

OLD LESSONS RE-LEARNED FOR INCOME INVESTORS

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The lesson of 2008 was that “income isn’t income” – that is, not all fixed income strategies proved to be defensive, liquid and diversified. Nor were all strategies able to deliver consistent income and protect on the downside. Unfortunately, the lessons learned during this most recent period of fixed income market stress are not new. This research paper revisits where some fixed income investors went wrong, and then provides insights to assist in evaluating the risks in fixed income. Finally, it shows how to construct genuinely defensive portfolios that focus on delivering the hallmarks of quality fixed income strategies - capital preservation, consistent income, diversification and maintaining sufficient liquidity - and demonstrates where the opportunities lie for investors going forward.

UNDERSTANDING THE PRINCIPLES OF FIXED INCOME INVESTING

Investing in fixed income is about correctly valuing risk by applying some key principles. These include managing the likelihood of default of a security, understanding liquidity and appropriate diversification. It is these factors that reinforce the importance of value and quality and emphasise the need for disciplined risk measures when managing a fixed income portfolio.

Debt securities are characterised by an asymmetric risk/return profile

In other words, the risks are skewed negatively to the downside. All the cash-flow payments and the principal on the security are promised and priced into the value of the security. This means that the potential upside to a credit investor is known from day one and as such is limited. The committed capital is often comparatively larger than the potential return to the investor.

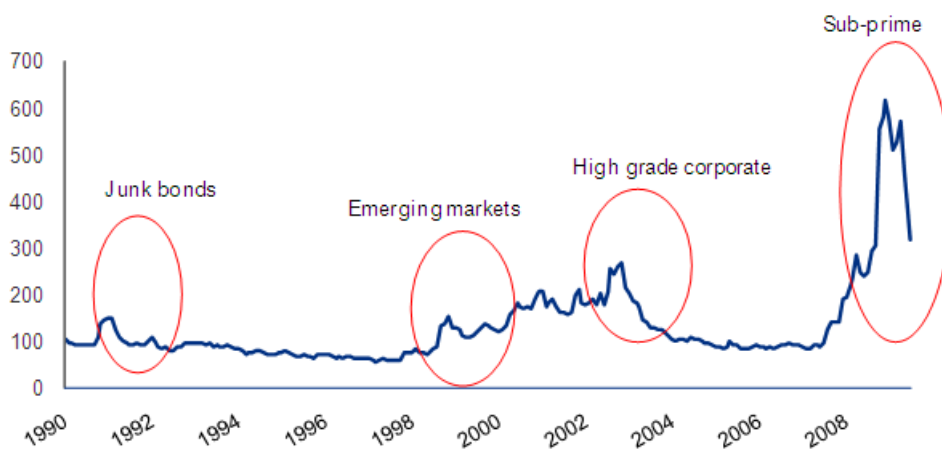
The likelihood of default is the key risk

The likelihood of default should be the main driver behind any credit investment strategy. This highlights the importance of diversification. In order to minimise the impact of a default within a portfolio, concentration risk should be monitored and actively managed. This will ensure that potential credit losses are limited, measured and addressed early. It also means that when risk is appropriately priced, the credit spread should compensate you for default risk in a well diversified portfolio.

Like all markets, credit markets move in cycles

Figure 1 shows US investment grade credit spreads from January 1990 to June 2009 and highlights the cyclical nature of credit while showing some of the earlier credit crises witnessed such as the savings and loans crisis of the late 1980s, Russian bond crisis of 1998, and the Worldcom/Enron scandals of 2001/2002.

Figure 1: Credit market cycles – Investment grade credit spreads (1 Jan 1990 – 31 July 2009)



Source: Bloomberg, Perpetual – 31 July 2009

When it comes to investing in debt securities, investors can be lulled into a false sense of security during periods of low interest rates and defaults, such as the period 2003 to 2007. A contraction of credit spreads can continue to the point where investors are no longer being compensated for the risks they are undertaking. Being aware of these cyclical events and knowing how to properly identify value and quality through the cycle can limit potential credit losses regardless of the severity of the downturn. It is extremely important to always select securities that offer value (adequate return) for a given level of risk. However limiting the strategy to just chasing adequate returns can be dangerous. The selection of securities should also focus on minimising risk. Therefore a portfolio should comprise of quality securities to ensure that defaults within the portfolio are kept to a minimum.

Liquidity is critical

The evaporation of liquidity in credit markets has come about due to the market overestimating the liquidity risk of securities across the risk spectrum. This has had disastrous consequences and affected pricing by pushing the liquidity risk premium (or credit spread) of securities too high¹. Understanding the importance of liquidity as an asset class rather than idle capital helps to limit any

¹ Paul De Grauwe, 'The hard task of pricing liquidity risk', www.rgemonitor.com, 17/12/07

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excessive risk taking, allowing investors to remove market risk at certain points in the credit cycle and ensuring they are not forced to cash out at the worst possible time.

Only invest in debt structures you understand

Securities that lack transparency can provide higher yields. However without completely understanding the nature of the securities, it is impossible to correctly assess whether they adequately compensate for the risks involved. In any free market environment there is no such thing as a free lunch. The credit market is no exception. An inferior debt instrument will eventually be efficiently priced to reflect the higher level of risk (uncertainty).

APPLYING THESE PRINCIPLES

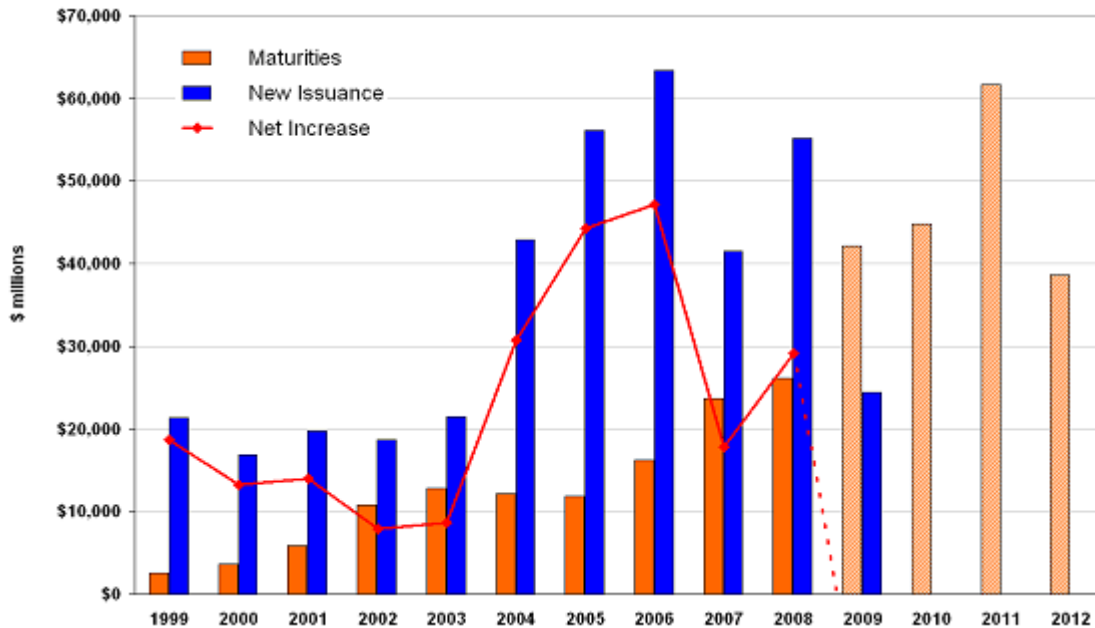
A common theme across all the principles of credit investing is the importance of correctly identifying and valuing risk. Risk management should be an integral part of the fixed income investment process.

Market and fundamental risks

Changes in the external environment, such as a fundamental shift in market conditions, can cause issuers to struggle to meet their obligations. During periods of economic prosperity, financially weak firms survive and even prosper. Therefore, significant importance must be placed on assessing the larger macro economic conditions.

Equally important are credit market factors. These relate to the current and forecasted supply and demand of securities. Figure 2 below outlines both the issuance and maturity profile of Australian corporate bonds, while forecasting the expected maturities over coming years (apricot colour). This can have an impact on the availability of liquidity in the market. An increase in demand (large volume of maturing debt or improving investor appetite) will cause credit to perform strongly whereas an influx of supply (heavy issuance in the primary market or a market sell off) will have an adverse effect.

Figure 2 – Australian corporate bond market calendar year issuance and maturities



Source: nabCapital – 31 July 2009

Security-related risks

Security-related risks require a closer examination of the main market segments. These include:

- ratings band – the credit rating of a particular security;
- maturity spectrum – the timeframe of a particular security;
- industry – the specific industry related to the security issuer; and,
- seniority – the position the security sits in the capital structure of the issuer (for example, senior, subordinated or hybrid debt).

Over time, the pricing on these segments can fluctuate due to shifts in demand and supply and general market sentiment. Analysing these segments based on their outlook and relative value ensures that the portfolio can avoid the risk of over paying and also limit exposure to sections of the market that no longer provide compelling value.

As a theoretical example, Figure 3 below provides detail on how scoring preferred short, mid and long-term maturity exposures across varying Australian credit securities and their rating bands may assist in selecting the most appropriate section of the market to be investing. In this scenario, the most appropriate selection can score a positive (green) '2' and the least attractive, a negative (red) '2', with indifferent opportunities scoring a '0'. Scoring is derived by looking at detail such as value, outlook, demand and supply and market technicals.

Figure 3: Example ratings band and maturity spectrum – 30 June 2009

Ratings band	Score		
	Short end	Mid curve	Long end
AUS Investment grade 'AAA'	1	1	1
AUS Investment grade 'AA'	1	1	0
AUS Investment grade 'A'	1	0	-1
AUS Investment grade 'BBB'	2	1	-1

Source: Perpetual

The same can be said for a particular sector or industry. Overpaying across any of these segments may expose the portfolio to potential losses. In Figure 4 the same scoring technique has been applied to industry sub sectors, showing a theoretical example of sectors offering the most potential (green '2') through to those looking less attractive across the key areas of value, outlook and demand and supply (red '2').

Figure 4: Example industry sub-sector rankings – 30 June 2009

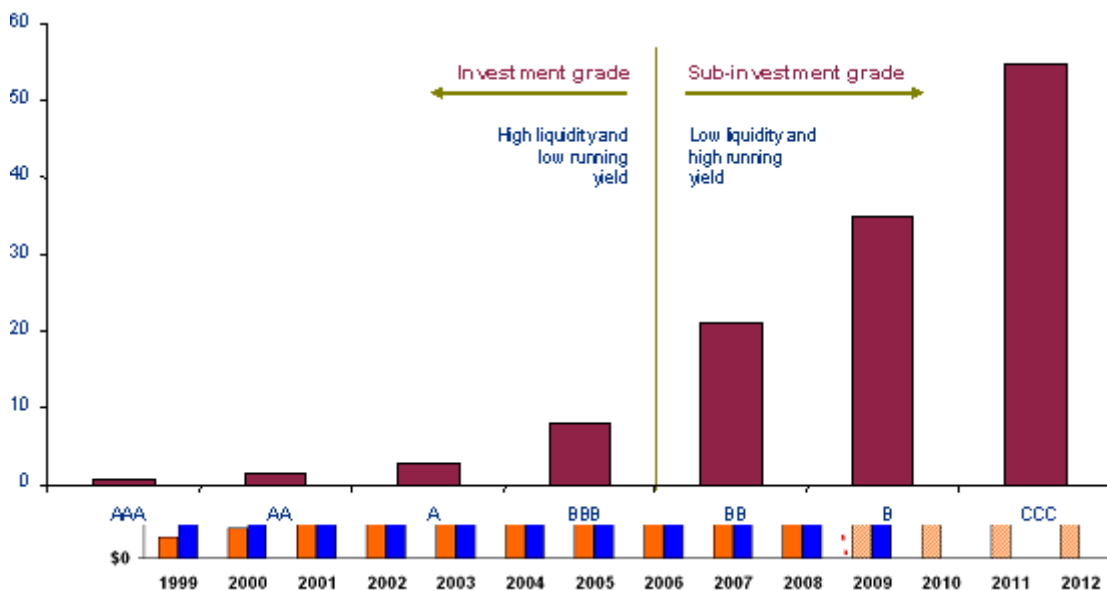
Industry ranking score			
Positive		Negative	
2	1	-1	-2
Banks	ABS	Utilities	Agencies
RMBS Prime	RMBS Other	O/S Banks	Wrapped
	Supras	Bank Sub	RMBS Low Doc
	Bank Guaranteed	Property Trusts	Financials
	Corporates	Telcos	
	RMBS Sub	Cash	
		CMBS	

Source: Perpetual

Credit risk

Credit risk is the risk a borrower will fail to repay the principal or meet their required interest payments. That is why a rigorous selection process is required when screening issuers. Figure 5 below shows the cumulative average default rates of Standard and Poor's rated corporate obligations from 1981 to 2006, and highlights that moving down the credit rating spectrum generally means taking on additional credit risk.

Figure 5: 15-year cumulative average default rates (%) – 1981 to 2006



Source: Standard & Poor's – January 2007. Rated corporate obligations

Credit risk can also be viewed on an aggregate portfolio level. In order to avoid compromising the credit quality of a portfolio, it is important to implement a variety of objective risk measures in order to monitor the portfolio and avoid taking unnecessary risks. Conventional measures include:

- **Credit scoring** – this measure assigns a score to different credit ratings and generates an average score across the entire portfolio. From the score, an average credit rating for the entire portfolio can be calculated. Standard and Poor's has a Bond Fund Ratings system that scores individual securities based on credit rating as well as an overall portfolio score².
- **Credit duration** – this metric indicates the sensitivity of a portfolio to a widening of credit spreads. Having a lower (higher) duration, or shorter average maturity profile, means your portfolio is more (less) defensive.
- **Composition analysis** – this measures a portfolio's exposure to certain market segments or specific industry sectors, and can be used to ensure that there is adequate diversification and that correlation levels in a default scenario are kept as low as possible.

Duration risk

Duration risk gauges the sensitivity of a portfolio to movements in interest rates. Depending on a portfolio manager's view, a long duration exposure will benefit from a fall in interest rates and be

² [www.standardandpoors.com/Ratings/Fund credit ratings](http://www.standardandpoors.com/Ratings/Fund%20credit%20ratings)

adversely from a rise. As an example, the UBSA Composite Bond Index measures the sum of the market value weighted return of Australian issued government, semi-government, corporate and asset-backed bonds. As at 30 June 2009, it had a duration benchmark of 3.2 years. The UBSA Bank Bill Index, which measures the cumulative return of Australian short-term money market rates, had a duration benchmark as at 30 June 2009 of 0.12 years. These two benchmarks are therefore a key in understanding the duration risk of a given portfolio.

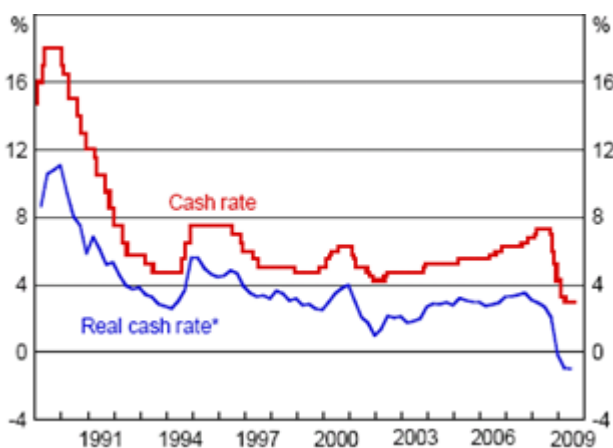
PORTFOLIO CONSTRUCTION

How should the defensive part of portfolios be built going forward? Should they remain cash; in fixed interest rate securities via bond funds, or a blend of cash, fixed interest rate (bond funds) and floating interest rate (credit funds) options as sources of potential return and risk reduction? As a strategic allocation for a defensive portfolio, there is a case for the later.

Cash

Cash is the most reliable of investments and one that is best utilised to provide for any short term funding requirements. It is somewhat diversifying for a portfolio, though the low returns do limit its ability to offset poor returns, particularly in an environment where inflation causes negative real cash returns. Figure 6 shows a negative real cash return from early 2009.

Figure 6: Australian cash rate (monthly) – 31 July 2009

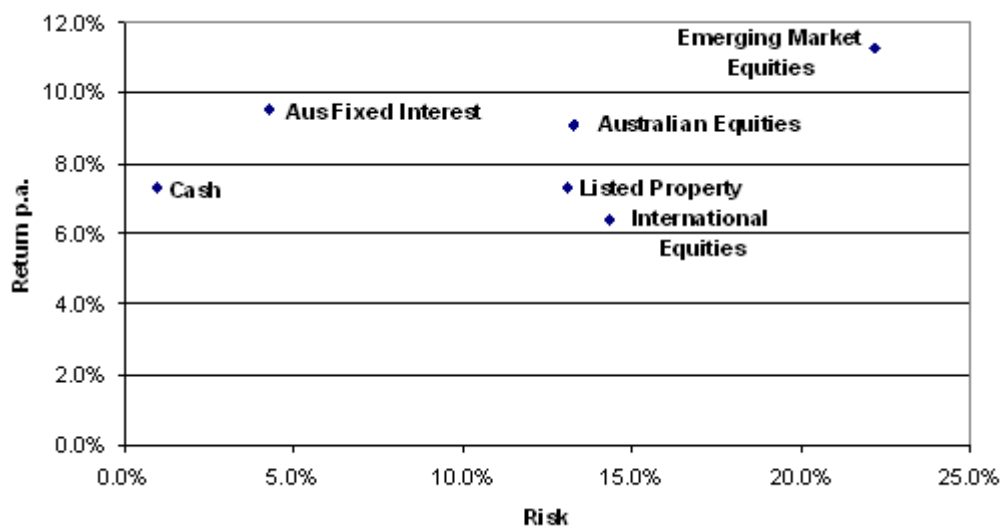


Source: ABS, RBA. * Real cash rate calculated using quarterly weighted-median inflation rate

Fixed interest rate risk

Fixed interest rate risk should be included in a defensive portfolio for its diversification benefits and income focus. Historically, bonds have returned more than cash investments, and exhibited less volatility than equities (Figure 7).

Figure 7: Risk and return – 20 years to 31 December 2008



Source: Datastream, Perpetual – March 2009

In addition, the return on bonds has often offset the negative return on equities during periods of market downturn. Figure 8 shows the results of analysing the average monthly return for key asset classes (as measured by their key index) during the worst 20% of months for the Australian equity market over the 10 years to 31 December 2008. It highlights the fact both cash and fixed income play an important role for investors during periods of market stress.

Figure 8: Worst 20% of months for Australian equity market - 10 years to 31 December 2008

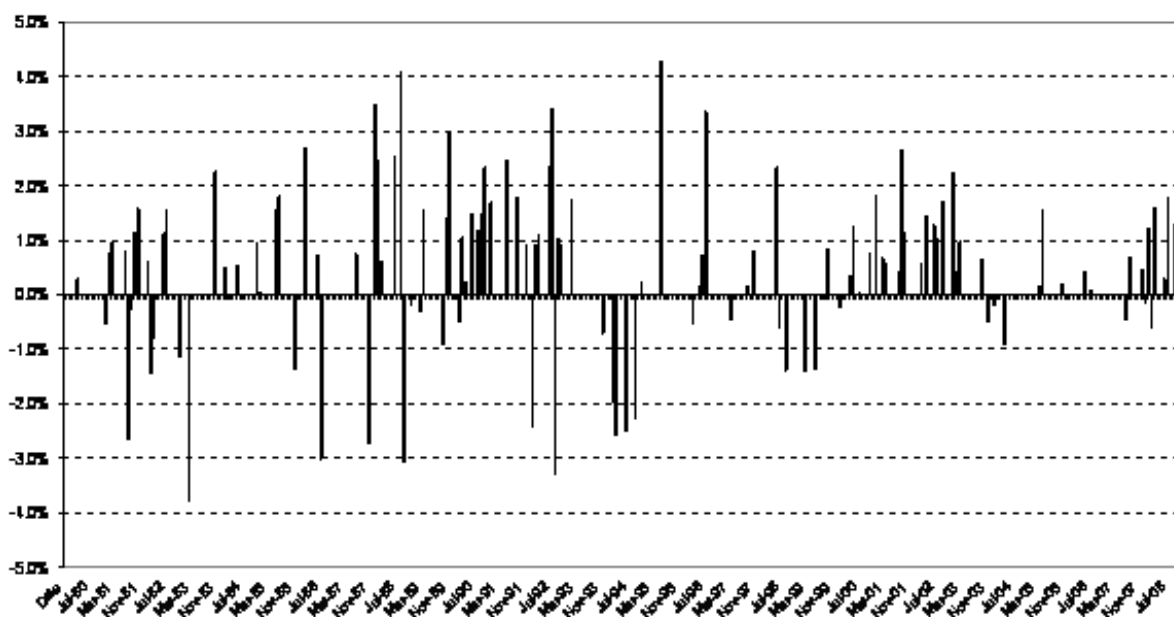
Asset class	Avg Monthly Return
Australian equities	-5.0%
Global equities (local currency)	-4.9%
Australian listed property	-3.3%
Global listed property (local currency)	-4.8%
Global small caps (local currency)	-4.4%
Emerging market equities (local currency)	-5.5%
Australian Fixed Interest	+0.9%
Cash	+0.5%

Source: Datastream, Mercer, IRESS, Perpetual – March 2009

Both yield and inflation movements will affect returns and bond portfolios are often benchmarked to the UBSA Composite Bond Index. Figure 9 below shows that from 1 January 1980 to 31 December 2008, Australian bonds (measured by the UBSA Composite Bond Index) provided a positive return in

69% of down months for Australian Equities (measured by the S&P/ASX 300 Accumulation Index)³. In months where Australian equities were down by 5% or more (as opposed to just negative) over the period, Australian bonds provided approximately double the return of cash (1.2%p.a. vs 0.6%p.a.)⁴.

Figure 9: Australian bond performance in down months for Australian equities



Source: Perpetual, Datastream – March 2009

Floating interest rate risk

Floating interest rate risk should also be included in a fixed interest portfolio, primarily as a return driver from the return premium, or credit spread, over a benchmark rate (that is, bank bill swap rate or BBSW in Australia) for accepting credit risk. The return is usually re-set every 90 days therefore the other key attribute of floating rate securities is the opportunity to reduce the duration risk exposure of a defensive portfolio. Unlike fixed rate securities, as interest rates rise, returns of the floating rate security will also rise.

It is important to understand the level of credit risk involved in a portfolio, as varying strategies may have a focus on different levels of credit risk. Examples include an investment grade portfolio, high yield portfolio, or hybrid portfolio. A portfolio focused on investment grade securities is likely to have less risk based on its higher credit rating allocation than a portfolio focused on sub-investment grade securities, where historical default risk has been greater over time, as shown in Figure 5 above.

³ Perpetual Research - March 2009

⁴ Perpetual Research - March 2009

HOW SHOULD A FIXED INCOME PORTFOLIO LOOK GOING FORWARD?

In its simplest form, a diversified and defensive fixed income portfolio with allocations across cash, fixed rate and floating rate strategies will be the most protected from market volatility moving forward, compared to portfolios concentrated in any specific area. However, given the lessons of recent years, it may also be possible to enhance returns by tactically managing allocations to each of the three areas.

As an example of the different returns each of the above fixed income allocations can provide, a simple scenario analysis was developed which takes into account two of the key drivers of returns for varying fixed income portfolios: a change in credit spread margins; and, a change in government bond yields.

To avoid overcomplicating the analysis, it does not take into account a number of other key fixed income portfolio considerations such as passive versus active strategies, varying levels of risk allocation (for example, investment grade versus high yield securities), domestic versus global, and hedged or unhedged positions.

Example – typical floating rate income fund

The first theoretical example represents a conservative Australian floating rate income fund focusing on investment grade securities. It is benchmarked to the UBSA Bank Bill Index. In this example, the constant variable is the bank bill yield at 3% per annum. Should short term rates move up or down, the overall return will move in line with this change. The independent variable is the impact of credit spreads or the margin above the bank bill yield at which a portfolio of credit securities is trading, which will vary as credit conditions change. As shown below, as credit spreads widen, the value of a floating rate security decreases and likewise when credit spreads contract, valuations increase.

Weighted average portfolio life	2.5 years				
Example bank bill yield:	3.0%				
Example credit spread on theoretical portfolio:	5.0%				
Example yield to maturity on typical floating rate fund	8.0%				
Credit spreads move to (%)	1.0	3.0	5.0	7.0	9.0
Likely 12 month return (%)	14.0	11.0	8.0	5.0	2.0

Source: Bloomberg, Perpetual – July 2009. Weighted average portfolio life in years sourced from Average maturity profile of an entire portfolio of securities as at 30 June 2009. Example bank bill yield sourced from example return of bank bill yield as at 30 June 2009. Example credit spread on theoretical portfolio sourced from Available credit spread for a diversified portfolio of investment grade securities as at 30 June 2009. Example yield to maturity on typical floating rate fund sourced from Available credit spread plus bank bill yield.

12-month return = Bank bill yield + ((existing theoretical spread – new theoretical spread) * weighted average life) + new theoretical spread

From the table, if credit spreads move from 5.5% to 3.5%, the 12-month return calculation is:

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$$3.0\% + ((5.5\% - 3.5\%) * 2.5) + 3.5\% = 11.5\%$$

The example shows that as credit conditions improve and spreads of the portfolio contract from a starting spread of 5.5% to 3.5%, the likely 12-month return of the portfolio will be 11.5%. Likewise, should overall credit conditions worsen and spreads widen to 7.5%, the 12-month return of the portfolio is likely to return 5.5% over 12 months.

Example – typical fixed rate bond fund

The second theoretical example outlines the returns from a typical Australian fixed rate bond fund. It is benchmarked to the UBSA Composite Bond Index. In this example, the constant variables are the UBS Composite Bond Index yield at 5.50% and the margin above this rate for a fixed rate bond fund, at 1%. The independent variable is the three-year Australian Government bond yield. As shown below, as yields rise, the value of a fixed rate security decreases. Likewise, when yields fall, valuations increase.

Example ACGB April 2012 yield	4.5%
Example Benchmark modified duration	3.2 years
Example UBS Composite Bond Index yield	5.5%
Example margin on theoretical fund	1.0%
Example yield on theoretical fixed rate fund	6.5%

ACGB April 2012 yield moves to (%)	0.5	2.5	4.5	6.5	8.5
Likely 12 month return (%)	19.3	12.9	6.5	0.1	-6.3

Source – Bloomberg, Perpetual – July 2009. ACGB Apr 2012 = Australian Commonwealth Government Bond maturing April 2012 (as known as the 3 year Treasury). Margin on a typical fixed rate fund is less than a typical floating rate income fund because: the UBS Composite benchmark for the fixed funds includes approximate 50% credit, whereas there is 0% credit in the bank bill index; returns would be greater/less if short-term bank bill yields increase/decrease; and, some fixed rate managers might also add/deduct value from duration strategies which has not been factored into the above numbers. Example ACGB Apr 2012 yield sourced from example return of a 3 year fixed rate Australian Government Bond as at 30 June 2009. Example Benchmark modified duration in years sourced from example of modified duration of the UBSA Composite Bond Index as at 30 June 2009 (that is, a 1% move in yield will affect capital value by 3.2%). Example UBSA Composite Bond Index yield sourced from yield to maturity of the securities making up the Index as at 30 June 2009. Example margin on typical fund sourced from example value add margin from actively managing risk as at 30 June 2009. Example yield on theoretical fixed rate portfolio is addition of Index yield to maturity and available margin.

12-month return = Yield theoretical fixed rate portfolio + ((ACGB Apr 2012 yield – new ACGB Apr 2012 yield) * benchmark modified duration)

From the table, if yields move from 4.5% to 6.5%, the 12-month return calculation is:

$$6.5\% + ((4.5\% - 6.5\%) * 3.2) = 0.1\%$$

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Given the inverse relationship between bond yields and prices, the example shows that should yields increase to 6.5%, the likely 12-month return will be 0.1%. However, should yields fall to 2.5%, the likely 12 month return will be 12.9%.

What could an investor expect a diversified defensive portfolio to achieve over the same 12-month period?

Figure 10 below shows three differently weighted theoretical fixed income portfolios, based on cash, fixed rate securities and floating rate securities, and three different examples of scenarios where bond yields and credit spreads remain the same, move up by 2% or down by 2% ensuing 12 months. (Note a standard cash allocation of 10% has been included across all scenarios for liquidity purposes.)

Scenario A outlines the effects of another 'credit crisis' with credit spreads again widening. In this scenario, like 2008, bond yields are likely to decrease on the back of a further flight to quality. Scenario B assumes stable conditions where credit spreads remain at current levels and bond yields also stay level. Scenario C assumes a recovering credit market where credit spreads are contracting and liquidity is returning to the market. Bond yields are likely to increase and this could be on the back of a number of issues such as inflationary pressures or an increasing issuance of government debt.

Figure 10: Theoretical fixed income portfolios

Option 1 - Equal Allocation to Floating and Fixed Rate Strategies

Sector	Allocation	Scenario Example		
		A	B	C
		Bond yield down 2%. Credit spreads widen 2%	Bond yield unchanged Credit spread unchanged	Bond yield up 2%. Credit spreads contract 2%
Cash	10%	3.0	3.0	3.0
Income Fund (floating rate)	45%	5.0	8.0	11.0
Bond Fund (fixed rate)	45%	12.9	6.5	0.1
Potential 12 Month Return %		8.4	6.8	5.3

Option 2 - Overweight to Fixed Rate Strategy

Sector	Allocation	Scenario Example		
		A	B	C
		Bond yield down 2%. Credit spreads widen 2%	Bond yield unchanged Credit spread unchanged	Bond yield up 2%. Credit spreads contract 2%
Cash	10%	3.0	3.0	3.0
Income Fund (floating rate)	20%	5.0	8.0	11.0
Bond Fund (fixed rate)	70%	12.9	6.5	0.1
Potential 12 Month Return %		10.3	6.4	2.6

Option 3 - Overweight to Floating Rate Strategy

Sector	Allocation	Scenario Example		
		A	B	C
		Bond yield down 2%. Credit spreads widen 2%	Bond yield unchanged Credit spread unchanged	Bond yield up 2%. Credit spreads contract 2%
Cash	10%	3.0	3.0	3.0
Income Fund (floating rate)	70%	5.0	8.0	11.0
Bond Fund (fixed rate)	20%	12.9	6.5	0.1
Potential 12 Month Return %		6.4	7.2	8.0

Source: Perpetual

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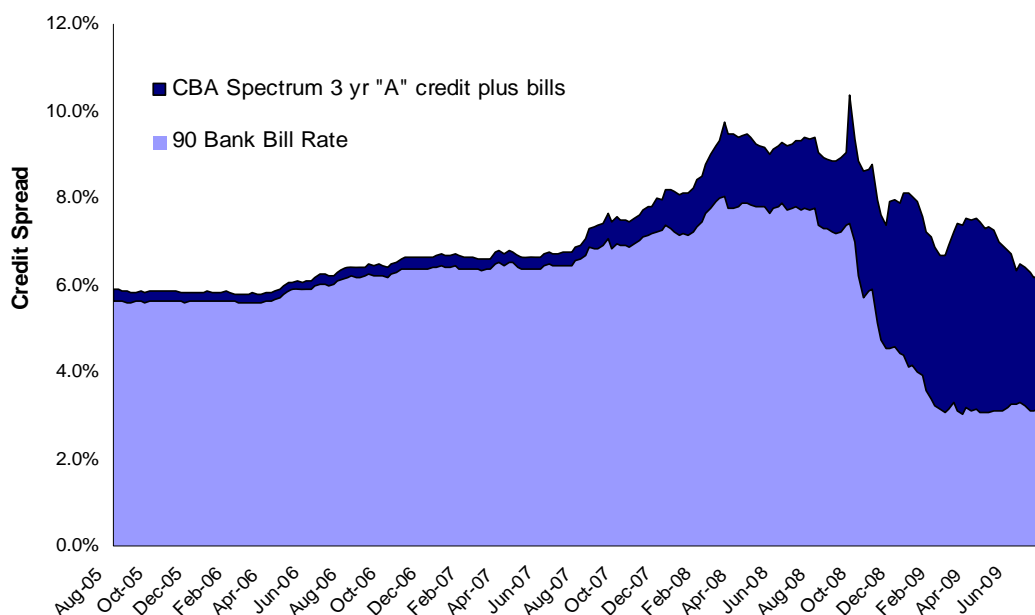
For investors who believe Scenario A is a likely 12 month outcome, Option 2 with its overweight exposure to fixed rate securities represents the most effective strategy for a defensive portfolio. For investors who believe Scenario B is a likely 12 month outcome, Option 3 with its overweight exposure to floating rate securities represents the greatest opportunity, due to the fact an investment grade portfolio of floating rate securities currently offers a greater yield to maturity than that of a fixed rate portfolio. For those who believe Scenario C is a likely 12 month outcome, again Option 3 with its overweight exposure to floating rate securities represents the greatest opportunity, due to the fact a contraction in credit spreads represents the opportunity for both income and capital gain from a portfolio of floating rate securities, while an increase in yields will lead to a detracting of capital value for fixed rate securities.

To follow one of the above three scenarios requires a view on both where credit spreads (or the risk premium offered by corporates to access debt) are headed, and which direction interest rates will move. For those with no view or who want to make a set and forget allocation, Option 1, the equal allocation to floating and fixed rate securities, would appear to be a sound defensive position.

WHERE IS THE CURRENT OPPORTUNITY IN FIXED INCOME?

There is compelling value in floating rate investment-grade credit issued by corporates, banks and asset-backed securities at the time of writing. Figure 11 outlines the Australian three-year corporate credit spread average above bank bills, as provided by Commonwealth Bank Research. As at 30 June 2009, the average credit spread on offer for A rated securities was 3.15% above the 90 day bank bill rate, actually greater than the 90 day bank bill rate of approximately 3.10% at that time.

Figure 11: Average A rated corporate credit spreads (Aug 2005 to Jun 2009)

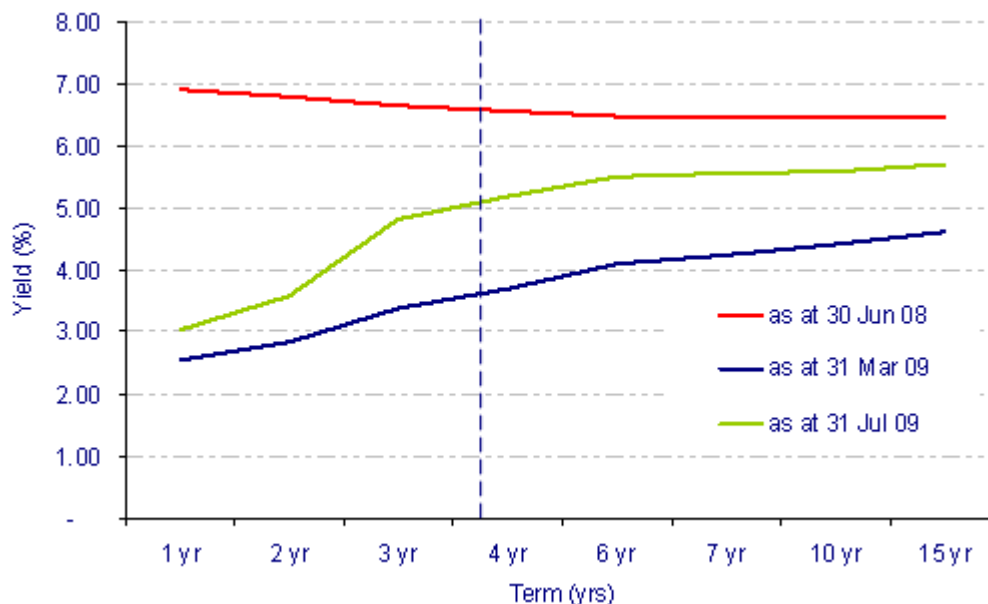


Source - Commonwealth Bank Research, Perpetual – July 2009

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On the other hand, 10-year Australian treasury yields have been moving higher, increasing from a low of 4.0% at the end of December 2008 to 5.50% at 30 June 2009. Figure 12 outlines the fall in treasury yields over 2008, which we now know lead to an increase in value (inverse relationship) and positive returns for fixed rate securities. However, over the last six months, increasing treasury yields have caused the value of fixed rate securities to decrease and the UBSA Composite Bond Index return a negative 1.05%. Given the Australian government's stated intention to issue a greater level of government bonds over the coming year, investors will now have to assess the likely impact of a further supply of fixed rate bonds in the market.

Figure 12: Australian treasury yield curve



Source – Bloomberg, RBA, Perpetual – July 2009

CONCLUSION

Strategically, a well constructed fixed income portfolio should have elements of cash, floating interest rate and fixed rate risk strategies as sources of potential beta. All will work together to provide the key principles of fixed income investing: a regular income stream, a defensive exposure historically less volatile than equities, and capital preservation.

However, it is important to remember that like all markets, credit markets are cyclical. In times of excess liquidity and low risk premiums, investors must not forget the lessons learned from this crisis. Those who looked for higher returns while moving further down the risk spectrum learned that forgetting about risk can be fraught with danger when things like leverage and, in particular, liquidity come unstuck. To protect the defensive (fixed income) part of a portfolio, investors must focus on the key principles of fixed income investing through any market cycle:

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- the key risk is the likelihood of default;
- focus on quality securities;
- liquidity is critical;
- diversification is more important in debt investments than equity;
- only invest in transparent structures you understand;
- there is no free lunch – if a security offers a higher return, it is more risky; and,
- markets are cyclical, the good times don't last forever.

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