified as non-investment grade if they had an official credit rating. Clearly, without some small comfort from having an agency credit rating, additional care is usually warranted when investing in the debt of unrated issuers.

High Yield Bond Structures

The structure of a high yield bond can be at the same time both simple and complex. The features of a particular bond will usually reflect the strategy of the underlying company and its expected future funding profile. With these considerations, a proposed bond will generally be negotiated with potential bond investors and final terms and conditions strongly governed by the bond's legal indenture / Information Memorandum.

The two main structural variations of a bond revolve around the security's coupon and term structure. While high yield bonds generally pay a fixed rate semi-annual coupon over a bullet term structure (maturity date principal repayment), there are a number of modifications at an issuer's disposal to best fit the company's strategy and these vary on a case-by-case basis.

Coupon Types

- **Fixed Rate:** Fixed rate coupons comprise the majority of the high yield bond universe and are the simplest payment structure. Over the term of the bond, the investor will receive a periodic payment based on a fixed annual interest rate. The payment frequency is generally semi-annual but can take other forms like annually, quarterly or monthly.
- **Floating Rate:** As the name suggests, floating rate instruments pay a variable coupon determined by a particular benchmark rate, such as LIBOR, plus a fixed interest spread. The coupon will be determined for each interest period (usually quarterly) and after payment, reset to the current level of the benchmark rate (plus the spread).
- **Amortising:** Most bonds are structured as interest-only debt obligations where principal is completely repaid at bond maturity. However, securities can be structured with amortising payment structures where periodic payments contain both principal and interest components. As a result, the bond will amortise over its term at a pre-defined rate and this can occur either almost completely (minimal principal repaid at maturity) or partially (a certain remaining percentage of principal is repaid at maturity).
- **Zero-Coupon:** In instances where the issuer has limited cash flow, a high yield bond may be structured as a zero-coupon security. These securities pay no cash interest and instead are issued at a significant discount to par value. Over the term, the bond value will gradually accrete in value towards its par maturity value. As a result, the return to the investor who holds the bond to maturity will equate to the capital appreciation from the initial discount to par value.
- **Payment-in-Kind (PIK):** Another option for issuers with cash flow constraints are PIK notes where the coupon is paid in the form of additional bonds rather than cash. In essence, these securities are basically repaying debt with more debt and hence, are considered to be somewhat riskier investments than normal interest-paying bonds.
- **Variable:** While the above coupon structures largely encompass most of the options available to high yield issuers, some bonds can be structured with triggers or options to switch payment types. For example, credit rating downgrades, covenant breaches or failed optional redemption may trigger a coupon-step up or switch from one payment structure to another. On the other hand, some bonds allow the issuer to choose the form of payment over the term of the bond, but this is rare.

Term Structures

- **Bullet:** The simplest structure is that of a bullet bond where the entire principal value is repaid by the borrower to the lender/investor on the maturity date with no optional early redemption date.
- **Callable/Puttable:** High yield bonds can contain both call (option of issuer) and put (option of investor) provisions that allow the security to be redeemed early. This can either occur on a pre-determined date (or set of dates) or at any time after a certain period. If the bond is called, the issuer will generally pay a premium for retiring the debt early. On the other hand, put provisions are common in the case of a 'Change of Control' event where the issuer is wholly- or partially-acquired and bondholders will usually be given the right to have their holdings redeemed at a premium to par

value. The value of a call or put provision is dependent on where the bond is currently trading. From the perspective of the investor, early redemption will generally only be valuable if the bond was acquired below the predetermined call or put price.

- **Equity Clawback:** Another early redemption option for the issuer is an Equity Clawback which partially refinances the bond from a new equity offering. This is also usually conducted at a premium to par value.
- **Convertible:** Some bonds can also be structured with an option to convert principal into the ordinary (or sometimes preferred) equity of the issuer. The conversion ratio is generally pre-determined and the option to convert can reside with either the issuer or the borrower. The decision to convert is usually confined to a specific date or multiple dates.

Covenants

As most high yield bonds are unsecured, covenants play a crucial role in investor protection and serve as a major contributor to credit analysis. Covenants are legally enforceable conditions that borrowers (the issuer) and lenders (the investors) agree upon at time of issuance. The agreement typically outlines an issuer's pledge to operate within certain limits and is defined in the security's legal documentation such as an Information Memorandum or Prospectus. If a specified limit or condition is breached by the issuer, the legal documentation also specifies cure periods and remedies available to securityholders. The bond trustee will be responsible for monitoring these covenants and may take action against the issuer on behalf of investors if a violation has occurred.

Covenants can be either affirmative or negative. Affirmative (or positive) covenants are clauses that require a borrower to perform specific actions. Examples are compliance with certain laws, maintaining assets and/or submitting certain reports beyond typical disclosure requirements. On the other hand, negative covenants are established to restrict the issuer from certain actions that would reduce its ability to service obligations of the security. These limits can be specified in the form of financial ratios which are tested on a periodic basis. The objective of these ratios generally involves capping leverage while creating floors for earnings, cash flow and overall liquidity. These are known as financial covenants. However, all covenants can be subject to various exceptions and further conditions, highlighting the importance of diligent research.

Negative covenants which require issuers to adhere to financial metric limits can be subject to maintenance or incurrence tests. Maintenance tests require the issuer to maintain compliance with a metric to avoid default. For example, a maintenance test could be a maximum gearing ratio of 50%, which if exceeded by the company, may result in default. However, using the same example, an incurrence test may only be violated if the company actively incurred additional debt to the point where gearing exceeded 50% but not perhaps if total capital declined and this caused gearing to increase.

While breach of a covenant can result in outright default, it can also trigger other conditions such as a credit rating downgrade or a step-up in the coupon rate/interest margin. Opposing this, if a certain financial metric reaches a specified threshold, it may allow the issuer to pay dividends, engage in share-buybacks, asset sales or divestments. Ultimately covenants can take many different forms and are highly specific to the security and underlying issuer.

Table 3. Common Types of Covenants and Clauses

Limitation	Examples Financial Covenant/Clause
Indebtedness	Gearing Ratio, Leverage Ratio
Liquidity	Interest Coverage Ratio
Secured Indebtedness	Secured Gearing Ratio, Negative Pledge
Asset Sales	Tangible Net Worth
Shareholder / Equity Distributions	Maximum % of NPAT or CFO
Transactions with Affiliates	Minimum Cash Balance of Borrower, Minimum % Group EBITDA of Issuer
On Being Acquired	Change of Control Event

Source: BondAdviser

Valuation Concepts

Given the array of coupon and term structures within the high yield universe, valuation can become a complex task. Generally speaking, a high yield bond can be priced to its final maturity date (yield-to-maturity) or an earlier call date (yield-to-call). However, as a rule of thumb, the yield-to-worst will be referred to unless there is a consensus expectation surrounding when the bond will actually be redeemed. The yield-to-worst (YTW) is the lower of the yield-to-call (YTC) or yield-to-maturity (YTM). Depending of which valuation is used, a spread-to-maturity (STM), spread-to-call (STC) or spread-to-worst (STW) can also be calculated.

Figure 6. Valuations of Global High Yield Segments

Segment	Global	US HY	BB	B	CCC	Euro HY	BB	B	CCC	EM HY
YTW	6.24%	6.53%	5.43%	6.71%	10.14%	3.86%	2.96%	5.54%	9.26%	7.59%
YTM	6.39%	6.68%	5.54%	6.88%	10.45%	4.16%	3.27%	5.85%	9.48%	7.58%
STW	4.06%	3.82%	2.69%	4.02%	7.50%	3.98%	3.09%	5.66%	9.37%	4.90%
Duration	4.11	4.19	4.65	3.94	3.28	4.08	4.32	3.50	3.53	3.83

Source: BondAdviser, Bank of America Merrill Lynch. As at 30 June 2018.

Overview of Credit Analysis

In simple terms, the purpose of credit analysis is to measure and assess a debt-issuing entity's ability to meet its debt obligations. Although this seems simple enough, misunderstanding this basic principle is a common misconception of some investors. Specifically, the primary objective of the analysis is to avoid deteriorating issuers rather than select high-growth companies (as prioritised in equity analysis). For example, a top equity analyst may have a 70% success rate but this would likely be a significant failure for a credit analyst where the objective is to preserve capital whilst receiving a steady stream of income. This notion is emphasised by the natural skew of credit returns where downside due to credit deterioration will normally outweigh any upside from credit improvement.

For global high yield, it is difficult to define a universal credit analysis framework but there are a number of common top-down (macroeconomic) and bottom-up (company fundamentals) factors. All of these variables will be used in the credit analysis process to determine if the company is expected to meet its obligations over the full term of a security.

Table 4. Overview of Credit Analysis

Top-Down		Bottom-Up	
Economic Level	Industry Level	Issuer Level	Security Level
<ul style="list-style-type: none"> Political Factors Business /Credit Cycle Sovereign Credit Quality Legal Framework Economic Data (Inflation, GDP etc.) 	<ul style="list-style-type: none"> Regulation Competitive Landscape M&A Trends Supply Chain Barriers to Entry Demand and Supply Technical Factors (Net Bond Supply) 	<ul style="list-style-type: none"> Earnings & Cash Flow Capital Management Credit Metrics Liquidity Management & Strategy Corporate Governance ESG Factors 	<ul style="list-style-type: none"> Valuation Relative Value Analysis Maturity Cash Flow Profile Issue Size Covenant Package Subordination

Source: BondAdviser

Global High Yield Credit

While there are many variables in high yield bond valuation, the credit risk of the security and issuer are undeniably the largest drivers of performance. There are many factors that go into the credit analysis process such as security structure, issuer credit fundamentals and top-down analysis, making it challenging to generalise over such a diverse market. However, broadly speaking, high yield bonds can be classified in one of four categories:

- **Growth:** The high yield universe will normally include issuers with significant growth ambitions either internally or externally. The former will usually relate to early-stage companies in emerging industries which have limited cash flow but high internal growth opportunities. On the other hand, external growth will usually be achieved by leveraged M&A activity and is typically undertaken by mature issuers. Either way, both growth paths usually necessitate elevated debt requirements with credit quality improving if targets are achieved. This will normally be reflective of credit rating upgrades over time as cash flow increases and leverage tapers. A 'rising star' is an issuer which is upgraded to investment-grade and thus exits the high yield universe.
- **Distressed:** Distressed issuers refer to companies which have entered a period of financial hardship or, in extreme scenarios, are nearing default. This is usually due to a significant deterioration in the underlying operating environment and can be rapid or gradual depending on the situation. This will usually result in a string of credit rating downgrades if the credit deterioration persists. We note this category also includes 'fallen angels' where investment-grade issuers transition to non-investment grade.
- **Mature:** Some business models simply utilise high levels of debt, normally in the form of significant maintenance capital expenditure and/or working capital requirements. As a result, mature issuers of this nature will normally remain non-investment grade with a relatively stable credit rating, despite having strong market positions, brand power and robust (but perhaps volatile) earnings.
- **Structural:** While a bond's credit quality is driven by the underlying issuer's credit profile, it can also be impacted by structural factors. Specifically, the issuer of the bond can be investment-grade but the security can be so subordinated in the issuer's capital structure that the obligation itself is non-investment grade. As a result, although the company is not a high yield issuer, the security is classified as a high yield bond.

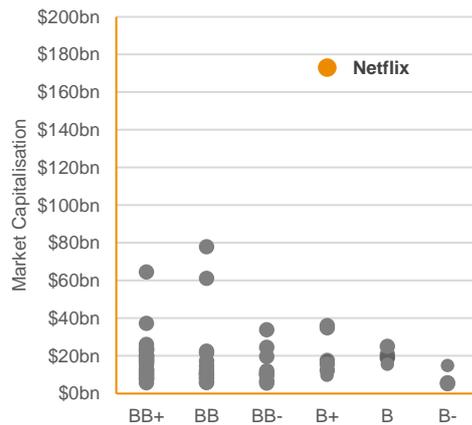
As mentioned, these categories are a generalisation but, in our opinion, best describe the types of issuers that operate in the high yield bond market. Broadly speaking, the global high yield market today is primarily comprised of companies in the mature and growth categories, with only a small proportion in the structural and distressed categories. Due to the wide diversity of the universe, we believe this categorisation can be best demonstrated by a series of case studies which can be linked to the experiences of Australian companies. Ultimately, each scenario highlights the case-by-case nature of high yield credit and the importance of active management when investing in the asset class.

Growth: Is Netflix the Next Amazon-like Rising Star?

An easy misconception with high yield credit is that issuers are naturally small and vulnerable. However, the global high yield universe actually includes some of the world's largest household names. For example, if we consider the S&P500 (500 largest companies on the New York Stock Exchange and NASDAQ), over 90% of its constituents have a public credit rating of which ~15% are non-investment grade. Surprisingly, the largest high yield issuer of the S&P is the well-known global media streaming service, Netflix.

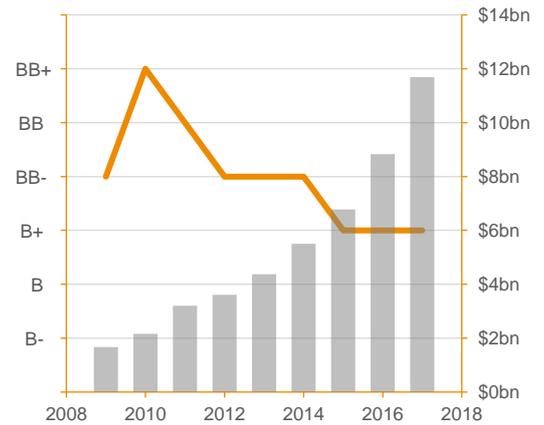
Despite the company's rapid ascent and US\$173 billion equity market capitalisation (28th highest in the index), Netflix has one of the lowest credit ratings within the S&P500 at B+. This highlights that sheer company size does not necessarily translate to improvements in credit profile. In fact, in the case of Netflix it is the exact opposite where credit quality has declined through its leveraged growth. Given the capital-intensive nature and upfront fixed costs associated with content production, if management's strategy is successful, earnings will eventually benefit from inherent operating leverage resulting in strong margin improvement. As a result, as the company matures, its credit profile should improve and it is likely that Netflix will progress toward an investment-grade credit rating over time, similar to Amazon which was non-investment grade during its first 10 years of operation.

Figure 7. S&P500 Non-Investment Grade Companies by Market Capitalisation



Source: BondAdviser, Bloomberg

Figure 8. Netflix Historical Revenue and Credit Rating Action



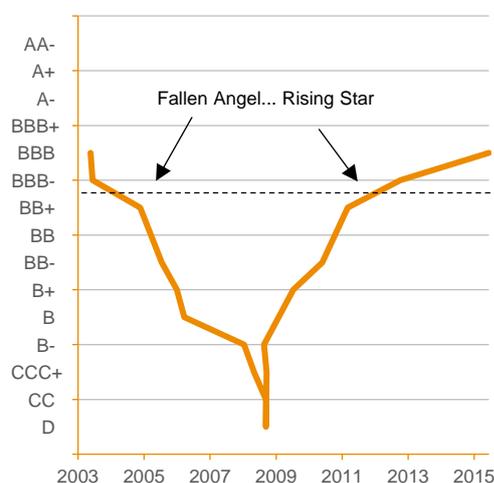
Source: BondAdviser, Bloomberg

Distressed: The Fallen Angels

There have been over 1,500 defaults in the high yield market over the past 20 years perhaps demonstrating that ongoing success in high yield investing can be arguably defined as the avoidance of deteriorating issuers. However, it is important to note that not all deteriorating companies actually reach default and if selected correctly, investors can capitalise on a credit reversal. Some of the best examples of credit quality deterioration are those of high-profile 'fallen angels', or in other words, large companies that have been downgraded from investment-grade to non-investment grade credit ratings.

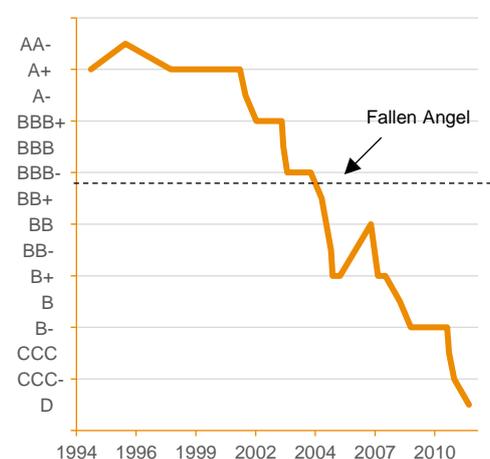
The most prominent fallen angels were Ford Motor Company and General Motors in 2005. Both automakers were downgraded to non-investment grade on the back of intense competition and high employee costs, effectively classifying US\$80 billion of bonds into high yield debt. The operating environment materially worsened in the following years and as the global financial crisis took hold, the US government was forced to bailout the two companies with a US\$80.7 billion package. Ford and General Motors subsequently recovered and were returned to investment-grade in 2012 but not all fallen angels are quite so lucky. A key theme that has driven a number of companies to extinction is rapid technological advancement. A primary example of this is the demise of Eastman Kodak, once one of the world's largest photography and imagery companies which failed to adjust to the rise of the digital camera and subsequently, the smartphone. Instead, the complacency of management and decisions to hang onto its once-strong core film business rendered the company defunct. In an almost picture-perfect example of corporate decline, the credit deterioration of the company all the way to default was gradual and progressed over ~25 years.

Figure 9. Ford Motors Credit Rating History



Source: BondAdviser, Bloomberg

Figure 10. Eastman Kodak Credit Rating History



Source: BondAdviser, Bloomberg

Mature: Long-Term High Yielders

Credit is cyclical and company fundamentals will generally fluctuate with the credit cycle, especially where a company operates in an industry tied to the business cycle. This will naturally result in net credit improvements in accommodative economic conditions and net credit deterioration in stressed times. While this means that most credit ratings will shift at some point in time, the operating environments of some issuers can restrict credit quality improvement. This does not necessarily mean that these companies are being poorly managed, but rather are more vulnerable to external shocks. The fundamental reasons behind why these companies remain non-investment grade varies but can include volatile (or cyclical) demand, high working capital requirements or a historical prioritisation of shareholder returns.

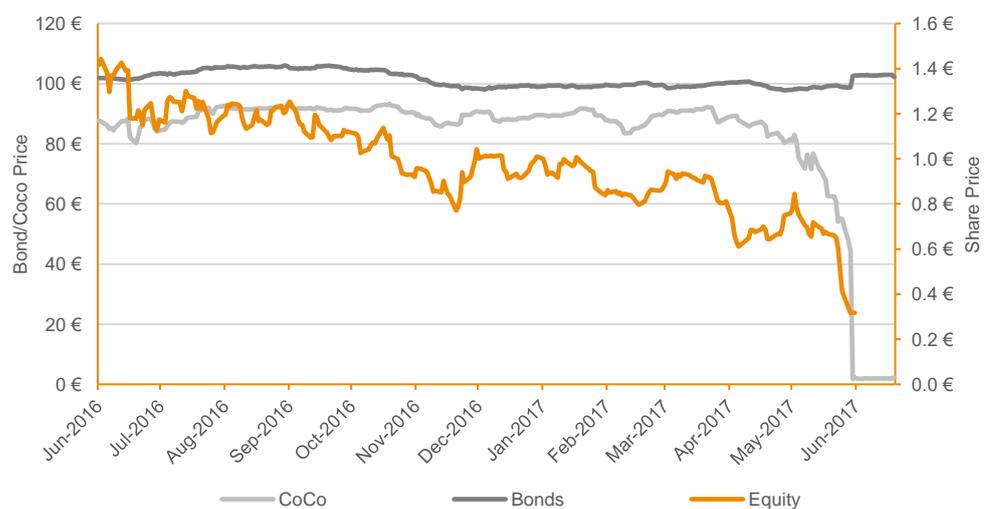
Companies of this type include the tyre-maker Goodyear Tire and Rubber Company which has been non-investment grade for over two decades and car rental company, The Hertz Corporation - rated in the B section of the rating scale since it was first assigned a credit rating in 2009. It is not certain that these credit ratings will change substantially given that these companies have been rated non-investment grade for an extended period of time and this is underpinned by their strong linkage to wider economic ebbs and flows.

Structural: High Yield Banks, Not All Are Equal

As noted, high yield bonds are debt securities which are rated non-investment grade. Interestingly, this covers both corporates and financial issuers such as banks. Due to their highly-regulated nature, banks have complex capital structures layered with different levels of subordinated capital in line with evolving global requirements (the Basel Committee standards). This means that while the overall entity may be deemed investment-grade, some of its subordinated debt obligations may be considered high yield instruments. In this case, credit quality is a structural feature and is common in the global banking sector.

This risk-return tradeoff of seniority was best evidenced in 2017 with the demise of Spanish bank, Banco Popular. After the European Central Bank (ECB) deemed Banco Popular was “failing or likely to fail”, the Single Resolution Board (the European authority for dealing with failing banks) swiftly cancelled all existing shares and Tier 1 capital instruments (known as contingent convertibles or “CoCos”) while converting Tier 2 securities into equity in an unprecedented move. The outcome was a rally in Banco Popular’s senior bonds and its remaining equity (Tier 2 instruments) being sold to Santander for just €1. While the bank experienced a number of credit rating downgrades during its credit deterioration, there was as great as a 4-notch rating difference between the credit rating of the senior bonds and the subordinated Tier 1 instruments. This demonstrates the structural implications for credit investment, which proved to be correct as the bank failed (Figure 11).

Figure 11. Banco Popular Performance by Instrument



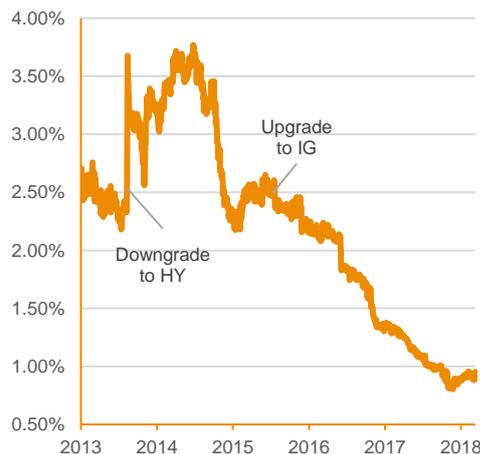
Source: BondAdviser, Bloomberg

Australian High Yield Perspective

While we have described high yield credit with a number of global issuers, it is important to note that Australian companies have experienced similar circumstances.

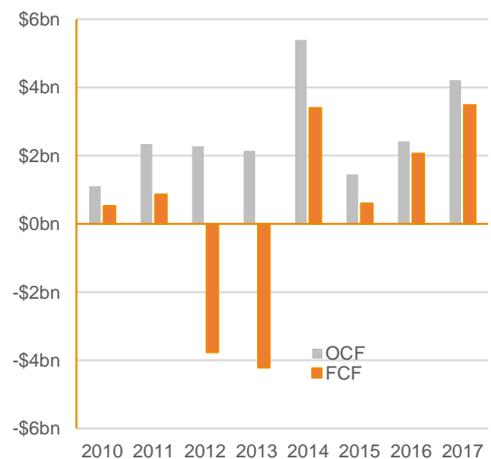
- In 2013, Qantas Airways became a fallen angel when S&P downgraded the airline to non-investment grade on the back of intense competition and rising operating costs. At the time, management was even negotiating a bailout from the Australian government, but this did not eventuate. Following a restructure in 2014 (helped by lower fuel prices), a significant turnaround occurred and Qantas returned to investment-grade in 2015. However, for almost 2 years, the airline was effectively a high yield issuer.
- Another major Australian company which has been classified as high yield since it was first assigned a credit rating is Fortescue Metals. Given the volatile nature of its business model (an iron ore miner exporting most of its product to China), Fortescue would be categorised in the mature segment but we note management's recent efforts to slash debt aggressively is very positive for credit investors and actually sees the company edging towards investment-grade status.
- Although technology is not a dominant industry within the Australian economy, there have been a number of emerging companies in this space in recent years. The data centre operator NEXTDC has become an active issuer in the domestic unrated debt market. The group's first bond was issued in 2014 and has been followed with three subsequent issuances including the largest-ever high yield / unrated debt transaction which raised \$300 million in 2017. Although unrated, the company has shown a positive credit rating migration and if the growth trajectory is sustained, it may progress towards investment grade credit quality over time.
- Lastly, in terms of structural high yield, we would note that the Australian banking system is one of the strongest in the world. However, Tier 1 instruments issued by Australian banks are classified as non-investment grade under S&P's credit rating methodology, despite each of these institutions possessing an investment-grade credit rating. Interestingly, this includes Tier 1 instruments issued by the major banks (rated BB+) which have an issuer rating of AA-, demonstrating the significant divergence of credit quality that can occur with (structural) subordination.

Figure 12. Qantas 2020 Bond Credit Spread



Source: BondAdviser, Bloomberg

Figure 13. Fortescue Historical Cash Flow



Source: BondAdviser, Bloomberg

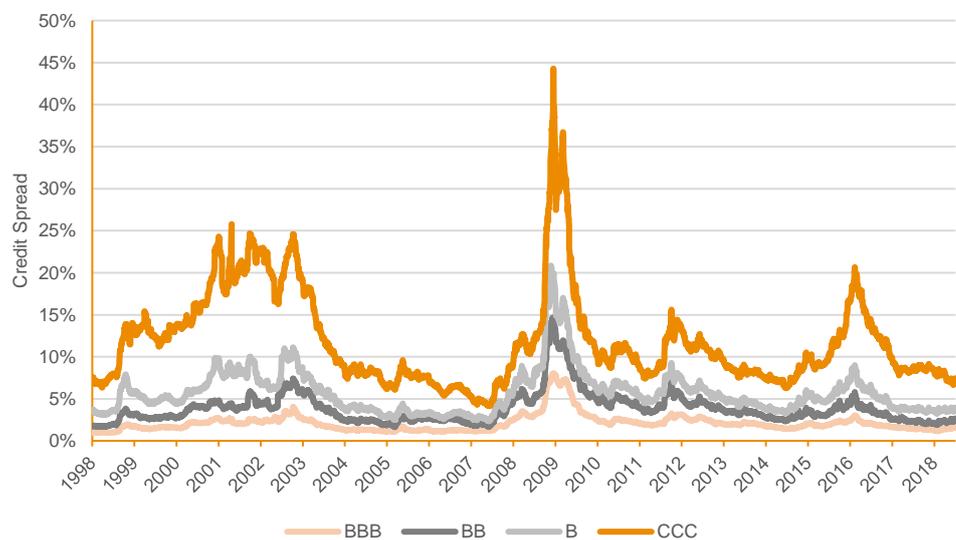
Global High Yield Risk & Return

To consider investment in the global high yield universe, it is important to acknowledge where the asset class fits on the overall risk spectrum. Specifically, while global high yield is considered one of the more riskier segments of the broader fixed income market, it can offer higher yield and total returns at lower volatility if assets are well managed.

Understanding High Yield Credit Risk

The key driver of high yield bond performance is the underlying credit risk. This refers to the probability of an issuer defaulting on a scheduled payment of interest or principal. While there are many factors that underpin the credit risk of a bond and its underlying issuer, the market-implied credit spread is a good starting point. This captures the required compensation for an investor to hold a particular bond. As Figure 14 illustrates, there is a strong historical relationship between credit ratings and credit spreads.

Figure 14. US Credit Spreads by Credit Quality



Source: BondAdviser, Bank of America Merrill Lynch

Figure 14 also demonstrates that risk premia (by credit rating) will widen as economic conditions deteriorate (higher quality credit outperforms) and narrows as economic conditions improve (poorer quality credit outperforms). This further highlights that credit risk is non-linear or, in other words, the increased credit risk moving from B to CCC is higher than the increased credit risk from moving from BBB to BB.

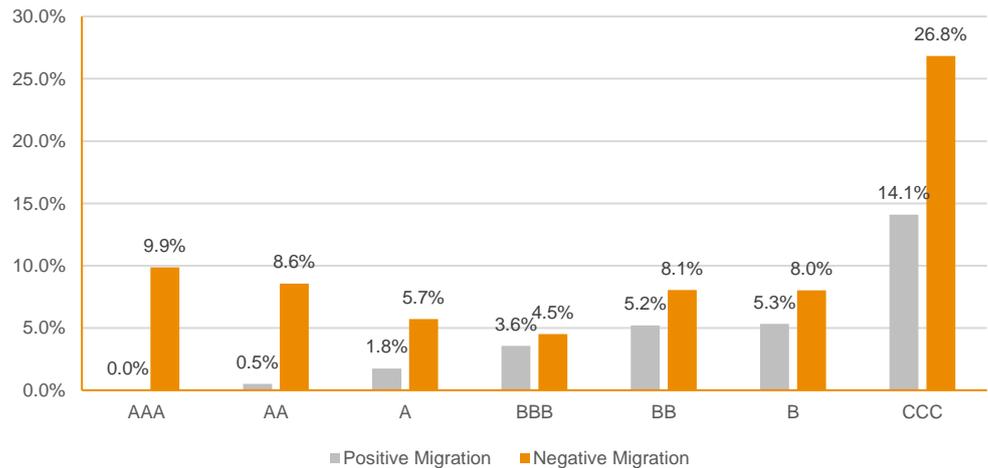
Table 5. US Annual Corporate Credit Returns by Credit Quality

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
BBB	7.1%	-0.8%	7.5%	10.5%	7.1%	11.5%	6.2%	1.0%	4.6%	4.4%
BB	6.6%	2.0%	2.2%	11.1%	-3.2%	19.4%	9.3%	3.1%	9.9%	2.2%
B	1.8%	3.1%	-7.7%	0.9%	0.9%	26.0%	10.4%	3.7%	11.4%	3.1%
CCC	-6.3%	1.5%	-17.4%	-0.9%	-6.2%	61.0%	15.8%	-0.5%	18.6%	0.4%
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
BBB	-11.1%	31.4%	10.9%	8.1%	12.0%	-1.0%	7.7%	-2.2%	8.1%	7.4%
BB	-19.2%	45.2%	14.9%	6.1%	14.4%	5.2%	5.3%	-1.0%	13.2%	7.2%
B	-28.0%	47.6%	14.0%	4.6%	15.0%	7.5%	1.3%	-5.0%	16.9%	6.8%
CCC	-38.3%	96.8%	18.4%	-1.4%	20.3%	13.0%	-2.6%	-15.0%	36.5%	10.6%

Source: BondAdviser, Bank of America Merrill Lynch

With the broader credit cycle always in mind, the key to credit investing is to select securities which are expected to experience credit improvements (positive credit migration) while avoiding securities expected to experience credit deterioration (negative credit migration). While this is easier said than done, the latter is more important due to the natural skew of credit returns. In other words, the probability of negative credit migration tends to be greater than positive credit migration with the price impact of a downgrade being more significant than the price impact of an upgrade due to the skew in risk (i.e. greater risk differential migrating B to CCC than migrating from B to BB). This is best illustrated by Figure 15 which shows the average probability of migration for any given credit rating over 1-year, demonstrating the importance of active portfolio and security management to avoid adverse movements.

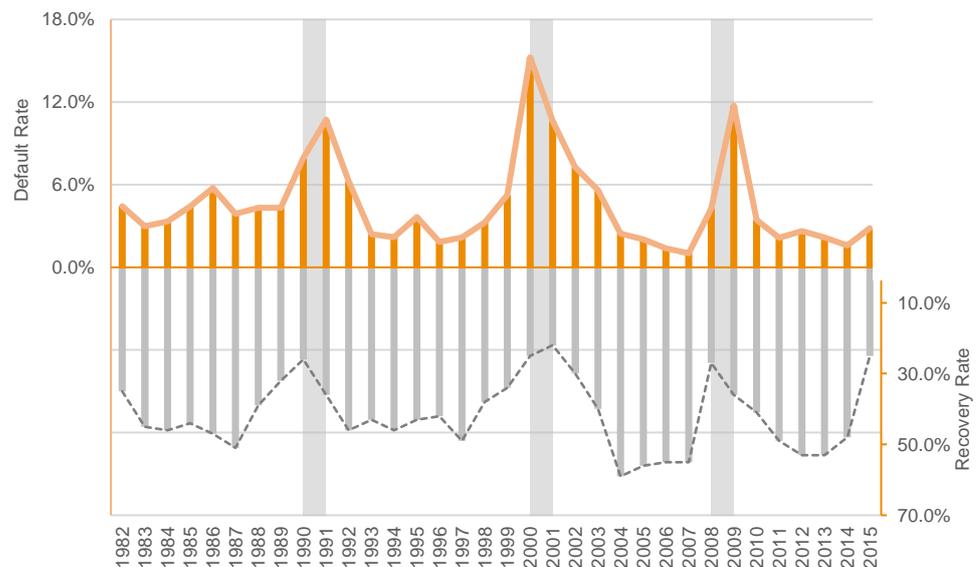
Figure 15. Global 1-Year Probability of Credit Rating Migration



Source: BondAdviser, S&P Global Default Study 2017.

Credit migration risk can be managed but uncertainties can occur if a security enters default unexpectedly, as it then may become a legal matter with any number of parties involved and prolonged outcomes likely. This is a worst-case scenario for any investor as the probability of receiving scheduled income will decline materially and high yield bond recovery rates typically fall as default rates rise, which is usually correlated with recessionary periods (Figure 16). However, if default scenarios are avoided, the subsequent deployment of capital has exhibited some of the strongest market returns. As a result, managers who avoid securities with credit deterioration and limit defaults can then participate in this material upside.

Figure 16. US High Yield Default Rates and Recovery Rates



Source: BondAdviser, S&P Global Default Study 2017, Moody's

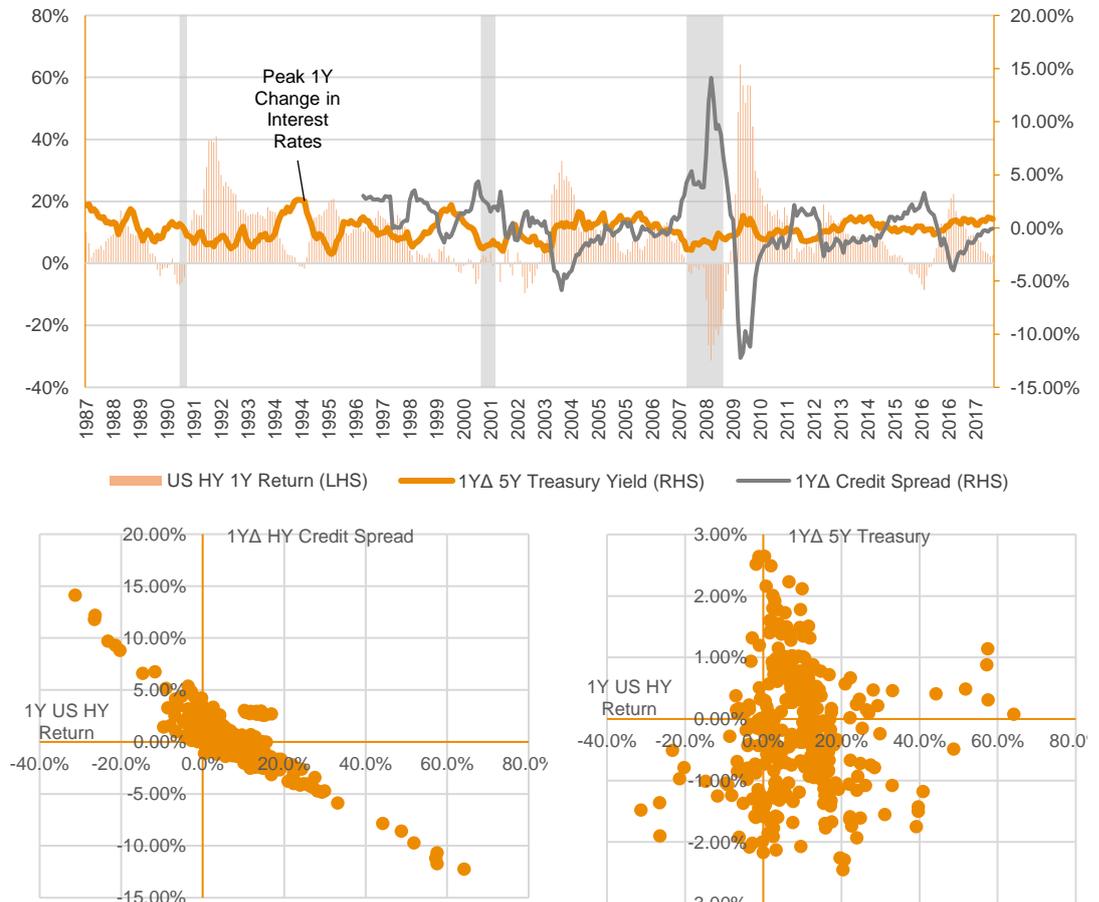
Understanding High Yield Interest Rate Risk

As the majority of high yield bonds are fixed rate instruments, they are naturally subject to interest rate risk. This refers to a specific security's sensitivity to movements in interest rates - an inverse relationship captured by the 'duration' of the security. A bond's duration measurement is fairly complex, but, generally speaking, the duration of a bond (sensitivity to interest rates) increases as its maturity increases and decreases as its coupon rate declines.

Historically, high yield bonds have exhibited a duration of between 3 – 5 years and hence, should be most sensitive to interest rates over this term. However, opposing this is an inverse relationship with credit spreads. Specifically, credit spreads will typically compress (improving company fundamentals) and interest rates will rise (inflation and growth expectations increasing) in improving economic conditions while the opposite will occur in deteriorating economic conditions. As credit risk is the larger driver of performance (especially given changes are more volatile and of greater impact), any movements in credit spreads will theoretically offset any price impact due to shift interest rates, all else being equal.

If we consider the US high yield market (the segment of the global high yield market with the longest history), there have been 6 years where the asset class has recorded a loss over 30 years. While most of these periods have been during stressed economic periods with rising credit spreads and default rates, there is an outlier (1994). The market loss of 1994 is the smallest out of 6 losses at 1.0% and was largely driven by rising interest rates. However, its worth noting that 1994 marked the largest-ever 1-year change in the 5-year Treasury yield over the 30-year return history moving from ~4.8% to ~7.8% over the period. This demonstrates the magnitude of interest rate changes that are required to result in a material detraction in portfolio performance. In comparison, there is a much stronger relationship between high yield returns and credit spreads (albeit over 20 years rather than 30 years), with the theoretical relationship between interest rates and credit spreads (i.e. offsetting each other) holding reasonably (20-year negative correlation of 0.45).

Figure 17. 1Y Rolling US High Yield Returns: Interest Rates v Credit Spreads



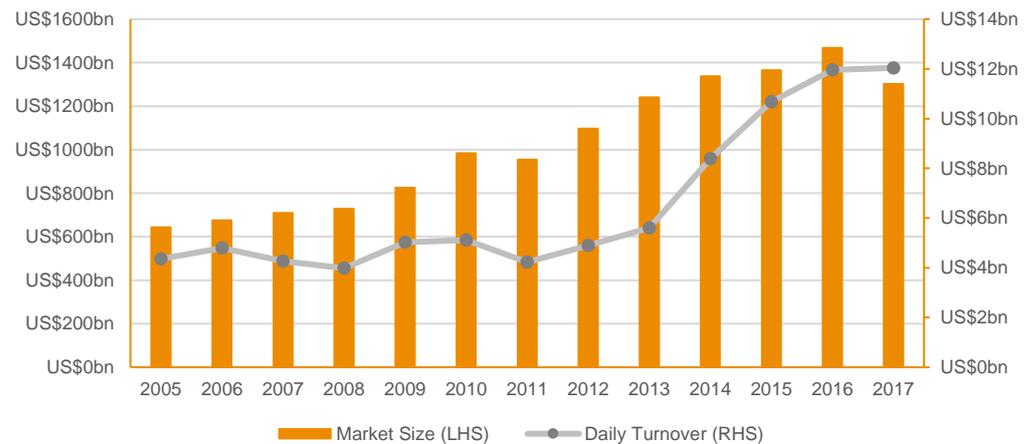
Source: BondAdviser, Bank of America Merrill Lynch, Federal Reserve

Understanding High Yield Liquidity Risk

Liquidity risk refers to the risk of marketability, or in other words, the efficiency of buying or selling. If there is a drain of liquidity in a certain security or broader market, there is the possibility that an end investor may be caught with an unwanted risk exposure for an extended period of time. Due to the infrequency of transactions, lower liquidity will usually result in wider bid-ask spreads and hence, more volatile price movements.

Liquidity is largely a function of confidence and as a result, high yield trading volume has grown hand-in-hand with the size of the market. However, it is cyclical and will usually decline in periods of systemic stress. To avoid illiquid situations, a number of strategies can be applied such as avoiding small issuers and limiting position sizes to a certain proportion of a specific security's issue amount or a proportion to an individual issuer's total marketable debt.

Figure 18. US High Yield Daily Turnover and Market Size

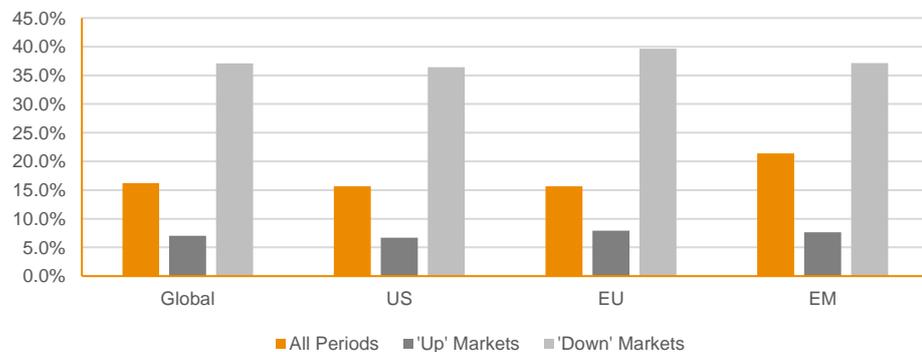


Source: BondAdviser, Bank of America Merrill Lynch, SIFMA

Historical Performance

An instructive exercise in examining the historical performance of the global high yield asset class is to examine annualized volatility of returns in two parts; periods of positive market performance and those of negative market performance. In the latter, we see return volatility behaviour similar to equities in stressed market environments. In other periods, volatility declines materially and the asset class will perform to similar high-beta fixed income instruments elsewhere. This is illustrated in Figure 19 below where, after removing major economic crises, return volatility declines materially - reflecting the skewed nature of credit returns, particularly so for high yield. This highlights that the global high yield asset class should not be treated as a passive investment, rather an active one where if strategies are successful, the risk-return profile can improve substantially.

Figure 19. HY Return Volatility with and without Crises



Source: BondAdviser, Bank of America Merrill Lynch, data covers 1997-2017 with 2002-03 & 2008-09 "Crisis Periods".

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