

Credit Portfolio, Valuations and Liquidity in 2008

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Over the last 8 months investors have seen significant volatility in credit markets. Thus far this sell off in credit markets has been a general or systemic market sell off in risk. Once defaults start to increase and risk is more specific or idiosyncratic the structure of the credit funds will become even more important. We have observed a number of structural differences between a range of credit funds available in Australia and have led to some interesting observations that investors need to be aware of.

A well constructed open ended credit fund which is reflective of the fundamental principles of credit portfolio management theory should:

- Have Mark to Market pricing to protect existing unit holders from inflow and outflows that could potentially otherwise arbitrage the fund.
- A high level of diversity by issuer and industry (and, where applicable, vintage) to minimise portfolio volatility.
- Limit non-rated debt that has less marketability or liquidity.
- Have low issuer concentration to lower the loss given default.
- Have considerably more diversity than an equity portfolio.
- Invest in senior and secure investments that decrease the loss given default.
- Invest in large markets where the broad mix of investor participants aid liquidity, visibility and marketability.
- Many investors are unaware of the liquidity risk of investing in funds that often take large “cornerstone” positions in unrated subordinated debt. In Australia, it tends to follow that these funds are also relatively undiversified by issuer or industry.

When credit portfolios are constructed contrary to the principles of credit portfolio management theory we believe that investors are exposed to risks for which they are not generally compensated. Investors can use the many lessons from previous funds that have

failed investors in regards to these requirements to construct their credit portfolios.

1. Mark to Market versus Accrual Based valuations

A number of performance surveys compare both marked to market (MTM) funds and accrual based (AB) valuation funds in the same survey. This maybe misleading as investors are not able to use the surveys to compare like with like. Following the recent and unexpected trading suspension of a few local funds, this is a particularly sensitive issue for credit market investments.

Not surprisingly in the current market where credit investments have sold off, those managers that have accrual based valuation method appear to produce the strongest returns. If these AB funds were to be re-valued to the current market prices we believe there could be a significant correction in their performance.

Hence performance surveys provide poor information for selecting a manager if investors unknowingly select the manager with good performance that is not marked to market. In a credit sell-off, a canny investor could arbitrage accrual based funds selling their accrual investment (valued at par or \$100 plus accrued interest), and buy the marked to market investment.

An example:

Assume there are two funds that invest in the same bond, one is valued using marked to market and the other using accrual based valuation methodology. At t=0 both have the same value and yield. At t=1(one year from issue) credit spreads move out 150 basis points and the market value falls and the yield increases in the MTM fund, while the accrual portfolio remains unchanged. From T=1 the MTM fund will out perform the AB fund by 1.50% a year (assuming no other changes) as the MTM fund has been re-valued lower and now has a much higher prospective yield to maturity.

Worked Example A – MTM versus Accrual Method

| Initial Spead Liber Rate Total yield Issue date Maturity FV Freq | Mak to Market Example | | | Accrual Example | | Return Differential |
|--|---|---------------------------|---------------|---|-------|------------------------|
| | 2.00% 6.75% 8.75% | | | 2.00% 6.75% 8.75% | | |
| | 1/01/2006 1/01/2013 100.00 1.00 5 | | | 1/01/2006 1/01/2013 100.00 1.00 5 | | |
| | Market to Mark Portfolio A | (libor constant) Yield | Market spread | Accrued Portfolio B | Yield | |
| 1/01/2006 T=0 | \$ 100.000 | 8.75% | 2.00% | \$ 100.000 | 8.75% | 0.00% |
| 1/01/2007 T=1 | \$ 93.515 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |
| 1/01/2008 T=2 | \$ 94.350 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |
| 31/12/2008 T=3 | \$ 95.271 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |
| 1/01/2010 T=4 | \$ 96.286 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |
| 1/01/2011 T=5 | \$ 97.405 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |
| 1/01/2012 T=6 | \$ 98.639 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |
| 31/12/2012 T=7 | \$ 100.000 | 10.25% | 3.50% | \$ 100.000 | 8.75% | 1.50% |

- Banks may use an accrual based valuation but simultaneously have provisions for credit losses.
- Private equity funds, acknowledge the illiquidity of their underlying investments and do not offer the market open funds. Accrual Based valuation may better suit closed end funds.

Key takeaways:

- Marked to market valuation are considered Best Practice for open-ended credit funds.
- Comparing returns of accrual based and mark to market based funds makes it difficult for investors to compare like with like.
- An open-ended credit fund that uses accrual based valuation is open to arbitrage exploitation.
- Accrual based valuation may be better suited to closed end funds.

2. Non-rated or shadow rated securities

Publicly rated debt broadens the marketability of a security as a number of investors require a rating to allow inclusion in a portfolio.

Whilst there have been a number of strong lessons learnt of late in regards to the approach rating agencies have taken in regards to structured finance collateralised debt obligations, it is important to note the following. At a minimum a base rating of corporate debt compared to private debt have longer and reasonable amount of information attached to them.

By contrast in the US leveraged loan market 90% of the market is rated.

Key takeaways:

- A public rating improves marketability of debt.
- Unrated debt is less common overseas.
- Private debt offers less information transparency.

3. Liquidity = Marketability

Bid/offer spreads, resilience, size of a holding and depth of a market are reflected in the liquidity of debt. The more liquid that debt is the more attractive/marketable it is to investors. Desirable investments usually have good market depth and therefore good marketability.

The characteristics of marketability include:

- Broad distribution (by investor type) which should lead to superior liquidity.
- Transparent pricing.
- Rated entity (with preferably two ratings) providing a handle for relative value comparison.

Investors in illiquid/private debt are married to debt with little possibility of divorce. It greatly restricts the ability for a Portfolio Manager to respond quickly to advantageous investment opportunities that may be presented in the market. It also restricts the ability of a portfolio to be managed and re-weighted to take advantage of these opportunities.

Key takeaway

- When assessing public and private debt investment opportunities, investors need to consider the relative marketability and liquidity of each."
- Private debt has less marketability and is therefore less liquid.

4. Diversification is important

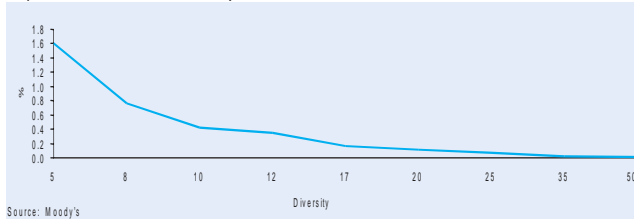
A key concept in credit portfolio management is diversification. This is because defaults tend to be unexpected and occur in industry clusters. The more recent sell off in credit has been caused by systemic risk aversion and has not impacted funds that have concentrated portfolios. However when defaults increase the lack of diversity will become a significant issue for funds holding concentrated positions in less liquid markets. We observe that in a global context, Australia is unique in tolerating concentrated credit portfolios despite our economy facing the same default risks as elsewhere.

Table 1 - Loss given default at different levels of concentration risk

| Position in the capital structure | Issuer-weighted recoveries | Loss in default | Single Company Maximum Exposure % | | | | | | | | | |
|-----------------------------------|----------------------------|-----------------|---|------|------|------|------|------|------|------|------|------|
| | | | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% |
| Loans | | | Loss Given Default at different levels of issuer concentration | | | | | | | | | |
| Senior Secured | \$ 70.00 | 30% | 0.3% | 0.6% | 0.9% | 1.2% | 1.5% | 1.8% | 2.1% | 2.4% | 2.7% | 3.0% |
| Senior unsecured | \$ 57.60 | 42% | 0.4% | 0.8% | 1.3% | 1.7% | 2.1% | 2.5% | 3.0% | 3.4% | 3.8% | 4.2% |
| Bonds | | | | | | | | | | | | |
| Equipment Trust | \$ 59.30 | 41% | 0.4% | 0.8% | 1.2% | 1.6% | 2.0% | 2.4% | 2.8% | 3.3% | 3.7% | 4.1% |
| Senior Secured | \$ 51.90 | 48% | 0.5% | 1.0% | 1.4% | 1.9% | 2.4% | 2.9% | 3.4% | 3.8% | 4.3% | 4.8% |
| Senior unsecured | \$ 36.00 | 64% | 0.6% | 1.3% | 1.9% | 2.6% | 3.2% | 3.8% | 4.5% | 5.1% | 5.8% | 6.4% |
| Senior Subordinated | \$ 32.40 | 68% | 0.7% | 1.4% | 2.0% | 2.7% | 3.4% | 4.1% | 4.7% | 5.4% | 6.1% | 6.8% |
| Junior Subordinated | \$ 23.90 | 76% | 0.8% | 1.5% | 2.3% | 3.0% | 3.8% | 4.6% | 5.3% | 6.1% | 6.8% | 7.6% |
| Preferred | \$ 11.30 | 89% | 0.9% | 1.8% | 2.7% | 3.5% | 4.4% | 5.3% | 6.2% | 7.1% | 8.0% | 8.9% |

Source: Credit Suisse and Moody's Default and Recovery Rates of Corporate Bond Issuers, 1920-2005, Released January 2006, Revised March 2006

The above matrix shows the loss given default (LGD) of different issuer concentration limits. Not surprisingly the LGD increases in a linear fashion, (ie. A 10% concentration is 10 times riskier than a 1% concentration limit).

Graph 1 - Industry concentration limits**Expected Loss versus the Diversity score**

Source: Moody's

- Moody's has a measure of portfolio diversity called a diversity score which is useful.
- This is a normal test in a Collateralised Loan Obligation.

As you can see from graph 1 above, increasing the number of industry exposures increases the diversity score. Different country exposures can boost the diversity score as exposures to different companies in the same industry may not increase diversity because they do not have independent default risk.

Diversity is more important in credit portfolios than in equity portfolios but less recognised. This is due to the asymmetric returns of credit portfolio. A portfolio with 20-50 securities is not diversified enough to reap the full diversifiable benefit. Investing in a credit fund with only an equity fund level diversity requires exceptional confidence in the investment managers' expertise.

Key takeaways:

- Strict industry and issuer concentration limits are important in decreasing the LGD.
- In a higher default environment, portfolios with higher concentrations will suffer more per individual default.
- Different industry and country exposures create diversity.
- A credit fund should be much more diversified than an equity fund.

5. Subordinated debt seems like a free lunch

While subordinated debt seems like a free lunch as an investor gets paid more for the same probability of default, it may actually

Table 2 - Recovery rates relative to senior

| | Recovery relative to senior secured loans | Recovery per \$100 |
|--------------------------------------|---|--------------------|
| Senior Secured / Senior Secured | 100% | \$ 70.00 |
| Senior unsecured / Senior Secured | 82% | \$ 57.60 |
| Bonds / Senior Secured | 85% | \$ 59.30 |
| Equipment Trust / Senior Secured | 74% | \$ 51.90 |
| Senior Secured / Senior Secured | 51% | \$ 36.00 |
| Senior unsecured / Senior Secured | 46% | \$ 32.40 |
| Senior Subordinated / Senior Secured | 34% | \$ 23.90 |
| Junior Subordinated / Senior Secured | 16% | \$ 11.30 |

Source: Credit Suisse and Moody's Default and Recovery Rates of Corporate Bond Issuers, 1920-2005, Released January 2006, Revised March 2006

¹ Moody's diversity score makes it possible to mimic the loss distribution of the true collateral portfolio by representing the pool with a number of identical assets, each with independent default risk. The reduction of the actual portfolio to a synthetic pool of identical assets in this way facilitates the process of calculating the expected

losses associated with each rated tranche. The diversity score is the number of such identical assets. Other things equal, the diversity score will be higher for pools in which the assets have lower default correlation, and in which the distribution of asset size is more uniform.

leads to a much more volatile returns and less liquidity in difficult market conditions. This is a function of the much lower recovery rate in default (see the table below).

While infrastructure style industries have traditionally been those with high recovery rates, the recent increase in gearing may not bode well for recoveries for infrastructure style industries particularly in light of tightening credit.

Key takeaways:

- There is no 'free lunch' in subordinated debt.
- Expect a portfolio with predominately subordinated debt to have a much sharper under performance in a credit environment with higher defaults.
- Subordinated debt is less liquid in a credit sell off.

6. Holding a substantial proportion of a single issue (cornerstone investors)

While holding greater than 20% of a security may give an investor power to drive lending terms, so-called cornerstone investors generally by definition also reduce the breath of investor distribution. This not only places great emphasis on the initial credit research but also implies that the cornerstone investor will have limited ability to efficiently exit their holding if the credit quality of the security deteriorates.

Key takeaway:

- High concentration in one issue damages secondary market liquidity of a credit portfolio.

7. Accrual valued funds can turn into Marked to Market fund at the most unfortunate times

The recent publicity in relation to the valuation of the equity CDO for some hedge funds offered by a number of providers including Bear Stern, Basis Capital, Absolute, demonstrates the point that an Accrual Valued fund can become a Marked to Market fund at the most unfortunate of times. Investors received a nasty surprise with a significant negative gap in their unit price. The gap is roughly equal to the change in market price plus a discount to net tangible assets.

Those looking for an onshore example in the Australian market may wish to examine the old County Cash Enhanced Fund. After a period of underperformance some investors redeemed their holdings which led to the manager initially selling liquid holdings to meet the initial unit redemptions. The remaining investors were left with a large illiquid concentrated position.

Key takeaway:

- Valuation catch ups are uncertain and can be large and negative.

8. The Australian Hybrid Market

Even though Australian hybrid securities are predominately listed on the ASX this does not guarantee significant liquidity in that market.

Liquidity in the Australian hybrids market has deteriorated in the past few months as anticipated poor financial performance in some hybrid issuers has adversely impacted the actual security performances.

For example:

- Paperlinx has suffered from a weaker USD
- Other timber industry hybrids have been impacted by the drought and regulatory risk.
- Allco, traditionally a big issuer in the Australian hybrids market, has been impacted by the credit markets.

Moreover, an increase in spreads has meant that the synthetic call structures on most of the hybrids are now out of the money with some securities now having the appearance of perpetual preference shares rather than termed sub debt.

The poor performance of domestic hybrids has impacted the performance of funds that focus on Australian hybrids and ultimately the growth rate of the market. The knock on effects of poor investment performance, forced sales and slower market growth include: poor inflows, brokers scaling back their facilitation books and further strain on the thin liquidity in the credit investment market.

Key takeaways:

- ASX listing does not guarantee liquidity.
- Larger funds relying on ASX liquidity may be disappointed.
- Australian hybrids with franking credit may be particularly challenged moving forward.

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