

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

**An Investigation into the Effects of a Liquidity draw down
by ABCP Conduits on South African Banks**

Presented to

UNIVERSITY OF CAPE TOWN

In partial fulfilment of the requirements
for the degree of

Master of Commerce (Financial Management)

By

Erica Nell

Supervisor: Dr. Glen Holman

January 2009

Abstract

This study investigates whether liquidity draw down requests by South African conduits will have a material financial impact on the South African banks providing such facilities. Using data of the South African conduits and the banks providing liquidity support, the impact was calculated and found to have minimal effect on the banks, concluding that the latter will be able to service liquidity draw down requests in a possible market disruption event.

University of Cape Town

Acknowledgment

I would like to thank my supervisor, Dr. Glen Holman, for his invaluable input, time and effort that made this thesis possible. His guidance and patience are greatly appreciated. His insight and professional assistance encouraged me in completing this document.

Special thanks to by friends and colleagues who supported and encouraged me throughout the process. I especially would like to thank my colleague and fellow student, Stephen Vlok, for his encouragement and assistance.

I would also like to thank my husband and family for their support and interest.

I certify that it is my own work and all references used are accurately reported in the text.

University of Cape Town

Terminology and abbreviations used

ABACAS – Asset Backed Arbitrated Securities
ABCP - Asset backed commercial paper
ABS - asset-backed securities
CCF - Credit Conversion Factor
CDO-CP - CDO-commercial paper
CMBS - Commercial Mortgage Backed Securitisations
CP – Commercial Paper
EAD – exposure at default
EL – expected loss
EMEA - European, Middle East and Africa
FirstRand - FirstRand Bank Limited
iNdwa - iNdwa Investments Limited
IRB – Internal Ratings Based
Jibar - Johannesburg Interbank Agreed Rate
LAPA - liquidity asset purchase agreement
LGD – loss given default
LLF - liquidity loan facility
PD – Probability of Default
RMB - Rand Merchant Bank
RMBS - Residential Mortgage Backed Securitisations
RWA – Risk Weighted Assets
SARB - South African Reserve Bank
SIV - Structured Investment Vehicles
SPV - special purpose vehicle
UL – unexpected loss

Table of Contents

	Page
Chapter 1 - Introduction	7
1.1 Asset backed commercial paper (“ABCP”) - definition	7
1.2 Funding renewal risk	12
1.3 Definition of liquidity facility	13
1.4 Purpose of liquidity facilities	14
1.5 Background to reason for investigation	15
Chapter 2 – Literature review	19
2.1 Rating agency view on liquidity facilities	19
2.2 Events of draw down on liquidity facilities	21
2.3 CP defaults – 1970s to 2006	22
2.4 Developments in the ABCP market	24
2.4.1 ABCP – 1980s to 2006	24
2.4.2 ABCP - 2007	26
2.4.2.1 <i>Canada</i>	26
2.4.2.2 <i>Europe</i>	28
2.4.2.3 <i>United Kingdom</i>	28
2.4.2.4 <i>United States of America</i>	29
2.5 Prior research and methodology	30
2.5.1 Australia	31
2.5.2 USA and Europe	31
2.5.3 Emerging markets	33
2.6 ABCP market in South Africa	34
Chapter 3 - Regulations	36
3.1 South African regulations	36
3.2 Basel II requirements	37
Chapter 4 – Methodology	43

Chapter 5 – Data	45
5.1 History of South African conduits	45
5.2 Demand for and supply of conduit CP in South Africa	46
5.3 Conditions for draw down on liquidity facilities in South Africa	49
5.4 Key features of South African conduits	51
Chapter 6 - Results	68
Chapter 7 – Summary and conclusion	80
Bibliography	82
Annexure – External rating scale	85

University of Cape Town

Chapter 1 – Introduction

1.1 Asset backed commercial paper (“ABCP”) – definition

The introduction will cover the definition of the asset class – ABCP - which is the focus of the thesis. It will include a discussion on how and why the market for ABCP started and will conclude with an explanation of how a standard structure works.

“An ABCP programme, also called a conduit, is a special purpose vehicle (“SPV”) established to fund a portfolio of assets through the issuance of commercial paper (“CP”)” – Moody’s 2003¹

Historically, CP was a senior unsecured obligation generally issued by a corporation to provide working capital funding. According to Moody’s (2003), in the 1980’s, parallel with the development of the asset-backed market, banks developed a CP product which was issued by an SPV and secured by a defined pool of assets. Moody’s (2003) also states that these assets were initially trade and term receivables but have grown to include credit card receivables, auto loans, corporate loans and bonds, housing loans, structured finance assets and equipment leases.

Banks compete to provide low-cost financing to commercial and industrial customers, and therefore, Moody’s (2003) believes ABCP became popular as a low-cost funding source for companies that cannot issue their own CP at comparable rates. ABCP also has advantages for the banks, as this off-balance sheet funding requires no obligation to maintain regulatory capital. The reason for using ABCP in South Africa is mainly for banks to increase gearing without increasing capital by taking their own assets off balance sheet. A spread is also earned between the return on the underlying assets and the rate paid on the CP.

Moody’s (2003) also believes that the appeal to the investors include the fact that ABCP is a high-quality alternative to unsecured CP, it provides diversification, yield enhancement and it provides a choice of maturity typically between 30 and 90 days.

¹ The fundamentals of Asset Backed Commercial Paper; Swasi Bate, Stephany Bushweller and Everett Rutan; Moody’s Investor Service, 3 February 2003.

Figure 1 below is an illustration by Moody's (2003) of the working of an ABCP conduit. In the centre of the diagram is the ABCP conduit/SPV which only purpose is to issue CP and is owned by the Conduit Owner. The Conduit Owner is typically a service company formed for the purpose of owning and providing management officers for the SPV.

The administrator has the responsibility for the day-to-day operations, this is usually a bank. The SPV funds the purchase of the assets from the obligors via the issuance of CP.

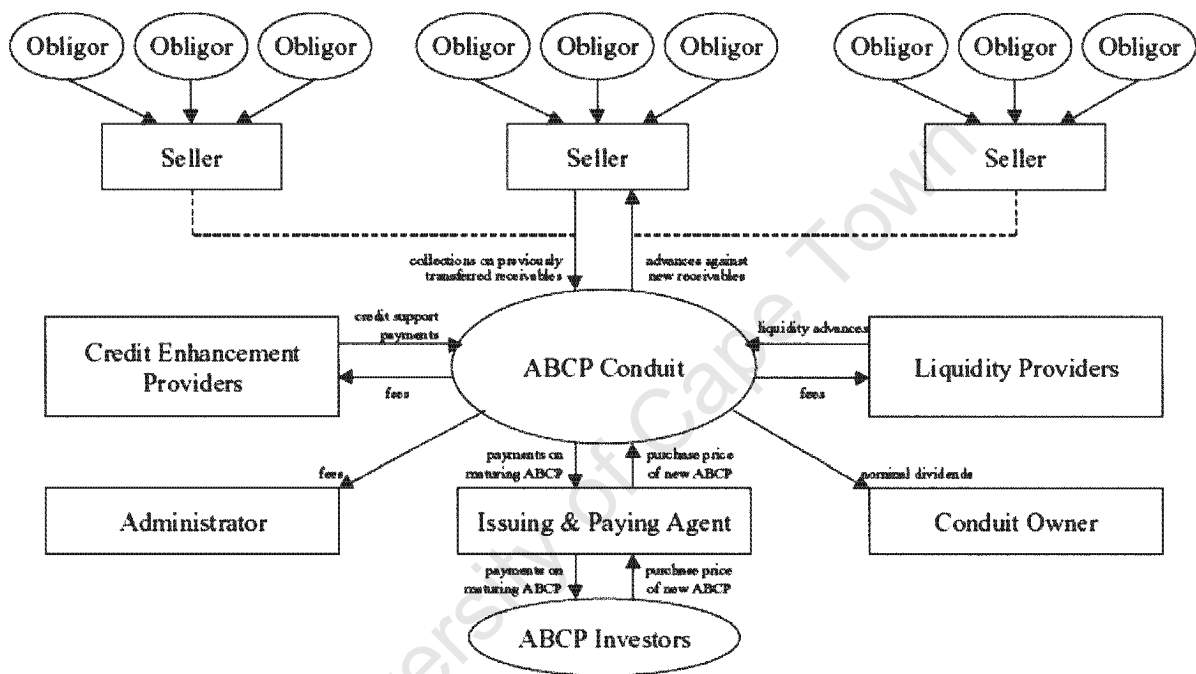


Figure 1²

Two important parties to any ABCP conduit are the credit enhancement and liquidity facility providers as noted in the diagram to the left and right of the centre.

The programme credit enhancement serves as a final backstop. Typically programme credit enhancement is available to cover any ABCP repayment shortfalls after all other sources of funds (including liquidity draws) have been exhausted. A conduit may also have a Hedge Counterparty (not shown) if interest rate or currency mismatches are material.

² The fundamentals of Asset Backed Commercial Paper; Swasi Bate, Stephany Bushweller and Everett Rutan; Moody's Investor Service, 3 February 2003

The liquidity back-up serves to bridge timing mismatches between the repayment of maturing ABCP and either cash payments from the transactions or the proceeds of newly issued ABCP. Liquidity draws are typically available to the extent the conduit has performing assets to sell to liquidity providers or to post as collateral for a liquidity loan.

It is important to define securitisations at this point due to the fact that a large proportion of South African assets held in the ABCP conduits are securitisation paper.

The following definition is quoted directly from Wikipedia³: "Securitisation is a structured finance process, which involves pooling and repackaging of cash flow producing financial assets into securities that are then sold to investors. The name "securitisation" is derived from the fact that the form of financial instruments used to obtain funds from the investors, are securities. All assets can be securitised so long as they are associated with cash flow. Hence, the securities that are the outcome of securitisation processes are termed asset-backed securities (ABS). From this perspective, securitisation could also be defined as a financial process leading to an issue of an ABS."

Banks in South Africa has mainly securitised their home, auto and commercial property loan books. Some corporates has also securitised consumer and trade rental receivable. As per the ABSA bond matrix⁴ for 2 October 2008, there were 18 Residential Mortgage Backed Securitisations ("RMBS"), 6 Commercial Mortgage Backed Securitisations ("CMBS"), 3 receivables securitisations and 10 auto loan securtisations totalling R74.5 billion. The South African ABCP conduits are the main investors in these structured notes. (Refer to detail in Chapter 6)

A South African conduit will now be used as an example to illustrate the workings of a conduit as briefly explained above. The conduit used in the example will be iNdwa Investments Limited ("iNdwa").

iNdwa was established by Rand Merchant Bank ("RMB") a division of FirstRand Bank Limited ("FirstRand") in July 2003 in South Africa. Based on the Moody's illustration in Figure 1, the structure for iNdwa is shown below in Figure 2:

³ <http://en.wikipedia.org/wiki/Securitisation>

⁴ BESA listed bond matrix – K Rushton, D Vasant and J Gable, ABSA Capital, 2 October 2008.

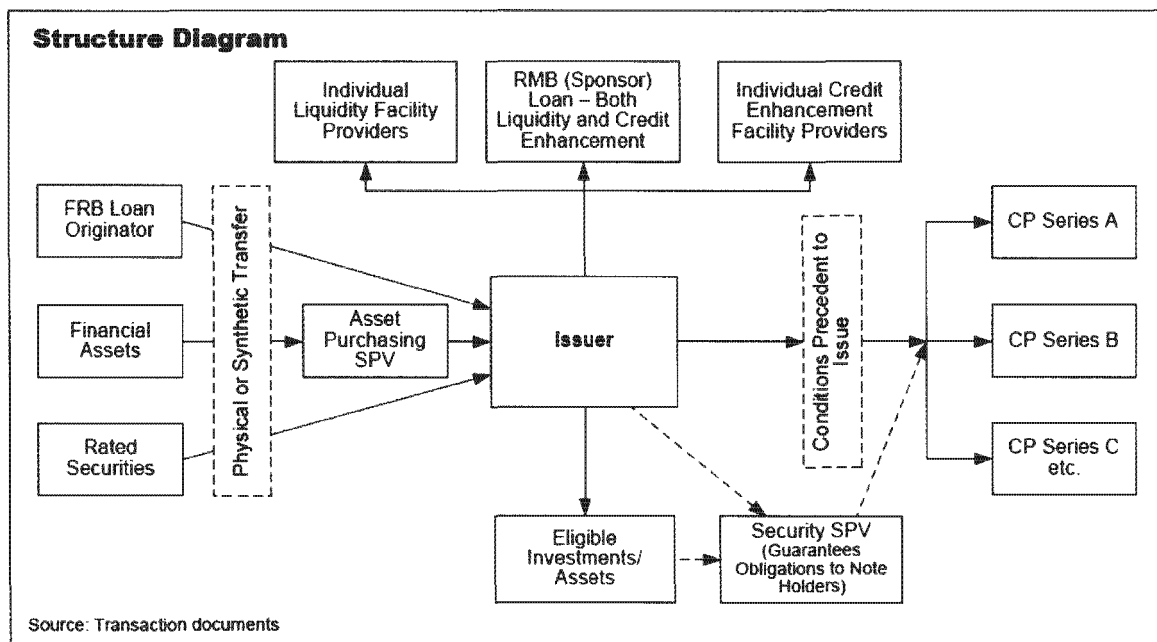


Figure 2⁵

In this diagram, the issuer will be the ABCP conduit or SPV which sole purpose is to issue CP to fund the purchase of the assets. The assets include financial assets and rated securities originated by FirstRand (indicated on the far left of the diagram).

Per the iNdwa offering circular, “a financial asset is either:

- (i) a pool of consumer loans, instalment sales, trade receivables, credit card receivables, equipment leases, rental agreements, insurance policies, hedging contracts, mortgage backed securities or other housing related loans and/or any other security backed by any other financial asset; or
- (ii) a funding agreement or instrument concluded between the Issuer and the owner of a pool of assets of the nature referred to in (i) in terms of which the Issuer finances such pool of assets in whole or in part.”

A rated security⁶ is a security, loan and/or other funding agreement or arrangement, that has been assigned, or the counterparty to which has been assigned a credit risk rating.

In summary it means that iNdwa (issuer) purchases either securitised paper or loans granted to corporates which do not wish to access the capital markets by issuing

⁵ Illustration from the Fitch pre-sale report for iNdwa Investments Limited issued on 17 May 2007, www.fitchratings.com

⁶ per the iNdwa offering circular

their own CP. This could either be because it is too expensive or the corporate wish to access the capital markets anonymously. The corporate then avoids publicly disclosing its financial results and is only assessed by FirstRand being the loan originator. It is also for this reason that iNdwa follows a black box approach, thereby not disclosing the names of the underlying assets.⁷

RMB is the administrator of the conduit and provides both credit enhancement and liquidity to the structure. iNdwa's obligations to investors are limited to the present value of the outstanding CP. On that basis, credit enhancement is sized on the present value of performing assets. There are two components, as follows:

- Financial Assets: Credit enhancement will be calculated as an amount equal to 5% of the aggregate present value of the performing financial assets financed or acquired by the issuer.
- Rated Securities: Credit enhancement is based on the inherent credit risk profile. iNdwa uses a model⁸ developed by Fitch to calculate the credit enhancement based on the asset type, seniority, rating, country and industry classification.

The liquidity facility is sized at 100% of the face value of the CP (reduced for defaulted assets) together with senior expenses, less assets whose maturity matches that of the CP in issue. As at 30 September 2008, iNdwa consists of R10 134 million (38 in total) of assets broken down as follows:

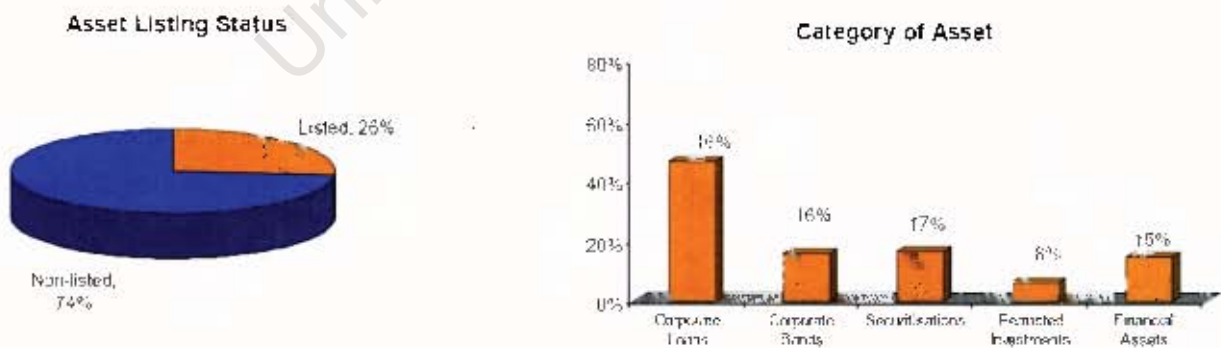


Figure 3⁹

⁷ Information obtained in discussion with the iNdwa conduit managers. October 2008.

⁸ The details and workings of this model are beyond the scope of this document.

⁹ Graphs from the 30 September 2008 investor report for iNdwa.

The liquidity facility is R10 271 million and the credit enhancement sized on financial assets is R77.84 million.

Having discussed the definition of an ABCP conduit and the workings thereof at the hand of an example, this thesis will continue to focus on ABCP programmes and the liquidity facilities provided and more specifically on the impact that a draw down of these facilities will have on the providers' financial position.

1.2 Funding renewal risk

According to Moody's (2003)¹⁰ a typical ABCP programme repays maturing CP with the proceeds of newly issued paper (called rolling over of CP) so as to maintain uninterrupted funding of the conduit's portfolio. Liquidity risk arises from the imperfect matching of cash flows and the uncertainty of new issuance.

Continuing with the iNdwa example, the notes at 30 September 2008 has a maximum maturity of 301 days with 88 days average maturity. The assets underlying however have a maximum maturity of 24.2 years and an average maturity of 2.8 years.

This means that the notes on average will mature in 88 days however the average maturity of the underlying assets is 2.8 years. This mismatch means that the CP needs to be rolled over constantly until maturity of all assets.

Even though the conduit's assets are performing well, there may not be enough cash generated in a timely manner to repay maturing ABCP if new paper cannot be issued. Due to the fact that it cannot be assumed that ABCP can always be rolled, most ABCP conduits require back-up sources of liquidity.

This introduces the following two sections which define liquidity facilities and the purpose thereof.

¹⁰ The fundamentals of Asset Backed Commercial Paper; Swasi Bate, Stephany Bushweller and Everett Rutan; Moody's Investor Service, 3 February 2003

1.3 Definition of liquidity facility

The purpose of this section is to clarify the difference between corporate CP and ABCP and to define the use of liquidity facilities by ABCP.

CP is a senior level, unsecured short-term note and is a flexible source of short-term funding for the largest corporations worldwide, providing them with a low-cost alternative to bank loans¹¹. Unlike corporate CP that is used to finance inventories and manage cash flows, ABCP are bankruptcy-remote conduits that issue short-term CP on a revolving basis. A conduit is a structured investment vehicle used to fund the purchase of assets through the issuance of CP.

ABCP is not backed by a single corporate issuer, but by a pool of assets consisting of for example trade and credit card receivables, auto loans, corporate loans and bonds, housing loans, structured finance assets and equipment leases. These assets are held in the conduit and the cash flow goes directly for the repayment of the CP. Since the CP is considered low risk (because it is highly rated) and short duration (less than 1 year) the two main buyers are money market funds and pension funds¹².

ABCP is issued by ABCP conduits, structured investment vehicles and Collateralised Debt Obligation¹³-CP conduits ("CDO-CP"). The former is funded solely by CP and the latter two are funded by a combination of short-term CP and medium term notes.

Banks and other financial institutions are involved in ABCP by providing liquidity facilities. Horowitz (2007) concluded from his research on ABCP and the impact on banks that ABCP has very thin spreads due to the liquidity provided by highly rated banks plus credit enhancement.¹⁴ Horowitz further states, that in the event of a market disruption where ABCP paper cannot be rolled over, all investors take comfort from the back-up liquidity provided. The banks are paid a fee for the facility and these obligations are generally unfunded. However, should the liquidity facility

¹¹ Definition by Moody's; Alexandra Berthault, David Hamilton and Lea Carty; October 2000; Commercial Paper Defaults and Rating Transitions, 1972 – 2000

¹² "The importance of liquidity support in ABCP conduits" – October 2007, FitchRatings Special Report.

¹³ Collateralised Debt Obligation is another term for asset-backed commercial paper if the package consists of corporate debt, and mortgage-backed securities if the loans are mortgages.

¹⁴ Keith Horowitz; 16 August 2007; Drilling down on ABCP; Unlikely to be an issue for banks – Citigroup research paper.

be drawn upon, the assets and liabilities of the SPV is put on the bank's balance sheet and the commitment becomes funded.

1.4 Purpose of liquidity facilities

Moody's states in their 2000 research¹⁵ that CP are generally not matched to the cash flows of the underlying assets and therefore rely on the rollover of notes or on third party liquidity lines to repay maturing notes. Liquidity risk arises from the imperfect matching of cash flows and the uncertainty of new issuance.

Standard & Poor's¹⁶ definition of a liquidity facility is a committed facility from one or more highly rated financial institutions that can be used as a source of repaying maturing CP. According to them the only conditions for use of the facilities are that there are sufficient performing assets to support the payment and that the conduit has not entered into insolvency proceedings. This shows the provider's intent that the facility purely functions to cover the timing difference between the asset cash flow and the maturing CP, rather than to cover the asset's credit risk.

According to the Regulations¹⁷ governing securitisations in South Africa, a liquidity facility is provided in order to cover deficiencies in cash flows resulting from:

- timing differences between payment of interest and receipt of interest and principle on the underlying assets; and/or
- a market disruption event.

Even though the South African securitisation regulations cater for market disruption events, Standard & Poors does not provide short-term ratings on any ABCP supported by a liquidity facility that requires a general disruption in the CP market before it can be drawn down. In their view the liquidity facility should be available if the CP cannot be rolled over for any reason. They see the liquidity facility as an additional funding mechanism as well, for example, if the spreads on ABCP notes widen to uneconomic levels, the administrator may elect to draw on liquidity facility instead of issuing new notes.

¹⁵ Alexandra Berthault, David Hamilton and Lea Carty; October 2000; Commercial Paper Defaults and Rating Transitions, 1972 – 2000

¹⁶ M Scott Sehnert and Dina Moskowitz; Liquidity: Why do asset-backed commercial paper conduits need it and where do they get it?; 15 September 2007

¹⁷ Volume 511 of the Government Gazette No 30628 of 1 January 2008.

None of the South African conduits are rated by Standard & Poor's and therefore, the liquidity draw down events includes a market disruption event. This was found in the research performed in Chapter 5 and 6 of this document.

1.5 Background to reason for investigation

The previous section explained the need for liquidity facilities. This section covers the reason for the 2007/2008 credit market crisis and the ensuing liquidity problems experienced by banks.

The current (2007/8) turbulence in credit markets worldwide is proving to be one of the most significant financial crises in recent history according to Canadian Economist, Philippe Bergevin¹⁸. The failure by Bear Stearns, one of the world's largest investment banks, in March 2008 to roll-over CP, was one of a series of events triggered by rising defaults in sub-prime mortgages in the United States. Despite the extraordinary steps taken by central banks, most notably the US Federal Reserve, to limit the credit market difficulties, uncertainties still exist about the scope of the current turbulence.

Bergevin (2008) explains that the credit crisis was preceded by a period wherein investors increased their demand for riskier assets. Innovative credit financial instruments for example asset securitisation, which transformed illiquid assets into tradable investments. ABCP was one of the instruments that resulted from the securitisation structures and some of these ABCP programmes were backed by sub-prime mortgage assets.

Bergevin (2008) is of the opinion that investors did not understand the complexity of these structures or their underlying investments. When the defaults in the sub-prime mortgage market started in July 2007 in the US, investors as well as issuers of securities backed by the latter were faced with lower-than-anticipated cash flows, and some of them faced bankruptcy. The rising defaults on US sub-prime mortgages quickly led to a loss of confidence in asset-backed securities in general. The situation was made more difficult by the short-term nature of ABCP, which is secured by mostly long-term assets. Because of this timing mismatch, the cash flow from the assets securing the ABCP did not match the cash flow required to

¹⁸ Phillippe Bergevin is an economist in the Canadian Parliament and he published an article on 1 April 2008 named The Current Credit Market Turbulence: The Build-up, the Trigger and the Fallout.

repay maturing ABCP. Furthermore, because of a lack of investors, ABCP issuers could not generate funds to repay maturing ABCP or to meet other contractual obligations by issuing new ABCP or by “rolling over” existing ABCP at maturity.

In Canada, most non-bank ABCP trusts were unable to access bank lines of credit when some of their ABCP became due and they lacked sufficient funds to repay investors. On 12 August 2007, 22 Canadian non-bank conduits revealed they were no longer able to refinance obligations due to the drying up of liquidity in the ABCP market – a result of rising investor anxiety following rising defaults in the US subprime mortgage space¹⁹.

According to Fitch²⁰, these events in the ABCP market have highlighted the role of the liquidity provided to ABCP programmes and there is a greater interest in the credit fundamentals underpinning ABCP programmes.

This thesis will investigate the reasons for the failure of ABCP issuers to draw down on liquidity facilities and will then further determine the possible effect of a similar event in South Africa on South African banks.

The first studies regarding the impact of a draw down event on liquidity facility providers was done by the credit rating agency Fitch in September 2007²¹. The authors found that smaller regional banks will have greater difficulty in funding liquidity facilities and that the longer it takes a conduit to re-enter the ABCP market, the greater the risk to earnings for the bank.

Further research published by Standard & Poors (2007) and Citigroup researcher Horowitz (2007) investigated the German and US banking sectors' exposure to liquidity facilities respectively. Their findings were that German banks, apart from IKB Deutsche Industriebank AG (“IKB”) and Landesbank Sachsen Girozentrale (“Landesbank”), are sufficiently strong to absorb the draws on liquidity and that some of the US banks would have a reduction in their capital to asset ratios, but would still be able to meet their requirements for draw down.

¹⁹ “Power to the People” – May 2008, Rob Davies, Risk Magazine

²⁰ “The importance of liquidity support in ABCP conduits” – October 2007, FitchRatings Special Report.

²¹ Ian Linnell, Jim Moss, Krishnan Ramadurai and Gerry Rawcliffe; 12 September 2007; Asset-Backed Commercial Paper & Global Banks Exposure – 10 Key Questions, FitchRatings Special Report.

Horowitz (2007) indicated in his research that the CP market was US\$2.2 trillion at the time of his report and that US\$1.2 trillion thereof was ABCP. He took a very conservative look at what would happen to bank capital ratios if all of the back-up ABCP lines were put on balance sheet. He looked at the top 20 US banks excluding Citibank. His findings are summarised in the table below indicating the change in total exposure to total assets percentage:

Liquidity Provider	Backup Liquidity Exposure	Actual TE/TA	Proforma TE/TA	Difference	Diff. as % of Actual TE/TA
1 Deutsche Bank AG	97,782	2.18%	2.05%	-0.13%	6%
2 Bank of America, NA	67,055	4.48%	4.46%	-0.21%	4%
3 JPMorgan Chase Bank (L)	64,845	4.64%	4.45%	-0.23%	4%
4 Dresdner Bank AG	48,456	2.77%	2.61%	-0.16%	6%
5 Halifax plc	48,000	3.02%	2.93%	-0.10%	3%
6 Lloyds TSB Bank plc	38,214	2.52%	2.40%	-0.14%	5%
7 Societe Generale	37,090	2.54%	2.46%	-0.07%	3%
8 Royal Bank of Canada	25,728	2.90%	2.75%	-0.14%	5%
9 HSBC Bank plc	25,522	3.82%	3.84%	+0.05%	1%
10 Wachovia Bank, N.A.	23,413	4.40%	4.25%	-0.15%	3%
11 Bayerische Landesbank Girozentrale	23,354	4.54%	4.33%	-0.21%	5%
12 State Street Bank and Trust Company	22,096	4.83%	4.09%	-0.81%	17%
13 WestLB AG	18,971	2.56%	2.40%	-0.16%	6%
14 Rabobank Nederland	18,601	4.96%	4.83%	-0.13%	3%
15 BNP Paribas	18,837	2.73%	2.70%	-0.02%	1%
16 Commerzbank AG	14,837	2.47%	2.43%	-0.04%	2%
17 Calyon (formerly Credit Agricole/Credit Lyonnais)	14,516	1.89%	1.89%	-0.03%	2%
18 Bank of Tokyo-Mitsubishi (FT) Ltd.	12,910	5.14%	5.13%	-0.04%	1%
19 Credit Suisse First Boston (CSFB)	12,489	2.57%	2.54%	-0.03%	1%
20 IKB Deutsche Industriebank AG	12,015	2.61%	2.23%	-0.39%	15%
Total Top 20 Banks (ex Citi)	719,736				
Other Bank Exposure	168,000				
Total Liquidity Backups for ABCP*	887,736				
Est. Extensible ABCP (S60R of which is mortgage)	150,000				
Other	162,264				
Total ABCP Market	1,200,000				

Figure 4²²

Horowitz commented that based on his research he found that all of the back-up CP liquidity for State Street related to 4 multi-seller conduits that State Street managed and that there were no concerns about the multi-seller²³ conduits since there is a very small if any mortgage component and the paper for multi-seller ABCP were trading well.

²² Table of results from: Keith Horowitz; 16 August 2007; Drilling down on ABCP; Unlikely to be an issue for banks – Citigroup research paper.

²³ As per "The fundamentals of Asset Backed Commercial Paper: Swasi Bate, Stephany Bushweller and Everett Rutan; Moody's Investor Service, 3 February 2003", - multi-seller conduit typically provides financing to a wide variety of industries, companies, and asset types, offering ABCP investors a diversified pool of assets.

In the case of IKB, he did not have the actual detail of the underlying collateral, but it was reported to include subprime mortgage bonds and investors were not rolling over the CP.

These studies lead to investigations by Gresty and Kryzylchylkiewicz (2007) and Rushton and Gable (2008) into the South African ABCP markets. These were the only studies to date and the aim of this thesis is to expand on their findings and research and to apply the methodology used in the international studies to the South African market.

The Canadian ABCP issuer Coventree Inc, was the first to report a failure to issue CP and a failure to draw down under their liquidity facilities in August 2007. This and subsequent draw down requests from other ABCP programmes, led to a closer examination of the definition of liquidity facilities as will be discussed in the rest of this document.

The remainder of this thesis is organized as follows. Chapter two introduces liquidity facilities in the context of ABCP by describing the key features and the purpose thereof. It also reviews related literature on the growth in the ABCP market and similar studies done on the impact of liquidity draw downs in other countries. Chapter three briefly discusses the South African regulations and Basel II implications for liquidity draw down. Chapter four discusses the potential research methodologies and the methodology selected for this thesis. Chapter five describes the data and the tests to be used in this research. Chapter six presents the results of the study. Finally, chapter seven concludes.

Chapter 2 - Literature review

2.1 Rating agency view on liquidity facilities

An important part of defining liquidity facilities is to consider the view of rating agencies. In my view, investors base their investment decision largely (whether correct or not) on the external rating provided on the CP they buy. So even though there might be a standard definition of what investors consider to be liquidity support, the different rating agencies terminology needs to be considered to determine the reliance they place on the provider of such liquidity support.

Standard & Poor's published their ratings approach to ABCP conduits on 13 March 2002²⁴. They found that liquidity risk in an ABCP conduit arises because their weighted-average liability maturity is usually about four to six months, whereas the assets in the vehicle will have considerably longer average maturities.

Standard & Poor's criteria for bank-provided liquidity facilities can be summarised as follows:

- All liquidity providers must have a short-term rating of 'A-1+'²⁵ in order to be eligible. Liquidity may be provided by 'A-1' institutions as long as an 'A-1+' provider also covers the obligations of the largest 'A-1' provider.
- The liquidity facility is normally provided for at least 365 days with a renewal period of 30 days or cash collateralised.
- Funds must be available to the SIV with same-day notice and normally before 2:00 p.m. London time on the day notice is given to allow the liability to be repaid.
- The liquidity facility provider can normally terminate the liquidity facility with 30 days' notice. If the facility is terminated in this situation, it should be with zero termination costs.
- If a liquidity provider loses its 'A-1+' rating, there is normally a grace period of 30 days to allow the investment manager to find a replacement.

²⁴ Published on their website: www.standardandpoors.com

²⁵ Refer to Annex for rating tables.

In order to pay maturing ABCP the liquidity facility must fund on a same day-basis²⁶. The administrator may only have a few hours to notify the liquidity bank and receive the funds. When many banks must be contacted in order for funding to occur, the probability of an error increases.

If there is a failure to renew a facility when it matures and a new liquidity provider to take the current provider's place cannot be found, the investment manager will often have the ability to draw down the facility amount in full. The same procedure can be followed if any existing liquidity provider is downgraded below 'A-1+' and no replacement is found within the 30-day grace period.

There are two main types of liquidity support according to Fitch²⁷ being liquidity loan facilities ("LLFs") which is a loan that can be drawn to finance the conduit's assets and a liquidity asset purchase agreement ("LAPA") under which the provider will purchase the asset out of the conduit when a liquidity draw for a particular asset is made. Both LLFs and LAPAs eliminate a conduit's exposure to a particular asset by removing it from the conduit.

Fitch (2007) further discussed the use of extendible notes as liquidity facilities, but due to the credit crisis in the 3rd quarter of 2007, appetite for this type of note has deteriorated. Extendible notes have an expected maturity before its final maturity date. If on the expected maturity date the conduit does not have sufficient proceeds to repay the extendible note investors, either from the assets' cash flow or from issuance of new ABCP, then the conduit can delay repaying the extendible note by extending the note to the final maturity date. In most cases the final maturity date will be 364 days after the initial CP issuance. The conduit will then pay an extension premium on any principal and interest amount extended.

In the same report, Fitch discusses the difference between full and partial support. A conduit or a transaction within a conduit may be supported by a liquidity facility that will advance against all outstanding CP regardless of the underlying asset performance. This is called fully supported. However, in most cases, liquidity facilities will only advance against non-defaulted assets. This is called partially supported and the investor takes the risk that the underlying assets default. In these cases, credit enhancement is usually available to mitigate the risk of asset default.

²⁶ The fundamentals of Asset Backed Commercial Paper; Swasi Bate, Stephany Bushweller and Everett Rutan; Moody's Investor Service, 3 February 2003.

²⁷ "The importance of liquidity support in ABCP conduits" – October 2007, FitchRatings Special Report.

Having established what a liquidity facility entails, it now raises the question as to in which circumstances it can be utilised.

2.2 Events of draw down on liquidity facilities

Fitch defines the use of a liquidity facility in the event that there is a mismatch in the collections on the underlying assets and the payments due to note holders and the inability of the issuer to roll the notes upon maturity due to a market disruption event.²⁸

Pottas and Huntley (2006) published research on the South African Securitisation market as at 2006. They discussed liquidity facilities and the fact that programmes meet its obligations to pay maturing debt by issuing new debt. If this cannot happen on a timely basis, the liquidity facilities will be utilised. They also stated that the utilisation of the liquidity facility is seldom required, but that it has been ratings-driven and therefore the programmes do not have much of a choice on this issue if they want a good credit rating.

Fitch (2007)²⁹ also states that the ability to re-issue a new tranche of ABCP to repay a maturing tranche is affected by systemic risk and event risk. Systemic risk is the possibility of a disruption affecting the whole market that affects all issuers. Event risk, however, is an issuer-specific event that makes investors unwilling to buy a particular issuer's ABCP. For instance, the downgrade of a sponsor may make investors unwilling to purchase ABCP from conduits managed by that sponsor.

ABCP conduits typically benefit from 100% liquidity support to overcome these risks and ensure the timely repayment of all outstanding ABCP. 100% support means that liquidity either covers the face value of outstanding ABCP or the principal amount of assets funded by ABCP, usually with the interest component covered by reserves or another mechanism. Some conduits may have over 100% liquidity support to also cover estimated fees and senior expenses if these costs are not covered elsewhere in the conduit structure.

²⁸ "The importance of liquidity support in ABCP conduits" – October 2007, FitchRatings Special Report.

²⁹ "The importance of liquidity support in ABCP conduits" – October 2007, FitchRatings Special Report.

According to the South African Regulations³⁰ governing the securitisation market, the only conditions for using such facilities as a payment source are that there are sufficient performing assets to support the payment amount requested and that the ABCP conduit has not entered into insolvency proceedings. These conditions show the liquidity provider's intent that the facility functions purely to cover timing differences between the asset cash flow and the maturing CP, rather than cover the asset's credit risk.

Standard & Poor's³¹ published an article in August 2007 to clarify the features of liquidity facilities in Australia and New Zealand and they highlighted the following as events under which the liquidity facility cannot be drawn on, or "funding outs":

- Where it is illegal for the liquidity facility provider to perform such actions. This risk should be addressed in the legal opinion.
- The insolvency of the ABCP issuer is a funding out, however, conduits are mostly structured as bankruptcy remote. It means that the liquidity facility provider cannot be asked to provide the liquidity facility if the ABCP is insolvent, however the conduit cannot technically be bankrupt as the assets, liquidity facility and credit enhancement should always be greater than the market value of the outstanding CP.
- An issuer event of default has occurred and enforcement proceedings have commenced.
- Failure to pay the liquidity facility provider the commitment fees, interest or principal when due.

In 2007, the need arose for conduits to access their liquidity facilities as a result of turbulent markets caused by the sub-prime crisis in the United States of America. The following section discusses historical CP default events.

2.3 CP defaults – 1970's to 2006

Even though the focus of this thesis is on ABCP programmes, valuable information is gained from assessing the historical defaults in the corporate CP markets. It provides some insight into the market condition conducive to CP failure.

³⁰ Volume 511 of the Government Gazette No 30628 of 1 January 2008.

³¹ M Scott Sehnert and Dina Moskowitz; Liquidity: Why do asset-backed commercial paper conduits need it and where do they get it?; 15 September 2007

Moody's Investor Service published a research paper in October 2000 dealing with CP defaults from 1972 (the date they started rating CP programs) to 2000. They reported that 45 issuers have defaulted on roughly US\$4.3 billion of rated and unrated paper in this period. The bulk of these (31% since 1982) occurred in the US, however, since 1992, only one US CP issuer failed. Outstanding for the 17 commercial paper markets together with the USCP market, totalled an estimated US\$1,961 billion as of June 2000. From the mid-1990s the bulk of CP defaults have been throughout Europe, Asia and Latin America.

In the same report, Moody's commented that defaults tend to be event risk driven and typically involve a liquidity crisis. However, they also mention that none of the issuers rated P-1 to P-3³² by Moody's at the time of the issuance have resulted in any appreciable losses to investors. P-1 is superior payment ability, P-2 is strong payment ability, P-3 is acceptable payment ability and NP is not prime which do not fall within the P-1 to P-3 ratings.

In 1970, Penn Central Railroad defaulted on both its long-term and short-term debt and it prompted a closer look at the credit risk of CP. A spate of defaults began in 1987 in the US which led to further tightening of credit policies and included regulations passed that prevented mutual funds to invest in lower rated CP. Between 1972 and 1987 there was only one default by a CP issuer but the incidences rose to 9 defaults in total of \$831m in 1989 and 11 defaults in total \$517m in 1990.

In 1989, CP defaults mainly hit the larger US and Euro CP markets. After 1990, the pace of defaults lowered but defaults continued in the US and Swedish markets. The largest default of this period occurred in the Canadian market in 1992 when Olympia and York, a Canadian Real Estate giant, defaulted on \$614m of CP. Olympia and York, owned by the Reichmann family, announced in March 1992 that it would have to restructure some \$12 billion in debt due to worldwide decline in real estate prices. On 14 May 1992, the company filed for bankruptcy.

Moody's believe that the following reasons explain the surge in CP default between 1989 and 1992.

³² Refer to Annex for rating table.

- Looser credit standards allowing abnormal high amounts of credit in the market. Loosening of credit approval standards based on the assumed support of liquidity facilities led investors to invest in low-investment-grade CP.
- Lack of liquidity in mid 1989, found some commercial banks unwilling or unable to fulfil their rolls as back-up sources of liquidity. For example, when Wang Laboratories Inc. faced a general market perception that the firm's financial position was weakening and its liquidity banks failed to reach agreement on support for the firm, it could not raise enough cash to redeem its maturing EuroCP.
- Securitisation and globalisation had weakened the reliability and predictability of back-up liquidity for CP. The disintermediation of banks had eroded the banks' market position and borrowers became more transaction oriented and less dependent on commercial banks. Moody's believe that banks are now more willing to invoke a material adverse change clause which widens the range of scenarios under which banks will refuse to honour back-up lines of credit to CP issuers.

According to Moody's (2000) since 1994 to 2000, 15 defaults of a total of \$1.5 billion occurred of which only one was in the US. Furthermore, the 1995 defaults were related to the devaluation of the Mexican Peso and the July 1997 defaults were related to the Asian financial crisis. The Russian defaults in 1998 led to a demand for better credit quality.

2.4 Developments in the ABCP market

Before 2007 the ABCP market went through growth and stagnation phases as well as defaults. The following literature was found to sketch a background of the ABCP market since inception to date.

2.4.1 ABCP – 1980s to 2006

It is important to discuss the ABCP market prior to 2007 to get a view on the growth and cycles that it has endured up to 2007. The following section covers the period from the 1980'2 (when ABCP started) to 2006.

According to Moody's (2000) the ABCP market started in the late 1980's and in 1995, the ABCP outstanding grew to US\$75 billion. It then grew to US\$504 billion by the first quarter of 2000.

Moody's (2000) indicated that due to the lack of cash flow matching, third party liquidity lines are a key determinant of ABCP credit quality and the credit ratings of liquidity providers are a key input into the ratings of ABCP programmes. Moody's further reports that all of the 16 ABCP downgrades in 1998 and 1999 were as a result of credit deterioration in the liquidity providers.

Bravo Trust is cited as an example in the Moody's paper. Bravo Trust, initially rated P-1, was downgraded and ultimately withdrew from the market as a result of the rating downgrade of Integrity Life, a liquidity provider.

In 2002 the US ABCP market failed to show growth in either outstanding or new programmes for the first time since the inception of the market. Outstandings were slightly down from year-end 2001: US\$270 billion vs US\$745 billion. Programme terminations exceeded new conduit formation and economic weakness limited the need for funding. Regulatory changes, especially potential accounting changes, discouraged new deal flow.

The European ABCP market continued to grow rapidly in the same period to US\$178 billion from US\$135 billion as it was not subject to the same proposed accounting regulations.

According to Moody's³³, ABCP outstanding reached US\$920 billion at 30 June 2006 and 8.5% increase from December 2005. The growth was across all types of traditional ABCP programmes and new programmes.

In the same report, Moody's refers to the April 2006 event when the Federal Reserve Board modified the manner in which CP outstanding were calculated and it resulted in US\$100 billion being transferred from ABCP to unsecured CP. ABCP resultantly declined from 57% of the total market to 52%.

³³ ABCP Market Overview: Mid-year 2006 Review; Jonathan Plansky, Sophia Berthelon, Alan Bonilla and Mark Hutchinson; 24 August 2006.

Through the end of the second quarter of 2006, Moody's (2006) reported that newly formed conduits (13) outpaced the number of terminations (11).

This information leads me to conclude that the ABCP market worldwide was growing at a steady pace in 2006.

2.4.2 ABCP - 2007

This thesis is however centred on the events in 2007 that caused ABCP programmes to request draw downs from liquidity providers. The following section will discuss these events.

2.4.2.1 Canada

Andrew Willis of The Globe and Mail reported on their Streetwise blog³⁴ on 14 August 2007 that, in the midst of the sub prime mortgage crisis in the US, Canadian issuers were forced to exercise options to extend maturing notes and attempt to access liquidity facilities from banks to meet commercial paper obligations. Banks were refusing to supply emergency financing for 17 Canadian asset-backed commercial paper issuers managing funds of C\$27 billion (C\$25.3 billion), including funds run by Coventree Inc., after they failed to sell short-term debt.

Willis reported that the ABCP market in Canada as at August 2007 was C\$116 billion of which 70% was sponsored by banks and the rest by non-banks. Coventree Capital is the largest non-bank sponsor in Canada. He also stated that as in the U.S., Canadian ABCP have liquidity facilities from big banks, but the biggest difference is that in the U.S. the banks are required to fund in the event that CP cannot be rolled over and in Canada, banks are only required to fund in the event of a general market wide disruption.³⁵

Pittman (2007) reported on Bloomberg on 14 August 2007 that Coventree Capital, with C\$16 billion of funds under management, reported that a number of banks

³⁴ The Globe and Mail; 14 August 2007. Foreign banks refuse to backstop Canadian commercial paper programs.

³⁵ Keith Horowitz; 16 August 2007; Drilling down on ABCP; Unlikely to be an issue for banks – Citigroup research paper.

refused to meet the request for C\$700 million in liquidity. Pittman (2007) further reported in the same article that Canada's big six banks are the biggest players in the asset-backed market, as both issuers and providers of liquidity on commercial paper programs. He estimated the total exposure of each bank and wrote that Bank of Montreal has agreed to supply C\$42.7 billion of backstop liquidity, Royal Bank of Canada has agreed to fund C\$35.1 billion, CIBC has agreed to C\$16.7 billion, Toronto-Dominion Bank is a provider of C\$15 billion in liquidity, Bank of Nova Scotia has agreed to provide C\$10.1 billion and National Bank has just C\$1.4 billion of exposure.

Coventree asked for the loans after it was unable to find new investors for its CP programs. The banks argued that there was not a general market wide disruption as some of the other issuers could roll over paper. On 16 August 2007, a consortium of ABN Amro, Deutsche Bank and eight other investors agreed to buy ABCP in Canada to ease the credit crunch.

These events served as a reminder that terms and conditions of credit facility agreements can be critical in times of distress and deserve close attention. The back-up liquidity agreements in question here appeared to be contingent on a "market disruption." Toronto-based Genuity Capital Markets analyst Mario Mendonca³⁶ wrote that it is conceivable that the banks could argue that the circumstances were more than a market disruption and elected not to provide the liquidity. He said the banks might claim that a decline in the value of the underlying assets were causing the problem, rather than a "disruption". Standard & Poor's (2007) refused to grant investment-grade ratings to Canadian issuers because of the clause that allows banks to decline funding.

Failure to receive funding in a timely manner may result in an event of default. The banks can sidestep the obligations to provide loans if there is any diminution of the creditworthiness of the trust or any deterioration in the performance of the assets of the trust. If Coventree were to support its conduits in such circumstances, the cost of such support could require the expenditure of significant amounts of capital and significantly reduce Coventree's profitability.

³⁶ Banks Refuse Funding for Canadian Commercial Paper – Bloomberg, 14 August 2007.

Similarly, Quanto Financial unit Metcalfe & Mansfield Capital Corporation said its Apsley Trust, Whitehall Trust and Devonshire Trust haven't been able to roll over maturing short-term debt. Metcalfe commented in Pittman's article on Bloomberg on 14 August 2007 that Deutsche Bank failed to put up cash for Apsley and Whitehall, while Barclays failed to pay for Devonshire Trust.

Erman, McNish, Perkins and Scofield³⁷ published a research paper on the events in Canada that lead to the liquidity crisis. In conclusion, they highlighted some learning lessons of which the key lesson was that investors in ABCP needed to play the role of credit officers as they examine what is behind the paper. They can no longer rely on banks, which are offloading their risk, to be as picky about the lending they do.

2.4.2.2 *Europe*

German lender IKB became the sector's first casualty in early August 2007 when by banks owned by Germany's state and federal governments also known as Landesbanken³⁸, bailed it out. IKB's problems came from its inability to provide liquidity to Rhineland Funding, a programme it sponsored.

On 10 August 2007, Schiaffino published an article announcing that the European Central Bank has injected €94,800 million to the markets in order to compensate the lack of liquidity. One of the main reasons for this movement was the announcement of BNP Paribas to temporarily freeze the liquidation value of three of its funds. The French bank followed the steps taken by other organisations such as Axa or the German bank WestLB.

2.4.2.3 *United Kingdom*

Duncan³⁹ reported in the Evening Standard on 21 August 2007, that The Bank of England provided \$314m of emergency funding to bail out an unnamed British bank affected by liquidity draw down requests. Other central banks, including the US Federal Reserve and the European Central Bank, have injected billions of dollars and euros into the credit markets to restore liquidity. But Bank of England Governor

³⁷ The ABCP black box explodes – Globe and Mail; 16 November 2007.

³⁸ Ragnhild Kjetland; 2 August 2007. Germany's state-owned regional banks helping IKB in sub prime exposure — The Associated Press.

³⁹ Shares U-turn as UK bank gets crisis loan – 21 August 2007; Evening Standard.

Mervyn King has refused to follow suit, saying instead that banks can borrow unlimited funds at 6.75% - one percentage point above the Bank's base rate of 5.75%.

Armitage⁴⁰ published an article on 22 August 2007 in the Evening Standard based on HBOS's announcement the previous evening that it will fund Grampian. HBOS was forced to provide millions of pounds in emergency financing. They reported that many banks have built up conduits but HBOS's Grampian was the biggest in the world. Grampian had \$35.4 billion in debt outstanding as of the end of May, according to Moody's Investors Service, making it the biggest issuer of ABCP in Europe.

2.4.2.4 United States of America

The impact of the liquidity draw downs on the banks providing it will be discussed in the following sections including Basel II effects and effects on the bank's balance sheet.

Liz Ann Sonders, Senior Vice President and Chief Investment Strategist of Charles Schwab & Co. Inc. published an article⁴¹ on 30 November 2007 wherein she commented that ABCP outstanding declined for the 16th straight week, the week before her report. She published the following graph as evidence:

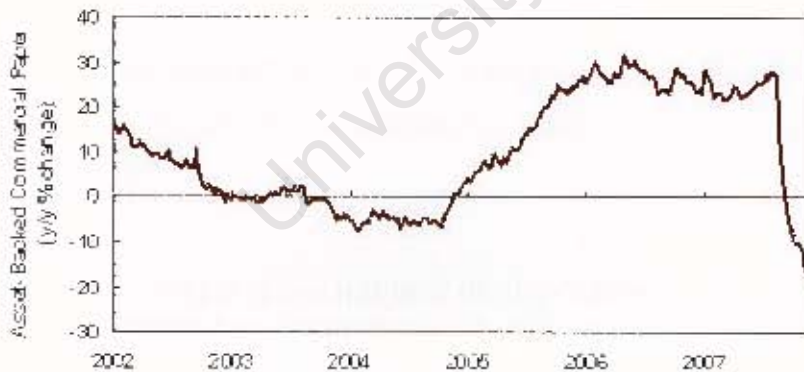


Figure 5⁴²

Sonders (2007) stated that ABCP is issued by several entities, notably Structured Investment Vehicles ("SIVs"). SIVs have come under scrutiny as some of the biggest players in the ABCP market, and have found themselves unable to place commercial paper in recent months. The SIVs' sponsoring banks are being forced to provide

⁴⁰ High Street banks face huge bailout bill – 22 August 2007: Evening Standard.

⁴¹ http://www.schwab-worldwide.com/content/article1207_1.html; The ABCs of CDOs, ABCP, MBSs, SIVs and NAVs

⁴² Graph also from report published by Lizz Ann Sonders as referenced above.

liquidity lines or buy commercial paper themselves in order to prevent asset sales. In some cases, banks have also bought assets from the SIVs at par value, allowing the SIVs to deleverage without suffering major losses.

Fender and Hordahl⁴³ issued a paper in September 2007 in the BIS quarterly review discussing the liquidity squeeze in that period. According to them the total amount of outstanding ABCP topped \$1.5 trillion at end March 2007. US ABCP programmes accounted for some 75% of this amount and the \$260 million European market made up for the rest. The US ABCP market was 55% of the US CP market.

It is also important to discuss M-LEC at this stage as it had an impact on the US conduit market. M-LEC was an initiative by a group of commercial banks in America that pooled their capital and created a support facility of \$100 billion for structured investment vehicles. Donna Mitchell investigated this master liquidity enhancement conduit and she published her findings in the Asset Securitisation Report on 14 January 2008⁴⁴.

Mitchell (2008) reported that two events led to the failure of M-LEC, being the announcement by Citigroup that it would consolidate the SIV's assets and liabilities onto its balance sheet and secondly, eight days later, Bank of America, JP Morgan Chase and Citigroup decided to pull the plug on M-LEC.

According to Mitchell, the M-LEC failure would make some bank regulators wonder whether banks should be allowed to continue treating SIV's like off-balance sheet instruments.

2.5 Prior research and methodology

The ABCP market discussed above sets the background for studies that ensued post the liquidity draw down events in Canada. A few research pieces were found post the 2007 events in Canada that investigated the impact of liquidity draw down events in different countries. These will be discussed below and will be used to determine the methodology to be applied to determine South African banks' exposure in similar circumstances.

⁴³ Ingo Fender & Peter Hordahl; Overview: Credit retrenchment triggers liquidity squeeze; September 2007

⁴⁴ Donna Mitchell; Boomerang Effect: is Citi's latest SIV Strategy; Asset Securitisation Report; 14 January 2008

2.5.1 Australia

The Australian ABCP market has grown to A\$72 billion at July 2007 according to the Australian Reserve Bank Bulletin of January 2008. 45% of the assets are residential mortgages and a further 17% is RMBS. A\$24 billion or 37% of liquidity facilities are provided by the largest 4 banks in Australia with the remainder provide by branches of foreign banks. The liquidity facilities are however only 2.3% of the risk-weighted assets of A\$1 100 billion of the Australian banks.⁴⁵ Stevens, Governor of the Reserve Bank of Australia stated in his address to Australian Business in London on 18 January 2008 that the key banking institutions in Australia are strongly capitalised, have adequate liquidity and relatively little exposure to the problems in the US housing market.

Analyst Peter Russel of Intersuisse published research⁴⁶ on the Australian ABCP market on 29 January 2008. He states that ABCP issued by Australian entities has declined by 14% from end July to approximately A\$62 billion at end October 2007. Some of the conduits also drew on their liquidity facilities. Spreads reached new highs in December 2007 and shorter maturity paper was issued.

2.5.2 USA and Europe

Fitch did research⁴⁷ in September 2007 on the US and European ABCP market and banks' exposure thereto as at end of March 2007. Some of their key findings were:

- The ABCP market in these regions consisted of US\$1.15 trillion of US ABCP and US\$300 billion of European ABCP;
- Small regional banks will have greater difficulty in funding these liquidity facilities than large well diversified international banks. The latter may need to sustain this for an indefinite period, given the difficulties in anticipating an end to the current (2007/8) market correction and liquidity crisis. The longer it takes a conduit to regain access to the ABCP market, the greater the downside risks to earnings for the bank.

⁴⁵ Statistics as per the Reserve Bank of Australia, June 2007.

⁴⁶ Peter Russel; 29 January 2008; Stress Test for debt; Intersuisse Investment Research,

⁴⁷ Ian Linnell, Jim Moss, Krishnan Ramadurai and Gerry Rawcliffe; 12 September 2007; Asset-Backed Commercial Paper & Global Banks Exposure – 10 Key Questions, FitchRatings Special Report.

- For European ABCP, German banks IKB and Landesbank were most exposed to liquidity risks, at 28.8% and 31.6% respectively of asset value. Their capital ratios also drop sharply assuming that all liquidity lines are brought back on to the balance sheet and are risk-weighted at 100%. Under Basel II, the risk weights will be determined by the external ratings of the assets held, to the extent the assets are bought by the bank, or by the rating on the drawn liquidity line, and will in the majority of cases be less than 100%.
- In the US, the two banks most exposed to liquidity risks are State Street Bank and Trust Company and Zions First National Bank. They have liquidity facilities to conduits that represent 24% and 39% of assets, respectively.

Fitch defined funding as deposits and senior and subordinated debt and used the committed facility as the conservative measure for the liquidity facility. On the US banks they did two additional ratios being Liquidity Facilities as a percentage of non-pledged investments and Liquidity Facilities as a percentage of free liquid assets. The impact of Basel II was measured by them calculating the change in the Tier 1 capital ratio. Tier 1 capital consists primarily of equity capital and cash reserves, but may also include perpetual preference shares and retained earnings

Standard & Poor's⁴⁸ analysed the German banking sector exposure to U.S sub prime mortgages and their liquidity facilities granted to structured vehicles. They found that liquidity facilities granted by rated German banks are smaller than the IKB and Landesbank exposures and that German banks rely very little on securitisations as a funding tool. They concluded that German banks' balance sheet are sufficiently strong to absorb the draws on liquidity facilities.

Horowitz (2007)⁴⁹ reviewed the U.S. banks for their conduit exposure based on their disclosure in their regulatory returns. He looked at the change in capital ratios if the conduit came on balance sheet for the banks providing its liquidity facility. Horowitz's results indicated that State Street Bank and IKB would have a reduction of 17% and 15% respectively in their capital to total asset ratio if the liquidity facilities they provided were drawn. Horowitz concludes that US banks will have sufficient balance sheet capacity to put these facilities on.

⁴⁸ Stefan Best and Michelle Brennan; 19 September 2007; German Banks' Sub prime Mortgage and Structured Vehicle Exposure Concerns are overstated; Standard & Poors research paper.

⁴⁹ Keith Horowitz; 16 August 2007; Drilling down on ABCP; Unlikely to be an issue for banks – Citigroup research paper.

Samuels and Harrison⁵⁰ published a report on Pan-European banks and focused on asset growth due to funding of conduit liquidity facilities. They estimate that €450 billion of assets were added to European banks' balance sheets due to ABCP conduits coming on balance sheet. They further concede that this is only 5% of the assets of the European banking sector but that it represents a big increase in the growth in Risk Weighted Assets ("RWA"). The growth was expected to be €800 billion in 2007, but it is now expected to be over €1 300 billion. Samuels and Harrison (2008) also believe that these assets have prevented other viable lending options and in their terms it is a true credit crunch.

2.5.3 Emerging markets

In February 2008, Moody's published its 2007 Review and 2008 Outlook for European, Middle East and Africa ("EMEA") ABCP and provided statistics that showed a 29% decline in issuance levels from US\$524.5 billion at July 2007 to US\$347.6 billion at the end of 2007. Conduits experienced a loss in investor confidence reflected in a significant increase in funding costs and shorter ABCP tenor. Investors were reluctant to buy CP which they were possibly unable to roll and this led to banks taking the assets of the conduits back on their balance sheets and providing regulatory capital against these assets. This resulted in steady decline in ABCP issuance levels from August 2007 to year-end, wiping out almost two years of growth.

The authors of this Moody's research piece, Zakaim and Deméocq, concluded that there were two very distinct trends that resulted in not all programmes being equally affected by the market disruption. The first was the fact that investors were distinguishing between conduits and not basing their investment solely on the ratings. Conduits with exposure to US sub-prime residential mortgage backed securities were worse off with issuance levels dropping by 36% for the last six months of 2007 whilst being on par with other conduits in the prior year at single digit growth.

⁵⁰ Samuels and Harrison, 3 January 2008; Creaking; Citigroup Global Markets – Equity Research paper.

The second factor was the strength of the sponsor. The conduits which recorded the most significant declines were sponsored by lower-rated and/or smaller institutions including the German Landesbank.

Zakaim and Deméocq (2008) stated that as far as Moody's was aware, within the EMEA ABCP conduit market all liquidity providers honoured their liquidity commitments in full when drawn. It is not clear if the liquidity facilities were drawn due to the inability to issue paper into the market or whether it was not economically viable to issue new paper. The size of some sponsor's off-balance sheet conduits in relation to the size of their balance sheets also led some investors to question the sponsor's capacity to provide support. This was exacerbated by the freeze in the inter-bank lending market.

Zakaim and Deméocq (2008) also mentioned that in addition to the factors mentioned above, the investors in the ABCP are usually money market funds that can easily withdraw their funds. From their findings, it is important to note the key factor to consider for South African markets are therefore the capital position and liquidity of the banks.

2.6 ABCP market in South Africa

Very little research were found on the South African ABCP market however, special mention need to be made of the research done by Gresty and Krzylchylkiewicz (2007)⁵¹ on South African bank's exposure to liquidity facilities.

Their findings were that there is no reason why there should be contagion from the liquidity problems experiences offshore and secondly that if any, it will not have a material effect on the large South African banks. The reasons they cite includes 1) the conduits contain little or no sub-prime exposure, 2) it is all funded locally, 3) the conduits are small in relation to the banks balance sheets and 4) it is structured better.

Gresty and Krzylchylkiewicz focussed on the size of South African conduits relative to the size of the total South African bank funding base. They have calculated the size of the various conduits relative to the funding bases of the banks that administer

⁵¹ Mike Gresty and Voyt Krzylchylkiewicz; 3 October 2007; Conduits: Should we be concerned? - Deutsche Securities – Global Markets Research paper.

them. They have included in the funding only the rand denominated deposits and Tier 2 bonds. They concluded that in total, the size of conduits at June 2007 represents 4% of the funding bases of the banks that provide liquidity facilities (7% if all conduits were at their maximum permitted size).

They also conclude that FirstRand is the most exposed to liquidity facilities with the current size (at the time of their report) of liquidity facilities being over 6% of the funding base and the approved liquidity facilities being over 12%.

Gresty and Krzylchylkiewicz (2007) note in their research that South African conduits are unable to invest in non-South African assets due to Exchange Control implemented by the South African Reserve Bank ("SARB"); therefore they have no exposure to US Sub prime assets. The spreads on the underlying assets have widened due to contagion, but there have been no downgrades across bank, securitisation and parastatal assets in the six months ended 31 January 2008.

Gresty and Krzylchylkiewicz (2007) define South African conduits as follows:

- it is a separate legal entity in which the banks have no shareholding;
- it is entirely funded by CP with a maximum tenor of 364 days;
- the CP is rated, therefore all the assets in the conduits must also be individually rated;
- the maximum size of the conduit is limited and must be approved by the Bank Supervision Department of SARB, however, the company starting the conduit does not have to be a bank;
- the administrator and liquidity provider must maintain its own credit rating;
- CP cannot be presented for payment before its maturity date; and
- the credit risk is borne by the holders of the CP, however, market risk is covered by the liquidity facility.

The reason for expansion on their research includes:

- The need to include all conduits in South Africa, not only the big five conduits;
- The need to investigate the differences between the definitions of liquidity facilities (not assuming all definitions are similar); and
- The need to calculate possible impact on banks capital.

The latter point leads to the next section covering the impact that liquidity draw down would have on regulatory capital.

Chapter 3 – Regulations

The following section discusses the relevant regulations that govern the use of liquidity facilities in South Africa governing and also the impact of Basel II's requirements regarding capital reserving on the South African banks. These 2 sections were identified as the most important regulations that will impact the research.

3.1 South African regulations

Van der Poel discussed the South African securitisation market in his article on the website of Webber Wentzel⁵² in March 2008. Van der Poel stated that Securitisations in South Africa are specifically excluded from the Banks Act (No. 94 of 1990) and are regulated by a Government Notice of which the latest version was published in Volume 511 of the Government Gazette No 30628 of 1 January 2008 ("the Regulations"). Securitisations are designated as an activity not falling within the meaning of "The Business of a Bank". As a conduit is not a bank, it does not have to hold regulatory capital and therefore it is potentially cheaper for a corporate to raise funding via a conduit than from a bank.

The Regulations define a liquidity facility as a facility provided in order to cover deficiencies in cash flows within the said securitisation scheme resulting from:

- a) time differences between payment of interest and principal on the assets and payment in respect of CP; or
- b) market disruptions; or
- c) a combination of any of the above

and which does not constitute a credit-enhancement facility.

If the liquidity facility provider is seen as providing implicit support to the special purpose institution, the Registrar of Banks can determine that it is support beyond contractual terms and the bank shall maintain capital and reserve funds against all exposures associated with the scheme, it shall not recognise any future gain relating

⁵² Webber Wentzel is a South African legal firm. Article from <http://www.wwb.co.za/wwb/view/wwb/en/page2018>

to the scheme and shall disclose detailed information relating to the implicit support.⁵³

As per the Regulations, the following conditions relate to liquidity facilities:⁵⁴

- i) liquidity facility
 - a. shall not be associated with the credit risk of the underlying reference assets;
 - b. shall have a specified maturity date;
 - c. shall be clearly documented to distinguish it from other facilities;
 - d. shall have market related terms;
 - e. shall be subject to the provider's normal credit approval and review process;
 - f. may be reduced or terminated at the instance of the provider should there be a deterioration of asset quality;
 - g. shall contain a reasonable asset quality test to ensure that the facility does not cover defaulted assets and only investment grade assets;
 - h. shall provide to its termination if there is no longer a sufficient level of performing assets and the credit enhancement facility have been exhausted;
- ii) There shall be no recourse to the provider beyond a fixed contractual obligation;
- iii) Parties involved in the scheme have the right to select an alternative liquidity facility provider;
- iv) It is not a permanent revolving facility to provide credit enhancement or to cover losses;
- v) The utilisation will be effected by the special purpose institution and not by the investors;
- vi) The debts and fees resulting from the liquidity facility ranks senior to the interest of investors;
- vii) The features of the liquidity facility need to be disclosed to investors and it should be stated that the support does not extend beyond the terms of the facility.

⁵³ The Regulations, chapter 4, section 3, page 21.

⁵⁴ The Regulations, chapter 7.

3.2 Basel II requirements

The Basel Committee on Banking Supervision is a committee of banking supervisory authorities that was established by the central bank governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. It usually meets at the Bank for International Settlements in Basel, where its permanent Secretariat is located. Its purpose is to secure international convergence on revisions to supervisory regulations governing the capital adequacy of internationally active banks⁵⁵.

Jobst (2004) published his research⁵⁶ on the regulatory treatment of asset securitisation based on the Basel framework in the *Journal of Financial Regulation and Compliance*. He states that Basel II is the international rules for the capital adequacy of internationally active banks and that the new regulatory provisions link minimum capital requirements closer to the actual riskiness of bank assets to redress shortcomings in the old system of the overly simplistic 1988 Basel Accord.

The use of ABCP is an incentive for banks to structure transactions in such a way as to minimise their regulatory capital charge. Under Basel I the undrawn back-up liquidity lines provided by banks to conduits was recorded as off-balance sheet exposures and did not attract regulatory capital since the term was less than one year.

Since a liquidity facility is not an asset, but a credit issue, the Basel II Regulations⁵⁷ deal with the appropriate Credit Conversion Factor ("CCF") that must be applied to the facility to a credit equivalent on-balance sheet position. Firstly, the exposure is converted to a credit equivalent on-balance sheet position, and then the same risk weighting is applied as if the bank held that position on balance sheet.

⁵⁵ International Convergence of Capital Measurement and Capital Standards: A Revised Framework-Comprehensive Version. *This document is a compilation of the June 2004 Basel II Framework, the elements of the 1988 Accord that were not revised during the Basel II process, the 1996 Amendment to the Capital Accord to Incorporate Market Risks, and the 2005 paper on the Application of Basel II to Trading Activities and the Treatment of Double Default Effects. June 2006.*

⁵⁶ Andreas Jobst; The Basle Securitisation Framework Explained: The Regulatory Treatment of Asset Securitisation – *Journal of Financial Regulation and Compliance*, Vol. 13, No. 1 – 12 January 2004.

⁵⁷ Basle Committee on Banking Supervision; The New Basle Accord, Consultative Document – Issued for Comment by 31 July 2003. Bank for International Settlements (April 2003).

The following table is the risk weighting for on balance sheet CP investment according to the standardised approach:

Rating range		Risk weighting
AAA	AA-	20%
A+	A-	50%
BBB+	BBB-	100%
BB+	BB-	150%
B+	D	capital deduction*
unrated		capital deduction*

* regarded as credit enhancement

Figure 6⁵⁸

The Basel Committee on Banking Supervision published a paper in June 2006⁵⁹ which details how banks must determine whether, according to the criteria outlined below, an off-balance sheet securitisation exposure qualifies as an 'eligible liquidity facility'.

- (i) a facility, fixed in time and duration, must be provided to the SPV, not to investors, which is subject to usual banking procedures and, at regular banking terms, subject to usual banking procedures,
- (ii) the SPV must have the option at its disposal to seek credit support from elsewhere,
- (iii) the terms of the facility must be established on grounds of a clear identification in what circumstances it might be drawn, ruling out the utilisation of the facility neither as a provider of credit support, as a source of permanent revolving funding nor as cover for sustained asset losses,
- (iv) the facility should include a contractual provision (on the basis of a reasonable asset quality test) to either prevent a drawing from being used to cover deteriorated or defaulted assets or to reduce or terminate the facility for a specified decline in asset quality, and

⁵⁸ Andreas Jobst; The Basle Securitisation Framework Explained: The Regulatory Treatment of Asset Securitisation – Journal of Financial Regulation and Compliance, Vol. 13, No. 1 – 12 January 2004.

⁵⁹ International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version. *This document is a compilation of the June 2004 Basel II Framework, the elements of the 1988 Accord that were not revised during the Basel II process, the 1996 Amendment to the Capital Accord to Incorporate Market Risks, and the 2005 paper on the Application of Basel II to Trading Activities and the Treatment of Double Default Effects.* June 2006.

- (v) the payment of the fee for the facility should not be further subordinated or subject to a waiver or deferral, while the drawings under the facility should not be subordinated to the interests of the note holders.

Where these conditions are met, the bank may apply a 20% CCF to the amount of eligible liquidity facilities with an original maturity of one year or less, or a 50% CCF if the facility has an original maturity of more than one year.

Thus, the risk weighting applied to a 100% liquidity facility with assets rated at least AA- would be just 4% (20% credit conversion factor x 20% risk weighting for AA-rating = 4% risk weighting).

Banks may apply a 0% CCF to eligible liquidity facilities that are only available in the event of a general market disruption (i.e. whereupon more than one SPV across different transactions are unable to roll over maturing commercial paper, and that inability is not the result of an impairment in the SPVs' credit quality or in the credit quality of the underlying exposures).

Basel II further stipulates that the liquidity facility can be split between the portion for timing mismatch and a portion for general market disruption. Timing mismatch refers to the mismatch between cash flows coming in and going out to pay interest and expenses. A general market disruption refers to cases where it is not possible to roll the funding, which is not related to a specific credit event. In aggregate, these two components must add to 100% of the facility.

The timing mismatch portion will attract a CCF of 20% while we note that the CCF recommended for general market disruption (typically the bulk of the liquidity facility) is 0%.

Further capital relief may be obtained in cases where a bank is able to calculate its capital requirements using the advanced Internal Ratings Based ("IRB") approach. Subject to certain minimum conditions and disclosure requirements, banks that have received supervisory approval to use the IRB approach may rely on their own internal estimates of risk components in determining the capital requirement for a given exposure. The risk components include measures of the probability of default ("PD"), loss given default ("LGD"), the exposure at default ("EAD"), and effective

maturity. In some cases, banks may be required to use a supervisory value as opposed to an internal estimate for one or more of the risk components.

The IRB approach is based on measures of unexpected losses ("UL") and expected losses ("EL"). The risk-weight functions produce capital requirements for the UL portion. The challenge is that, in order to use the advanced approach, the bank must have qualified to apply it to all its other businesses.

Nedbank, one of the big four South African banks, published a pro-forma Basel II calculation in their December 2007 financial statements. Basel II only came into effect from 1 January 2008. Below is an extract of the results:

Risk type	Capital requirements Rm
Credit risk	26 033
Credit portfolios subject to A/RB approach (ie Nedbank Limited):	22 174
Corporate, sovereign, bank (incl. SME)	12 130
Residential mortgage	5 724
Qualifying revolving retail	737
Other retail	3 582
Credit portfolios subject to standardised approach:	3 779
Corporate, sovereign, bank	1 738
Retail exposures	2 041
Securitisation exposures (IRB approach)	81
Equity risk	1 671
Equity portfolios subject to the market-based simple risk weight method approach:	
– Listed (300% risk weighting)	45
– Unlisted (400% risk weighting)	1 626
Market risk	
Trading portfolios subject to standardised approach	452
Operational risk	
Portfolios subject to the standardised approach	2 775
Other assets	1 719
TOTAL MINIMUM CAPITAL REQUIREMENTS (9,75% of risk-weighted assets)	32 650
QUALIFYING CAPITAL AND RESERVES	37 421
Net surplus over minimum regulatory capital requirements	4 771

	2007		Basel I		2006		Pro forma Basel II 2007	
	Rm	%	Rm	%	Rm	%	Rm	%
Tier 1 capital (Primary)	27 785	9,3	22 932	8,3	26 611	8,0		
Share capital and reserves	40 793		25 116		30 193			
Minority interest: ordinary shareholders	1 511		202		1 511			
Minority interest: preference shareholders	3 421		3 070		3 421			
Impairments	(8)		(7)		(8)			
Goodwill	(3 898)		(3 695)		(3 898)			
Inappropriated profits	(672)		(668)		(652)			
Excess of expected loss over eligible provisions (50%)	–		–		(854)			
Other regulatory differences and non-qualifying reserves	(2 762)		(2 386)		(2 902)			
Tier 2 capital (Secondary)	12 855	3,8	9 593	3,4	10 510	3,1		
Long-term debt instruments	12 326		8 518		12 326			
Tier 2 bonds not qualifying as Tier 2 capital	(1 453)		(416)		(1 453)			
Provision for performing loans	1 685		1 256		350			
Excess of expected loss over eligible provisions (50%)	–		–		(854)			
Other regulatory differences	297		105		141			
Tier 3 capital (Tertiary)	253	0,1	138	0,1	300	0,1		
Total	40 893	12,2	32 663	11,8	37 421	11,2		

Figure 7⁶⁰

⁶⁰ http://www.nedbankgroup.co.za/financials/Nedbank_ar07/downloads/complete_nedbank_AR07.pdf, page 143 of the annual financial statements of Nedbank for the year ended 31 December 2007

It is evident from Nedbank's calculation the bank would have excess qualifying regulatory capital upon implementation of the new Basel II regulations.

University of Cape Town

Chapter 4 - Methodology

The literature discussed above generally focussed on the liquidity facilities provided by a bank as a percentage of the banks' assets.

- Linnell, Moss, Ramadurai and Rawcliffe⁶¹ calculated the liquidity facilities as a percentage of funding available for US and European banks. They found that large well diversified international banks will have sufficient funding but small regional banks with a concentrated deposit base or a dependence on wholesale markets for funding may struggle to provide the required funding. As an example, the liquidity facilities as a percentage of total funding for German banks IKB and Landesbank were most exposed to liquidity risks, at 28.8% and 31.6% respectively.
- Linnell, Moss, Ramadurai and Rawcliffe's (2007) methodology applied to US and European banks were also liquidity facilities as a percentage of asset value. They also calculated liquidity facilities as a percentage of non-pledged investments and liquidity facilities as a percentage of free liquid assets. The impact of Basel II was measured by them calculating the change in the Tier 1 capital ratios. Landesbank was found to be the most exposed with a 50% increase in Tier 1 capital required if the liquidity facilities it provides are called upon.
- Horowitz (2007)⁶² also reviewed the U.S. banks for their conduit exposure based and he looked at the change in capital ratios if the conduit came on balance sheet for the banks providing its liquidity facility.
- Gresty and Krzylychylkiewicz focussed on the size of South African conduits relative to the size of the total South African bank funding base.

As none of the literature pieces goes into detail on the definition of the denominator (risk-weighted assets, asset values, funding base) it is important at this stage to determine my definition of what I will use as the denominator. Secondly, the impact of Basel II will have to be considered and the change in the Tier 1 ratio will be used.

The following assumptions will be made:

⁶¹ Ian Linnell, Jim Moss, Krishnan Ramadurai and Gerry Rawcliffe; 12 September 2007; Asset-Backed Commercial Paper & Global Banks Exposure – 10 Key Questions, FitchRatings Special Report.

⁶² Keith Horowitz; 16 August 2007; Drilling down on ABCP; Unlikely to be an issue for banks – Citigroup research paper.

- For Basel II purposes, it will be assumed that the liquidity facilities will carry a CCF of 20% and a risk weighting based on the Standardised Approach risk weighting for an on balance sheet CP investment per rating category (Refer to section 3.2 above).
- The South African study by Gresty and Krzylchylkiewicz (2007) focussed on the main conduits operated by the banks but excluded the warehousing conduits being Sanlam Home Loans 102 and Thekwini Warehousing Conduit. Sanlam Home Loans 102 has been discontinued in August 2008, but Thekwini Warehousing Conduit will be included in the study as its liquidity facilities will be accessed in the same circumstances as any of the other conduits'.
- The size of the liquidity facility will be set at the maximum programme size for the conduit and not the current value of notes in issue. This is more conservative.

University of Cape Town

Chapter 5 – Data

In this section, the data relating conduits and banks involved in South African ABCP will be discussed.

5.1 History of South African conduits

The first conduit issuance in South Africa was in July 2002 by Standard Bank via Blue Titanium and was followed by ABSA's Asset Backed Arbitrated Securities ("ABACAS") in December 2002. At the end of 2002, there was R1 billion⁶³ of ABCP in issue in South Africa.

CP issuance grew to R10 billion outstanding at the end of 2003 with the introduction of iNdwa by RMB in July 2003. July 2004 saw the introduction of Synthesis by Nedbank and by December 2004, market issuance was up by 81% from the previous year to R18 billion. There was repeat issuance by ABACAS in 2004 and it continued in 2005. 2005 also saw the launch of Investec's Grayston conduit and issuance at year-end was 66% up from 2004 at R30 billion.

There were no new conduits in 2006 and repeat issuance by existing conduits increased the ABCP market to R41 billion at December 2006. iVuzi, a restructuring of RMB's iNdwa, was launched in June 2007. Blue Titanium is not listed, but including Blue Titanium, the conduit market grew to R51 billion by 31 December 2007⁶⁴ then decreased by 10% from the latter date to 30 September 2008. It is illustrated in Figure 8 below:

⁶³ Data from the Bond Exchange of South Africa's bond data at 31 January 2008 (downloaded from www.bondexchange.co.za – the files get updated daily) plus Blue Titanium investor report for the same date.

⁶⁴ Data from the Bond Exchange of South Africa's bond data at 31 January 2008 (downloaded from www.bondexchange.co.za – the files get updated daily) plus Blue Titanium investor report for the same date.

Growth in ABCP Conduits

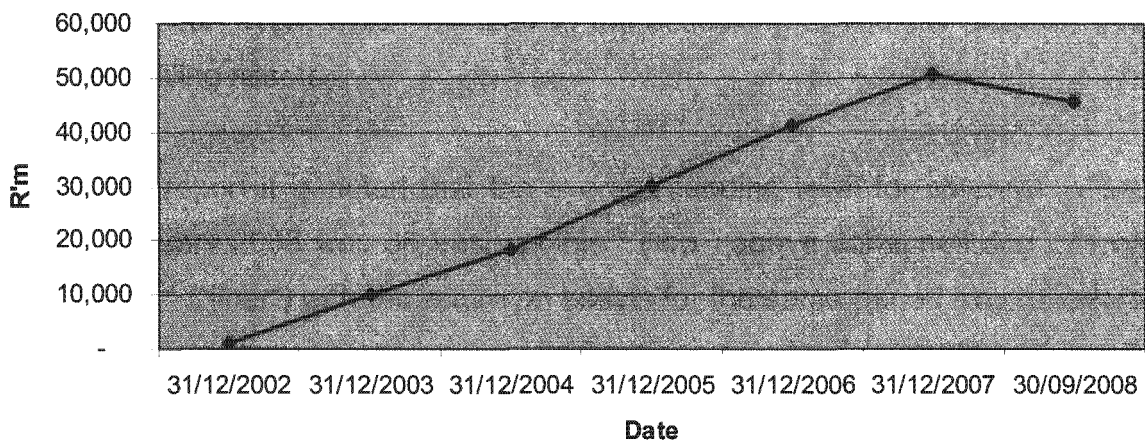


Figure 8

As at 30 September 2008, there were 9 ABCP conduits in South Africa, of which four are single-seller conduits (Sanlam Personal Loans 102, Thekwini Warehousing Conduit and Grayston Series 4 and Series 5). Two are multi-seller and the rest are hybrid conduits. Sanlam Personal Loans 102 and Grayston 4 and 5 are excluded from the research as it is mostly internally funded and very little information is publicly available on it.

The following data in Figure 9, were compiled from the individual conduits' investor reports as at 30 September 2008:

	31-Mar-08	30-Sept-08	% change
ABACAS 1	3,794	3,500	-8%
ABACAS 2	3,911	3,316	-15%
ABACAS 3	1,585	-	-100%
ABACAS 4	2,615	-	-100%
BTITAN	11,025	7,996	-27%
GRAY1	1,645	1,535	-7%
GRAY2	1,493	1,563	5%
INDWA	10,416	10,134	-3%
IVUZI	5,259	5,126	-3%
THEKWINI WH	8,400	4,388	-48%
SYNTESIS	9,125	8,031	-12%
	59,268	45,589	-23%

Figure 9

5.2 Demand for and supply of conduit CP in South Africa

Rushton and Gable⁶⁵ published their research of the South African ABCP market on 5 March 2008. They are of the opinion that a credit crunch is possible and that

⁶⁵ Kate Rushton and Geff Gable, ABSA Capital; 5 March 2008; South Africa's asset-backed commercial paper market – The whole nine yards.

should the funding costs rise above the average weighted returns on underlying assets, conduits will firstly tap into excess spread. Thereafter they could call for a market disruption event which will lead to the accessing of liquidity facilities and/or selling underlying assets.

In the same report it is noted that the average funding level for conduits in South Africa in January 2008 was 38 basis points⁶⁶ ("bp") above Johannesburg Interbank Agreed Rate⁶⁷ ("jibar") with the return on assets for the same period was on average only 40bp above jibar. The gap narrowed from average funding of 62bp above jibar in July 2007 and asset returns of 39bp at the same time.

Rushton and Gable also believe that recent growth in conduits has been stunted by a rising interest rate environment, changing investor demand and less favourable sentiments flowing from the international credit market. They conclude that there has been smaller note sizes and shorter average tenor. Notes of 30 days or less are still just 0.5% of the market and 30-60 days are 14%. Rushton and Gable indicated that this is far less than the 40% to 50% of European CP being short dated.

Another factor influencing demand for CP is regulatory restrictions on the investors. In October 2007, the conduit sponsors in South Africa (the banks) jointly approached the Financial Services Board to petition against the possible classification of conduits as bank paper for collective investment schemes reporting purposes. Due to the mandate and regulations of collective investment schemes, the percentage of investments in banks are restricted and if the conduits were added to this category, conduit paper would have to compete with bank paper and a possible reduction in demand would ensue.

The South African banks wrote a memorandum letter⁶⁸ highlighting their views and the focused on the fact that a liquidity facility provider needs to be replaced if it is downgraded, therefore the exposure cannot be aggregated with that of the facility provider. They concluded that the instrument rating opposed to an issuer rating is as a result of rating agency methodology only and is not reflective of the substance of

⁶⁶ a basis point is 0.01%, or alternatively 100bp is 1%

⁶⁷ The money market rate used in South Africa.

⁶⁸ A memorandum letter, dated 27 October 2007, pursuant to a meeting held between representatives of the banking sector and the Head of Collective Investment Schemes - FSB on 17 October 2007. At the meeting they discussed the treatment of ABCP in terms of the provisions of the Collective Investments Schemes Act.

the company. The response of the FSB was pending at time of preparation of this thesis.

A factor that influences the supply of ABCP is the spread earned by banks on doing these deals. As the conduits were used by the South African banks to take assets off balance sheet and fund it by issuing CP, the spread earned on these vehicles is a good indicator of how effective this strategy was and still might be. ABSA Capital⁶⁸ did research on the difference between the funding spread and the return earned on the underlying assets. Their findings are summarised in the following table (Figure 10):

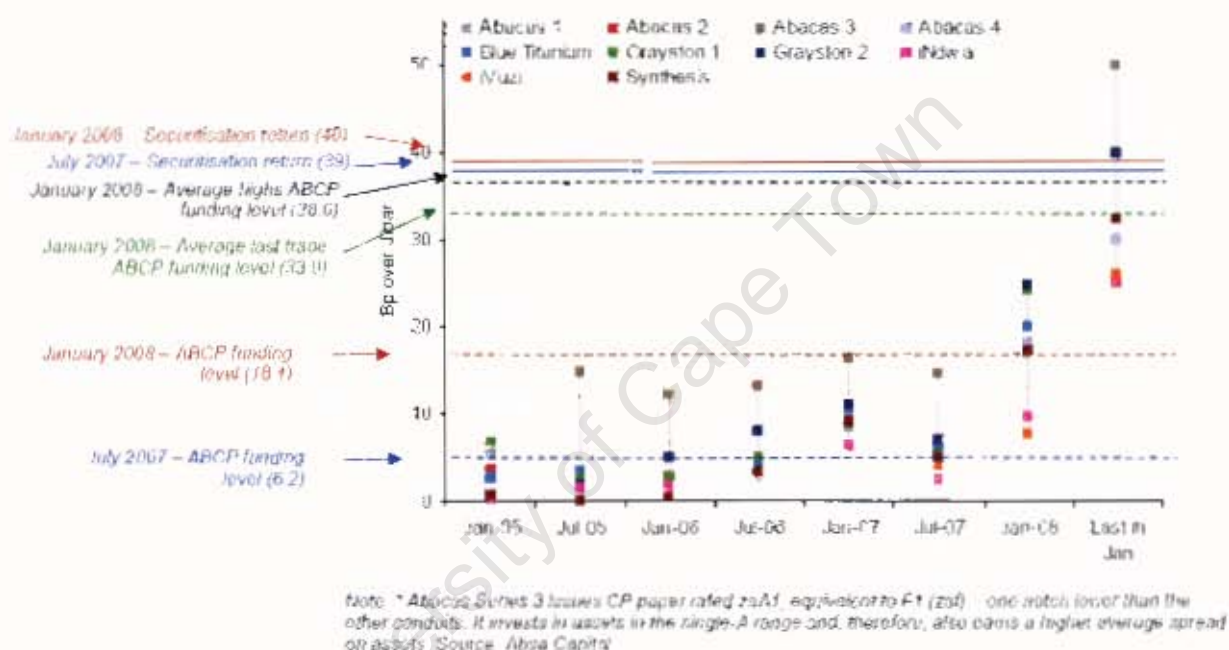


Figure 10⁷⁰

There has been an increase in the funding spread from 6.2bp over 3 month jibar in January 2005 to a high of 38bp over 3 month jibar in January 2008. Securitisation returns has however remained fairly constant at 39bp to 40bp over 3 month jibar in 2007 and 2008.

Further research later in 2008 by ABSA Capital⁷¹ comments that there were very few securitisation deals done in 2008, but that there was a clear increase in spreads for

⁶⁸ South Africa's Asset Backed Commercial Paper Market – The Whole Nine Yards, 5 March 2008, K Rushton, J Gable.

⁷⁰ South Africa's Asset Backed Commercial Paper Market – The Whole Nine Yards, 5 March 2008, K Rushton, J Gable.

these. ABSA Capital published the following graph indicating the 2004 to 2007 increases in securitisation spreads as follows (Figure 11):

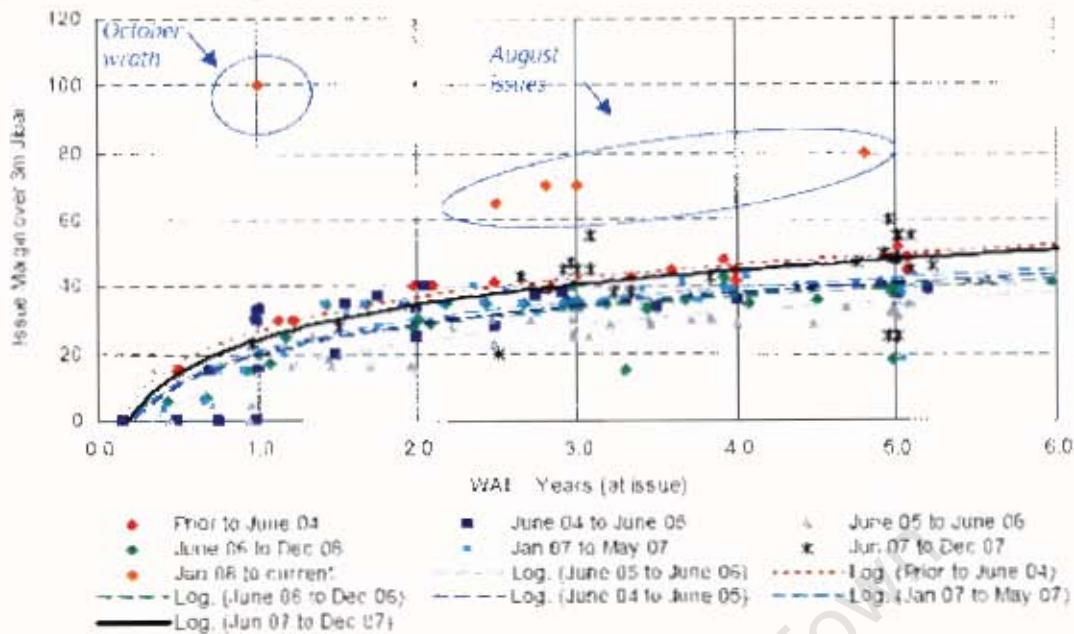


Figure 11⁷²

The January 2008 to current (being October 2008) spreads are much higher but the reality is that the assets in the conduits are the older assets which were issued at a lower spread. The funding paid by the conduits would therefore just become uneconomical if it is more than the spread earned on the older securitisation assets.

This was one of the reasons for the withdrawal of ABACAS 3 and 4 in August 2008, the spread became so marginal and it is cheaper for the banks to fund the assets on balance sheet.

5.3 Conditions for draw down on liquidity facilities in South Africa

In this chapter so far, the history of South African conduits and the factors that could impact the supply and demand for ABCP was discussed. It is now relevant to determine the terms and conditions that specifically relate to South African conduits that would determine how much and when liquidity facilities can be called upon. For this purpose the South African conduits' programme memoranda are scrutinised to determine if there are standard terms.

⁷¹ South African Securitisation Handbook – Check or checkmate?, K Rushton, November 2008

⁷² South African Securitisation Handbook – Check or checkmate?, K Rushton, November 2008

The terms that are focussed on are:

- a) what is the amount of the liquidity facility;
- b) what is the conditions for draw down;
- c) under what conditions can they not draw down; and
- d) when can the facility be cancelled.

Again, the offering circular of iNdwa was used to obtain the definitions of the terms mentioned above. By review of the other conduits' programme memoranda, it was found that the terms are standard across all conduits in South Africa. The terms are as follows:

- The main liquidity provider, usually the bank sponsoring the conduit has to arrange liquidity facilities for the conduit with various individual liquidity facility providers so as to ensure that the amount of liquidity funding committed to the conduit is always equal to or greater than the **minimum liquidity commitment**.
- **The minimum liquidity commitment is** the minimum aggregate commitment under all individual liquidity facility agreements required by the conduit at any point in time. This is the final settlement amount of all notes in issue (and not yet redeemed) as at such point in time, plus the aggregate value of all senior fees and expenses due and payable by the conduit as at such point in time, less the amount available to be drawn under all liquidity facilities available at such point in time.
- The conduit, however, can only draw a maximum amount of liquidity funding known as the **liquidity available amount**.
- The liquidity available amount is:
 - the minimum liquidity commitment (as defined above); less
 - all amounts already drawn down but not yet repaid under all individual liquidity facility agreements available as at such point in time; less
 - the book value of all **defaulted assets** as at such point in time.

- **Defaulted assets include:**
 - a) an asset of which the obligor is bankrupt;
 - b) assets that have been written off;
 - c) assets that have been downgraded to below CCC by Fitch or Caa by Moody's or below (this is classified as assets that are highly vulnerable, see Annex for rating scale);
 - d) there has occurred and is continuing a default with respect to payment of principal on final maturity of the asset.

- No notes can be issued if the liquidity facilities are not in force and effect at the date of such issuance. This or these facilities must have a maturity of longer than the maturity of the proposed notes to be issued and the aggregate commitment must be at greater than or equal to the final settlement amount of the notes contemplated in the proposed issuance.

- If the **liquidity facility is cancelled** and a new provider cannot be obtained, it is an event of default for the conduit. The facility can be cancelled if the conduit becomes bankrupt or it becomes illegal under law for the liquidity facility provider to advance amounts under the facility.

5.4 Key features of South African conduits

The following section summarises the data that was collected from the investor reports⁷³ for the period ended 30 September 2008 and programme memoranda⁷⁴ of the individual conduits. It provides a summary of the key features of each programme focusing on the terms of the liquidity facilities.

Some key terms that are used in this section, is defined below:

- **Fully supported vs Partially supported** – The distinction has to do with the primary source of risk borne by the ABCP investors. In fully supported programs, investors are primarily exposed to the risk of a third party that guarantees repayment of the assets and not the risk of the assets themselves. In a partially supported programme investors are primarily exposed to the risk

⁷³ Investor reports are sent out monthly or quarterly and can be obtained from the websites or conduit managers directly.

⁷⁴ Programme memoranda were obtained directly from the conduit managers.

of the assets themselves though they may benefit in part from a variety of forms of third-party support.

- **Multi-seller** – These conduits provides financing to a wide variety of industries, companies and asset types offering ABCP investors a well diversified pool of supporting assets. Each transaction funded by the conduit usually has some form of first loss protection and benefits from a separate liquidity facility. Some multi-seller conduits employ a programme-wide liquidity facility provided by the sponsoring bank.
- **Single-seller** – These conduits provide financing for assets originated by only one company or related to one company's business operations. The company whose assets will be financed usually sponsors single-seller conduits.
- **Securities-backed** – These are conduits that are established to invest in various fixed income securities such as government securities, asset backed securities, mortgage backed securities, corporate bonds and bank loans.
- **Hybrid ABCP conduits** – These conduits are those that feature characteristics of more than one type of ABCP programme. It is typically a combination of partially-supported, multi-seller and securities-backed ABCP conduits.
- **Sponsor** – It is the entity that has set-up the ABCP programme. The sponsor approves the sellers and receivable pools to be included in the programme. The sponsor often serves as administrator.
- **Administrative Agent** – This entity has the overall responsibility for the management and operation of the conduit.

ABACAS 1⁷⁵

CP RATING	F1+	MAX PROGRAMME SIZE	R15 billion
RATING AGENT	Fitch	SPONSOR	ABSA Corporate and Merchant Bank ("ACMB")
LAUNCH	December 2002	ADMINISTRATIVE AGENT	ACMB
NOTES IN ISSUE	R3 500m	PROGRAMME TYPE	Partially supported, segregated.

DESCRIPTION	ABACAS Premier Series ("Series 1") may issue F1+ commercial paper ("CP") with a maximum tenor of 186 days.
CREDIT & INVESTMENT POLICY	It may only purchase Rand-denominated debt securities rated at least AA-. For this reason no programme-wide credit enhancement is available as the inherent credit enhancement of the underlying assets are considered adequate by the rating agency.
CREDIT CONCENTRATION	NA
OBLIGOR CONCENTRATION	NA
MASTER LIQUIDITY PROVIDER	ABSA
MINIMUM LIQUIDITY COMMITMENT	The amount required to cover the shortfall between the value of maturing notes and the value of notes that the issuer is able to issue on that date.
LIQUIDITY AVAILABLE AMOUNT	See above.
CONDITIONS FOR DRAW DOWN	<p>"Market Disruption Event means any event or circumstance, including, without limitation, any suspension of or material limitation in trading in the market of instruments substantially similar to the Notes which form the subject matter of the Liquidity Shortfall which in the reasonable opinion of the Manager (acting as an expert and not as an arbitrator and whose decision in the absence of manifest error shall be final and binding on the parties) results or would result in the Issuer being unable to issue further Notes of ABACAS Premier Series (Series 1) at an aggregate not Face Value equal to the aggregate Principal Amount of the maturing Notes in the relevant Maturity Date provided that the Issuer shall have received notice from the Dealer(s) appointed by it to sell, place or otherwise distribute Notes to refinance maturing Notes that such Dealer(s) are unable to arrange the sale, placement or distribution of all those Notes.</p> <p>For the purposes of this definition:</p> <ul style="list-style-type: none"> a) a limitation on the hours and days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of the Market; and b) any material limitation of trading resulting from a fluctuation in prices constitutes a Market Disruption Event. <p>Payment Mismatch means a failure by any obligor in respect of an Asset of the Series to make a timeous payment there under but only:</p> <ul style="list-style-type: none"> a) to the extent that and for so long as such obligor has not committed an event of default in accordance with the terms and conditions of such Asset; and b) where the Manager (acting as an expert and not as an arbitrator and whose decision in the absence of manifest error shall be final and binding on the Parties) has certified that such failure by the relevant Obligor to make timeous payment is not due to lack of funds or an invalid refusal on the part of such Obligor to make that payment.
LIQUIDITY CANCELLATION EVENTS	NA
CREDIT ENHANCEMENT	To protect CP noteholders against potential losses, ABACAS - Series 1 benefits from transaction specific credit enhancement.
TRANSACTION SPECIFIC	The first layer of loss protection is provided in varying forms. For rated securities, enhancement is inherent within, and sized to, that particular security's credit rating, whereas for financial assets, enhancement is provided in a form relevant to the specific asset class and structured to a level commensurate with a F1+ rating.
PROGRAMME-WIDE	None – however, should any underlying asset be downgraded below AA-, the F1+ rating on the CP would no longer be supported. In such an event, the rating of the CP would be downgraded unless the asset were removed or replaced with another of an appropriate rating.

⁷⁵ Investor report from www.abacas.co.za and programme memorandum obtained from ACMB.

⁷⁶ Quoted from programme memorandum.

ASSET COMPOSITION	ASSET CLASS	% OF POOL
	RMBS	64.95%
	CMBS	13.94%
	ABS: Credit Card Receivables	3.02%
	ABS: Provident Backed Home Loans	18.09%
CREDIT QUALITY	RATING	% OF POOL
	AAA	85.77%
	AA+ to AA-	14.23%

University of Cape Town

ABACAS 2⁷⁷

CP RATING	F1+	MAX PROGRAMME SIZE	R15 billion
RATING AGENT	Fitch	SPONSOR	ABSA Corporate and Merchant Bank ("ACMB")
LAUNCH	December 2002	ADMINISTRATIVE AGENT	ACMB
NOTES IN ISSUE	R3 316m	PROGRAMME TYPE	Partially supported, segregated.

DESCRIPTION	ABACAS Global Corporate Series ("Series 2") may issue F1+ commercial paper ("CP") with a maximum tenor of 186days.		
CREDIT & INVESTMENT POLICY	ABACAS Series 2 may purchase both Rand-denominated debt securities and credit linked notes rated at least AA-		
CREDIT CONCENTRATION	NA		
OBLIGOR CONCENTRATION	NA		
MASTER LIQUIDITY PROVIDER	ABSA		
MINIMUM LIQUIDITY COMMITMENT	The amount required to cover the shortfall between the value of maturing notes and the value of notes that the issuer is able to issue on that date.		
LIQUIDITY AVAILABLE AMOUNT	See above.		
CONDITIONS FOR DRAW DOWN⁷⁷	<p>"Market Disruption Event means any event or circumstance, including, without limitation, any suspension of or material limitation in trading in the market of instruments substantially similar to the Notes which form the subject matter of the Liquidity Shortfall which in the reasonable opinion of the Manager (acting as an expert and not as an arbitrator and whose decision in the absence of manifest error shall be final and binding on the parties) results or would result in the Issuer being unable to issue further Notes of ABACAS Premier Series (Series 1) at an aggregate net Face Value equal to the aggregate Principal Amount of the maturing Notes in the relevant Maturity Date provided that the Issuer shall have received notice from the Dealer(s) appointed by it to sell, place or otherwise distribute Notes to refinance maturing Notes that such Dealer(s) are unable to arrange the sale, placement or distribution of all those Notes.</p> <p>For the purposes of this definition:</p> <ul style="list-style-type: none"> a) a limitation on the hours and days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of the Market; and b) any material limitation of trading resulting from a fluctuation in prices constitutes a Market Disruption Event. <p>Payment Mismatch means a failure by any obligor in respect of an Asset of the Series to make a timely payment there under but only:</p> <ul style="list-style-type: none"> a) to the extent that and for so long as such obligor has not committed an event of default in accordance with the terms and conditions of such Asset; and b) where the Manager (acting as an expert and not as an arbitrator and whose decision in the absence of manifest error shall be final and binding on the Parties) has certified that such failure by the relevant Obligor to make timely payment is not due to lack of funds or an invalid refusal on the part of such Obligor to make that payment. 		
LIQUIDITY CANCELLATION EVENTS	NA		
CREDIT ENHANCEMENT	To protect CP noteholders against potential losses, ABACAS Series 2 benefits from dynamic credit enhancement.		
PROGRAMME-WIDE	The dynamic programme wide credit enhancement is specific to rated securities only and will change according to the credit quality of the underlying portfolio as follows:		
	Rating of the lowest rated security	Security coverage	Floor % applied to the portfolio
	AA-	0	0%
	A+	Cover the CP funded amount of the largest A+ security	1%

⁷⁷ Investor report obtained from www.abacas.co.za.

⁷⁸ Quoted from programme memorandum.

	A to BBB	Cover the CP funded amount of the 3 largest A+ or lower rated security	3%
	BBB to BBB-	Cover the CP funded amount of the 4 largest A+ or lower rated security	4%
	Where assets are rated below BBB-, programme wide credit enhancement to cover 100% of their CP funded amount.		
ASSET COMPOSITION	ASSET CLASS	% OF POOL	
	RMBS	12.02%	
	Corporate bonds/loans	71.43%	
	Cash	1.28%	
	Bank bonds	15.27%	
CREDIT QUALITY	RATING	% OF POOL	
	F1+	70.03%	
	AA+ to AA-	29.97%	

University of Cape Town

BLUE TITANIUM⁷⁹

<u>CP RATING</u>	F1-	<u>MAX PROGRAMME SIZE</u>	R20 billion
<u>RATING AGENT</u>	Fitch	<u>SPONSOR</u>	The Standard Bank of SA ("SBSA")
<u>LAUNCH</u>	July 2002	<u>ADMINISTRATIVE AGENT</u>	SBSA
<u>NOTES IN ISSUE</u>	R7 996m	<u>PROGRAMME TYPE</u>	Partially supported, multi-seller and securities-backed

<u>DESCRIPTION</u>	Blue Titanium Conduit Limited ("Blue Titanium") is a special purpose, bankruptcy-remote, limited liability company, established to issue commercial paper ("CP") the proceeds of which are used to purchase financial assets and rated securities rated BBB- or above. Blue Titanium may issue CP with a maximum tenor of 364 days.
<u>CREDIT & INVESTMENT POLICY</u>	All assets and securities purchased must concur with Blue Titanium credit and investment policy, which specify certain concentration limits as below:
<u>CREDIT CONCENTRATION</u>	Minimum requirement of: 90% assets rated A+ or above, 98% A- to AA+ or above and 100% BBB- or above.
<u>OBLIGOR CONCENTRATION</u>	Maximum permitted exposure to single obligor: 100% AAA rated entities, 25% AA- to AA+, 5% A+, 3% A, 2% A- and 1% BBB- to BBB+.
<u>MASTER LIQUIDITY PROVIDER</u>	Standard Bank
<u>MINIMUM LIQUIDITY COMMITMENT</u>	The total liquidity support provided by Standard Bank is equal to the face value of all CP in issue at any point in time.
<u>LIQUIDITY AVAILABLE AMOUNT</u>	The minimum liquidity amount less defaulted assets.
<u>CONDITIONS FOR DRAW DOWN⁸⁰</u>	<p>This liquidity support is provided in the following manner:</p> <ol style="list-style-type: none"> the aggregate commitment under the liquidity facility will be capped at R5 billion; any liquidity requirements in excess of the R5 billion limit under the liquidity facility will be provided by Standard Bank by means of a performing asset purchase agreement. In terms of this agreement, Standard Bank will be obliged to provide the required amount of liquidity to Blue Titanium through the purchase of performing assets at face value plus accrued interest; the conditions for the provision of liquidity pursuant to the performing asset purchase agreement are the same as the draw down conditions under the liquidity facility, namely that Standard Bank will not be obliged to provide liquidity through the purchase of performing assets if: <ul style="list-style-type: none"> • any of the transaction documents have become void or unenforceable; or • the purchase price of such assets will result in the aggregate commitment under the performing asset purchase agreement being exceeded; or • an insolvency event has occurred in respect of Blue Titanium. <p>The only condition for draw down specified is to fund the mismatch between the payment of interest and principal received (or to be received) by Blue Titanium on the assets which are not defaulted assets and the Blue Titanium's payment obligations under the notes.</p>
<u>LIQUIDITY CANCELLATION EVENTS⁸¹</u>	<p>The liquidity facility provider will not be obliged to advance any funds under a liquidity facility if –</p> <ol style="list-style-type: none"> the agreement has become void or unenforceable; or such advance would result in the commitment of the liquidity facility being exceeded; or Blue Titanium is insolvent.
<u>CREDIT ENHANCEMENT</u>	To protect CP noteholders against potential losses, Blue Titanium benefits from transaction specific and programme wide credit enhancement.
<u>TRANSACTION SPECIFIC</u>	The first layer of loss protection is provided in varying forms. For rated securities, enhancement is inherent within, and sized to, that particular security's credit rating, whereas for financial assets, enhancement is provided in a form relevant to the specific asset class and structured to a level commensurate with a F1+ rating.

⁷⁹ Investor report obtained from conduit manager.

⁸⁰ Quoted from programme memorandum.

⁸¹ Quoted from programme memorandum.

PROGRAMME-WIDE	The second layer of loss protection available to Blue Titanium is a fungible programme wide credit enhancement facility in the form of a subordinated loan facility provided by SBSA. The facility is sized at 10% of the aggregate face value of CP issued to finance financial assets, plus a dynamic amount, which fluctuates based on the credit quality of the underlying portfolio of rated securities. The dynamic programme wide credit enhancement is specific to rated securities only and will change according to the credit quality of the underlying portfolio as follows:		
	Rating of the lowest rated security	Rating of the lowest rated security	Rating of the lowest rated security
	AA-	AA-	AA-
	A-	A+	A+
	A to BBB	A to BBB	A to BBB
	BBB to BBB-	BBB to BBB-	BBB to BBB-
	Where assets are rated below BBB-, programme wide credit enhancement to cover 100% of their CP funded amount.		
ASSET COMPOSITION	ASSET CLASS	% OF POOL	
	RMBS	65%	
	CMBS	11%	
	ABS: Equipment Leases	5%	
	ABS: Auto loan receivables	21%	
CREDIT QUALITY	RATING	% OF POOL	
	AAA	60%	
	AA	40%	

GRAYSTON 1

CP RATING	Prime-1	MAX PROGRAMME SIZE	R10 billion (all series) Series 1 R3 billion;
RATING AGENT	Muody's	SPONSOR	Investec Bank Limited ("Investec")
LAUNCH	July 2004	ADMINISTRATIVE AGENT	Investec
NOTES IN ISSUE	R1 535m	PROGRAMME TYPE	Serialised, multi-seller and securities-backed

DESCRIPTION	Grayston Conduit 1 (Pty) Limited - Series 1& 2 ("Grayston 1&2") may issue CP with a maximum tenor of 364days. The proceeds of which are used to purchase financial assets and rated securities.	
CREDIT & INVESTMENT POLICY	A portfolio of debt securities which are eligible assets having a minimum independent credit rating when purchased of at least Aa3.	
CREDIT CONCENTRATION	Aaa unlimited; Aa1 - 80%; Aa2 - 40%; Aa3 - 8%.	
OBLIGOR CONCENTRATION	NA	
MASTER LIQUIDITY PROVIDER	Investec	
MINIMUM LIQUIDITY COMMITMENT	100% of outstanding CP	
LIQUIDITY AVAILABLE AMOUNT	Minimum liquidity commitment up to an amount of non-defaulted assets.	
CONDITIONS FOR DRAW DOWN	Payment mismatch or market disruption event.	
LIQUIDITY CANCELLATION EVENTS	(i) bankruptcy of the Issuer; (ii) if it would be unlawful for Liquidity Provider to maintain or give effect to its obligations under the Liquidity Facility	
CREDIT ENHANCEMENT	No credit enhancement if comply with credit concentration guidelines. Required credit enhancement based on number of investments below Aa3, eg between 1 and 8 assets rated Aa3 or lower, provide for the largest thereof.	
ASSET COMPOSITION	ASSET CLASS	% OF POOL
	RMBS	26%
	CMBS	27%
	ABS: Store Card Receivables	19%
	ABS: Provident Backed Home Loans	9%
	ABS: Auto loan receivables	18%
CREDIT QUALITY	RATING	% OF POOL
	Aaa	71%
	Aa2	23%
	Aa3	5%

⁵² Quoted from the Moodys pre-sale report issued in September 2003, available on www.moodys.com

GRAYSTON 2

CP RATING	Prime-1	MAX PROGRAMME SIZE	R10 billion (all series) Series 2 – R2 billion.
RATING AGENT	Moody's	SPONSOR	Investec Bank Limited ("Investec")
LAUNCH	July 2004	ADMINISTRATIVE AGENT	Investec
NOTES IN ISSUE	R1 563m	PROGRAMME TYPE	Serialised multi-seller and securities-backed

DESCRIPTION	Grayston Conduit 1 (Pty) Limited – Series 1& 2 ("Grayston 1&2") may issue CP with a maximum tenor of 364 days. The proceeds of which are used to purchase financial assets and rated securities.		
CREDIT & INVESTMENT POLICY	A portfolio of debt securities which are eligible assets having a minimum independent credit rating when purchased of at least Aa3.		
CREDIT CONCENTRATION	Aaa – unlimited; Aa1 – 80%; Aa2 – 40%; Aa3 – 8%.		
OBLIGOR CONCENTRATION	NA		
MASTER LIQUIDITY PROVIDER	Investec		
MINIMUM LIQUIDITY COMMITMENT	100% of outstanding CP		
LIQUIDITY AVAILABLE AMOUNT	Minimum liquidity commitment up to an amount of non-defaulted assets.		
CONDITIONS FOR DRAW DOWN	Payment mismatch or market disruption event.		
LIQUIDITY CANCELLATION EVENTS	(i) bankruptcy of the Issuer; (ii) if it would be unlawful for Liquidity Provider to maintain or give effect to its obligations under the Liquidity Facility		
CREDIT ENHANCEMENT	No credit enhancement if comply with credit concentration guidelines. Required credit enhancement based on number of investments below Aa3. eg between 1 and 8 assets rated Aa3 or lower, provide for the largest thereof.		
TRANSACTION SPECIFIC	NA		
PROGRAMME-WIDE	NA		
ASSET COMPOSITION	ASSET CLASS	% OF POOL	
	Corporate Loans	100%	
CREDIT QUALITY	RATING	% OF POOL	
	A2	46%	
	AA+	34%	
	Undisclosed	20%	

⁸³ Quoted from the Moody's structure summary issued on 24 July 2004, available on www.moody.com

INDWA

CP RATING	F1+	MAX PROGRAMME SIZE	R15 billion
RATING AGENT	Fitch	SPONSOR	FirstRand Bank Limited
LAUNCH	July 2003	ADMINISTRATIVE AGENT	Rand Merchant Bank, a division of FSR
NOTES IN ISSUE	R10 134m	PROGRAMME TYPE	Partially supported, multi-seller and securities-backed

DESCRIPTION	iNdwa Investments Limited ("iNdwa") is a hybrid asset-backed commercial paper ("CP") programme structured to issue Rand-denominated CP to fund the purchase of Rand-denominated financial assets and rated securities. iNdwa may issue CP with a maximum tenor of 364 days.
CREDIT & INVESTMENT POLICY	All assets and securities purchased must concur with iNdwa credit and investment policy, which specify certain concentration limits as below:
CREDIT CONCENTRATION	Maximum permitted % of portfolio: 100% A+ to AAA, 90% A, 8% A-, 2% BBB- to BBB+.
OBLIGOR CONCENTRATION	Maximum permitted exposure to single obligor: 100% A+ to AAA rated entities, 3% A, 2% A- and 1% BBB- to BBB+.
MASTER LIQUIDITY PROVIDER	Rand Merchant Bank, a division of FirstRand Bank Limited
MINIMUM LIQUIDITY COMMITMENT⁸⁴	<p>The minimum aggregate commitment under all individual liquidity facility agreements required by iNdwa at any point in time, is the amount equal to the aggregate outstanding principal amount of all series of notes in issue as at such point in time, plus the aggregate value of all senior fees and expenses as at such point in time, less the aggregate of:</p> <ul style="list-style-type: none"> (i) the aggregate nominal value assets which matures at least two days before the maturity of CP with the same value; and (ii) the aggregate nominal value of the assets comprising the Sponsor's Loan Collateral held by the Issuer as at such point in time, provided that: <ul style="list-style-type: none"> (a) the relevant assets mature at least two Business Days before an equal aggregate amount of notes; (b) the relevant assets have not been liquidated; and (iii) cash receipts into the collections account in terms of all assets that have not been applied in terms of the Priority of Payments; <p>The sponsor loan collateral is assets acquired by the iNdwa with the proceeds derived from the advance of R1 billion from RMB, which assets shall be deposited or held in a reserve Account and may be liquidated by the iNdwa to meet either the liquidity needs and/or the credit enhancement needs of iNdwa from time to time.</p>
LIQUIDITY AVAILABLE AMOUNT	Not specified.
CONDITIONS FOR DRAW DOWN	<p>the liquidity is required either:</p> <ul style="list-style-type: none"> • to cover deficiencies in cash flows to the Issuer, resulting from, inter alia, timing differences between the payment of interest and principal received (or to be received) by the Issuer on the Participating Assets; and/or • as a result of a Market Disruption
LIQUIDITY CANCELLATION EVENTS	<p>the occurrence of either or both of the following events:</p> <ul style="list-style-type: none"> • the Bankruptcy of the Issuer; or • it becoming illegal for the Individual LF Provider in accordance with applicable laws to make any advance under the relevant Individual LF Agreement concluded by it and/or to maintain its commitment under the aforesaid Individual LF Agreement.
CREDIT ENHANCEMENT	The first layer of loss protection is provided in varying forms. For rated securities, enhancement is inherent within, and sized to, that particular security's credit rating, whereas for financial assets, enhancement is provided in a form relevant to the specific asset class and structured to a level commensurate with a F1+ rating.

⁸⁴ Quoted from the programme memorandum.

TRANSACTION SPECIFIC	The second layer of loss protection available to iNdwa is a fungible programme wide credit enhancement. iNdwa employs an early redemption feature whereby the conduit will pay noteholders the present value of CP less proportionate losses following an event of default. On this basis the conduits maximum exposure at any one time is the payment of the present value of the CP. Programme-wide credit enhancement is sized according to the present value of rated securities and financial assets. The facility is currently sized at 5% of the present value of assets plus a dynamic amount, which fluctuates based on the credit quality of the underlying portfolio of rated securities. The dynamic programme wide credit enhancement is specific to rated securities only and will change according to the credit quality of the underlying portfolio as follows:		
PROGRAMME-WIDE	Rating of the lowest rated security	Security coverage	Floor % applied to the portfolio
	AA-	0	0%
	A+	Cover the CP funded amount of the largest A+ security	1%
	A to BBB	Cover the CP funded amount of the 3 largest A+ or lower rated security	3%
	BBB to BBB-	Cover the CP funded amount of the 4 largest A+ or lower rated security	4%
	Where assets are rated below BBB-, programme wide credit enhancement to cover 100% of their CP funded amount.		
ASSET COMPOSITION	ASSET CLASS	% OF POOL	
	Banking, Finance and Real Estate	8.13%	
	Trade Receivables	14.07%	
	Metals and Mining	6.58%	
	Industrial and Manufacturing	9.54%	
	Transportation	15.1%	
CREDIT QUALITY	RATING	% OF POOL	
	F1+	16%	
	AAA	16%	
	AA+ to AA	15%	
	AA-	53%	

IVUZI

CP RATING	F1+/F1/F2/F3/BB+	MAX PROGRAMME SIZE	R15 billion
RATING AGENT	Fitch	SPONSOR	FirstRand Bank Limited
LAUNCH	June 2007	ADMINISTRATIVE AGENT	Rand Merchant Bank, a division of FSR
NOTES IN ISSUE	R5 126m	PROGRAMME TYPE	Partially supported, multi-seller and securities-backed

DESCRIPTION	IVuzi Investments Limited ("IVuzi") is a hybrid asset-backed commercial paper ("CP") programme structured to issue Rand-denominated CP to fund the purchase of Rand-denominated financial assets and rated securities. IVuzi may issue CP with a maximum tenor of 364 days.
CREDIT & INVESTMENT POLICY	Purchase assets rated across the rating spectrum and provide investors access to lower rated CP notes.
CREDIT CONCENTRATION	Provided that the Participating Assets comply with the Eligibility Criteria and that no Pool Wind Down Event has occurred in relation to the particular Originator of such Participating Assets, there is no limitation on the number or identities of Originators that may be introduced into the Program.
OBLIGOR CONCENTRATION	As above.
MASTER LIQUIDITY PROVIDER	FirstRand Bank Limited
MINIMUM LIQUIDITY COMMITMENT⁸⁵	<p>The minimum aggregate commitment under all Individual LF Agreements required by the Programme at any point in time, being an amount equal to the aggregate Outstanding Principal Amount of all Series of Notes in issue as at such point in time, plus the aggregate value of all Senior Fees and Expenses as at such point in time, less the aggregate of:</p> <ul style="list-style-type: none"> (i) the aggregate nominal value of those Participating Assets that are Rated Participating Assets and such other Participating Assets in respect of which a Rating Agency Confirmation has been received, the Legal Final Maturity of which occurs at least two Business Days before an equal aggregate Outstanding Principal Amount of Notes having the Highest Note Rating as at such point in time; and (ii) the aggregate nominal value of the assets comprising the Sponsor's Loan Collateral held by the Issuer as at such point in time, provided that: <ul style="list-style-type: none"> (a) the relevant assets comprising the Sponsor's Loan Collateral mature at least two Business Days before an equal aggregate Outstanding Principal Amount of Notes having the Highest Note Rating as at such point in time; (b) the relevant assets comprising the Sponsor's Loan Collateral have not been liquidated or used by the Issuer to cover losses sustained by the Issuer in relation to the Participating Assets and, as at the date for determination of the Minimum Liquidity Commitment, such Sponsor's Loan Collateral has not yet been restored in accordance with the Priority of Payments; and (iii) the aggregate of the Pre-Paid Amounts, the Pre-Payment Make Whole Amount (to the extent paid into the Collections Account and not applied in terms of the Priority of Payments) and such other cash receipts into the Collections Account in terms of all Participating Assets (excluding Pre-Paid Participating Assets) that have not been applied in terms of the Priority of Payments.
LIQUIDITY AVAILABLE AMOUNT	Not specified.
CONDITIONS FOR DRAW DOWN	<p>The Issuer will only be entitled to draw down or use monies available to it under any facility provided pursuant to an Individual LF Agreement:</p> <ul style="list-style-type: none"> • if such drawn down or utilisation is required to cover deficiencies in cash flows to the Issuer resulting from, inter alia, timing differences between the payment of interest and principal received (or to be received) by the Issuer on the Participating Assets and/or in the case of a Market Disruption and in each case only to fund payments on the Series of Notes to which such Individual LF Agreement relates; and/or • (b) a Liquidity Cancellation Event has not occurred.

⁸⁵ Quoted from the programme memorandum.

LIQUIDITY CANCELLATION EVENTS	<p>the occurrence of either or both of the following events:</p> <ul style="list-style-type: none"> the Bankruptcy of the Issuer; or the Accrued Value (Assets) [?] of all Participating Assets (excluding Defaulting Assets) held by the Issuer as at any point in time no longer being sufficient to repay the amounts owned by the Issuer under all Individual LF Agreements in force and effect as at the date thereof; it becoming illegal for the individual LF Provider in accordance with applicable laws to make any advance under the relevant Individual LF Agreement concluded by it and/or to maintain its commitment under the aforesaid Individual LF Agreement; 	
CREDIT ENHANCEMENT	To protect CP noteholders against potential losses, iVuzi benefits from transaction specific and programme wide credit enhancement.	
TRANSACTION SPECIFIC	The first layer of loss protection is provided in varying forms. For rated securities, enhancement is inherent within, and sized to, that particular security's credit rating, whereas for financial assets, enhancement is provided in a form relevant to the specific asset class and structured to a level commensurate with a F1+ rating.	
PROGRAMME-WIDE⁸⁶	<ul style="list-style-type: none"> PWCF is sized on the present value of financial assets and rated securities, as the conduit's maximum exposure at any time is the present value of those assets. This reflects the feature providing for early redemption of the CP. PWCF in respect of rated securities will be tranching. PWCF will not be fungible between financial assets and rated securities. PWCF is sized on the value of performing assets. Defaulted assets will be excluded from this calculation as the PWCF will already have been drawn on for that purpose. There are two components, as discussed below. <ul style="list-style-type: none"> Financial Assets: PWCF Amount <ul style="list-style-type: none"> This will be calculated as an amount equal to 10% of the aggregate present value of the financial assets (excluding defaulted assets) financed or acquired by the issuer. This will not be fungible for rated securities. Rated Securities: PWCF Amount <ul style="list-style-type: none"> This is based on the credit risk profile inherent in the rated securities financed or acquired by the issuer. The PWCF facility is dynamic and sized according to the credit quality of the underlying portfolio of rated securities and calculated per Fitch's model. The methodology relies on a number of inputs that describe each security in a portfolio, such as asset type, seniority, rating, country and industry classification. Based on those inputs, they can evaluate the correlation between the assets and the probability of default. The model output indicates the level of PWCF appropriate for each rating category. PWCF for rated securities will not be fungible for financial assets. The PWCF for rated securities will be tranching. Each tranche will not be drawn upon until the tranche with a lower credit risk rating has been exhausted. PWCF will be provided by subordinated notes and where unfunded by a PWCF facility with RMB as master PWCF provider. RMB will grant a sponsor's loan of R750mio to the issuer upon closing of the transaction. It can be used for liquidity or credit enhancement purposes. The individual CEF may cancel its obligations on the bankruptcy of the issuer, or on it becoming illegal for the individual CEF provider to make any advance under the relevant individual CEF agreement owing to a change in law. 	
ASSET COMPOSITION	ASSET CLASS	% OF POOL
	Real Estate and RMBS	35%
	Computers & Electronics	11%
	Farming and Agriculture	10%
	Telecommunications	10%
	Other	34%
CREDIT QUALITY	RATING	% OF POOL
	AAA	31%
	AA+ to A+	49%
	A	20%

⁸⁶ Quoted from the pre-sale report issued by Fitch on 18 June 2007.

SYNTHESIS

CP RATING	F1+/Prime-1	MAX PROGRAMME SIZE	R15 billion
RATING AGENT	Fitch/Moody's	SPONSOR	Nedbank Limited ("Nedbank")
LAUNCH	July 2004	ADMINISTRATIVE AGENT	Nedbank
NOTES IN ISSUE	R8 031m	PROGRAMME TYPE	Partially supported, multi-seller and securities-backed

DESCRIPTION	Synthesis Funding Limited ("Synthesis") is a hybrid asset-backed commercial paper ("CP") programme structured to issue Rand-denominated CP to fund the purchase of Rand-denominated financial assets and rated securities. Synthesis may issue CP with a maximum tenor of 364 days.
CREDIT & INVESTMENT POLICY	All assets and securities purchased must be either rated or credit assessed by Moody's and Fitch before included in the asset pool.
CREDIT CONCENTRATION	NA
OBLIGOR CONCENTRATION	NA
MASTER LIQUIDITY PROVIDER	Nedbank
MINIMUM LIQUIDITY COMMITMENT⁸⁷	The minimum aggregate commitment under all Individual Liquidity Facility Agreements required by the Programme at any point in time, being an amount equal to the aggregate Final Settlement Amount of all Notes in issue (and not yet redeemed) as at such point in time, plus the aggregate value of all Senior Fees and Expenses due and payable by the Issuer prior to the Maturity Date of the Series of Notes falling last in time, as at such point in time, less the amount available to be drawn by all Asset Purchasing SPVs under all Asset Purchasing SPV Liquidity Facilities in full force and effect at such point in time.
LIQUIDITY AVAILABLE AMOUNT⁸⁸	as at any point in time when it is to be determined in terms of the Transaction Documents, an amount equal to – <ul style="list-style-type: none"> • the Minimum Liquidity Commitment as at such point in time; less • all amounts already drawn down but not yet repaid under all Individual Liquidity Facility Agreements in force and effect as at such point in time; less • the Book Value of all Defaulted Assets as at such point in time.
CONDITIONS FOR DRAW DOWN⁸⁹	<p>Synthesis will only be entitled to draw down or use monies available to it under a facility</p> <p>a) if such draw down or utilisation is required to cover deficiencies in cash flows to the Issuer resulting from, <i>inter alia</i>, timing differences between the payment of interest and principal received (or to be received) by the Issuer on the Participating Assets which are not Defaulted Assets and the Issuer's payment obligations under the Notes; and/or</p> <p>b) in the case of a Market Disruption, up to a maximum amount equal to the Liquidity Available Amount;</p> <p>A market disruption is an event or circumstance which results (as determined by the Administrator) in either –</p> <p>(i) an increase in the cost to the Issuer to such an extent that it is no longer economically viable for the Programme to be sustained; or</p> <p>(ii) the Issuer being unable to issue any further Notes at any price in time to redeem any Notes maturing as at the date thereof.</p> <p>Synthesis will not be entitled to draw down or use monies available to it under the facility if –</p> <p>a) a Liquidity Cancellation Event has occurred;</p> <p>b) such further draw down or utilisation will result in the commitment under the facility being exceeded; and/or</p> <p>c) such further utilisation will result in the monies drawn down or used under such facility being applied towards funding losses incurred by the Issuer in respect of Defaulted Assets or towards repaying amounts previously drawn down under a liquidity facility.</p>

⁸⁷ Quoted from programme memorandum.

⁸⁸ Quoted from programme memorandum.

⁸⁹ Quoted from programme memorandum.

LIQUIDITY CANCELLATION EVENTS⁹⁰	<p>In relation to any Individual Liquidity Facility Agreement, the occurrence of either or both of the following events –</p> <ul style="list-style-type: none"> the Bankruptcy of the Issuer; or it becoming illegal for the Individual Liquidity Facility Provider, being a party to such Individual Liquidity Facility Agreement in accordance with applicable laws in relation to it and/or the issuer, to make any advance under the relevant Individual Liquidity Facility Agreement and/or to maintain its commitment under the aforesaid Individual Liquidity Facility Agreement. 		
CREDIT ENHANCEMENT	<p>The first layer of loss protection is provided in varying forms. For rated securities, enhancement is inherent within, and sized to, that particular security's credit rating, whereas for financial assets, enhancement is provided in a form relevant to the specific asset class and structured to a level commensurate with a F1+ rating.</p>		
TRANSACTION SPECIFIC	<p>The second layer of loss protection available to Synthesis is a fungible programme wide credit enhancement. The facility is sized at 10% of the aggregate face value of CP issued to finance financial assets, plus a dynamic amount, which fluctuates based on the credit quality of the underlying portfolio of rated securities. The dynamic programme wide credit enhancement is specific to rated securities only and will change according to the credit quality of the underlying portfolio as follows:</p>		
PROGRAMME-WIDE	Rating of the lowest rated security	Security coverage	Floor % applied to the portfolio
	AA-	0	0%
	A+	Cover the CP funded amount of the largest A+ security	1%
	A to BBB	Cover the CP funded amount of the 3 largest A+ or lower rated security	3%
	BBB to BBB-	Cover the CP funded amount of the 4 largest A+ or lower rated security	4%
	Where assets are rated below BBB-, programme wide credit enhancement to cover 100% of their CP funded amount.		
ASSET COMPOSITION	ASSET CLASS		% OF POOL
	RMBS		35%
	Corporate Loans		21%
	ABS: Auto Loans		26%
	Other		18%
CREDIT QUALITY	RATING		% OF POOL
	AAA		42%
	AA+ to A+		49%
	A		20%

⁹⁰ Quoted from programme memorandum.

THEKWINI WAREHOUSING CONDUIT

CP RATING	F1+	MAX PROGRAMME SIZE	R15 billion
RATING AGENT	Fitch	SPONSOR	Standard Bank
LAUNCH	June 2005	ADMINISTRATIVE AGENT	Standard Bank
NOTES IN ISSUE	R4 388m	PROGRAMME TYPE	Single-seller

DESCRIPTION	The Thekwini Warehousing Conduit (Proprietary) Limited ("Thekwini WC") is a South-African residential mortgage warehousing programme that may issue up to R15 billion rand-denominated securities. Thekwini WC is a multi-seller programme that will warehouse eligible pools of residential mortgage loans originated by South African Home Loans (Proprietary) limited, a lender specialising in home loans in South Africa. Asset purchases will be funded through the issuance of short- and long-term securities and a subordinated credit enhancement facility.		
CREDIT & INVESTMENT POLICY	SA Home Loans' credit criteria were applied to the origination and servicing of the home loans.		
CREDIT CONCENTRATION	NA		
OBLIGOR CONCENTRATION	NA		
MASTER LIQUIDITY PROVIDER	Standard Bank		
MINIMUM LIQUIDITY COMMITMENT	Liquidity facilities have been sized to cover the interest on the short-term notes, outstanding principal on the non-liquidity notes plus estimated costs and expenses.		
LIQUIDITY AVAILABLE AMOUNT⁹¹	<p>Four liquidity facility agreements have been set:</p> <ul style="list-style-type: none"> ▪ The senior timing mismatch liquidity facility: supports cash shortfalls related to the senior notes up to an initial amount of R500 million; ▪ The senior general market disruption liquidity facility: supports cash shortfalls related to the senior notes up to an initial amount of ZAR2 billion. It can only be used following a general market disruption event –defined as the impossibility for the issuer to issue notes or an event or circumstance that results in a material increase in the cost of funding through the issuance of notes - and once the senior timing mismatch liquidity facility has been used in full. ▪ The mezzanine timing mismatch liquidity facility: supports cash shortfalls related to the mezzanine short-term notes. ▪ The junior timing mismatch liquidity facility: supports cash shortfalls related to the junior short-term notes. The maximum combined, committed amount of the mezzanine and the junior liquidity facilities equals an initial amount of ZAR500m. 		
CONDITIONS FOR DRAW DOWN⁹²	<p>The issuer may draw down on the liquidity facilities when there is:</p> <ul style="list-style-type: none"> ▪ timing mismatches between the date of payment of amounts due in respect of Performing Assets and date of payment to Noteholders and other creditors in terms of the Priority of Payments; and ▪ the inability to issue new Notes at the redemption date of existing Notes. 		
LIQUIDITY CANCELLATION EVENTS	None specified.		
CREDIT ENHANCEMENT	Credit enhancement is provided in the form of excess spread, over collateralisation and a subordinated loan.		
TRANSACTION SPECIFIC	NA		
PROGRAMME-WIDE	NA		
ASSET COMPOSITION	ASSET CLASS	% OF POOL	
	Home Loans	100%	

⁹¹ Quoted from the Programme Memorandum

⁹² Quoted from the Programme Memorandum

Chapter 6 – Results

This Chapter will focus on the results obtained from the research performed on the individual conduits in South Africa and the calculations done on the impact that a liquidity draw down would have on the banks providing liquidity support.

The following observations summarises the results from the review of the programme memoranda documented in Chapter 5.

- Not all programme memoranda specifies cancellation events for the liquidity facilities, however, it is stated in all programme memoranda inspected that the liquidity facilities can only be drawn down if the transactions documents are signed and is legally binding, that the issuer is solvent and that the credit enhancement has not been depleted.
- The minimum commitment amount includes senior expenses in most cases.
- The amount to be drawn down under a liquidity draw down event is limited to the size of performing assets in the conduit.
- Draw down events are standard and are defined as a market disruption event and/or a payment mismatch. Market disruption is defined broadly and includes any event in which the CP cannot be rolled over.

Taking these definitions into account, it will be assumed in the rest of the results section that the bank providing the liquidity facility will be requested to advance the total committed amount when a draw down event occurs and that the banks do not have a right to decline a request unless in excess of the amount of performing assets.

The following quantitative results will define the size and quality of the South African conduits and secondly, the impact on the banks providing the liquidity support. The conduits included in the research are the conduits still actively issuing and rolling over paper as of 30 September 2008. The ABACAS 3 and 4, and Sanlam Home Loans 102 were discontinued in August 2008.

Figure 12 summarises the South African ABCP market at 30 September 2008:

Conduit	Liquidity Provider	Max Conduit Size R' billion
ABACAS – Series 1 and 2 (in total)	ABSA	15
Blue Titanium	Standard Bank	20
Grayston – Series 1 and 2 (in total)	Investec	15
iNdwa	FirstRand	15
iVuzi	FirstRand	15
Thekwini Warehouse	Standard Bank	15
Synthesis	Nedbank	15
Total		110

Figure 12

The following graph (Figure 13) illustrates the relative sizes based on the maximum conduit sizes.

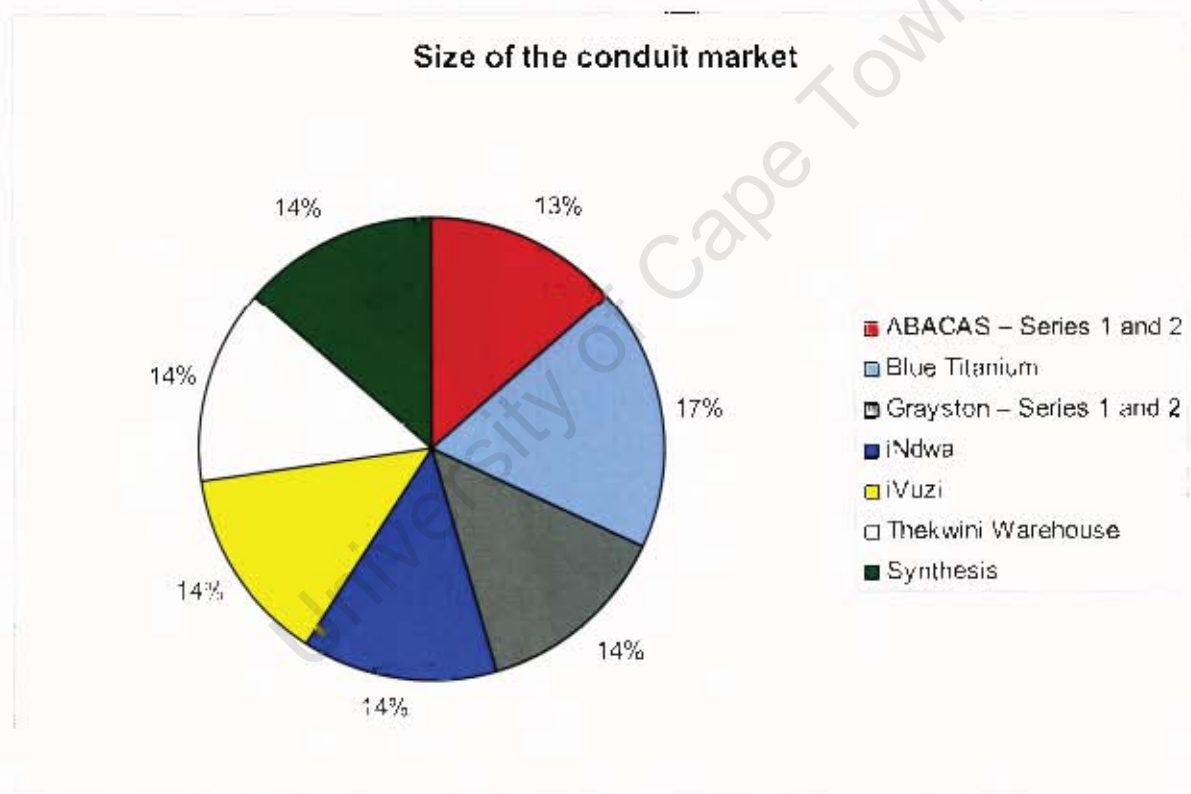


Figure 13

The largest conduit is Blue Titanium and the others are all approximately 14% each of the market.

The liquidity facilities provided per bank are summarised as follows in Figure 14:

Liquidity Provider	Limit (R' billion)
ABSA	15
Standard Bank	35
Investec	15
FirstRand	30
Nedbank	15
	110

Figure 14

In addition to Figure 14, Figure 15 illustrates the relative size of the bank's exposure to the conduits via the liquidity facilities provided.

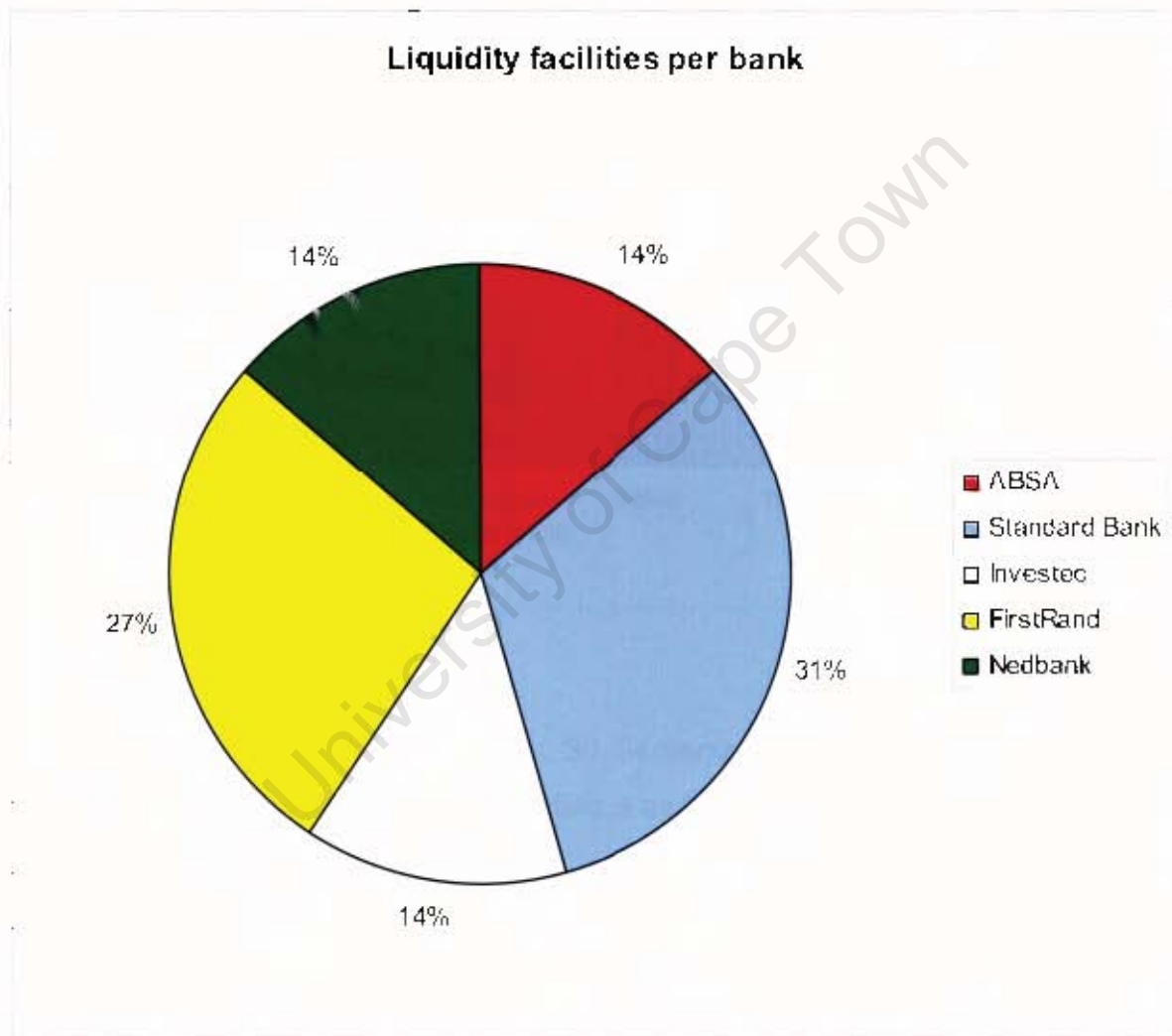


Figure 15

Standard Bank supports Blue Titanium which is the largest conduit as well as the Thekwini Warehouse structure which is the funding vehicle for SA Home Loans⁹³.

⁹³ SA Home Loans is a mortgage lender and one of the few non-bank lenders in the South African market.

FirstRand also has a large exposure due to the support provided to both iNdwana and iVuzi.

The 2 tables and 2 graphs above are based on maximum conduit programme size. As at 30 September 2008, the conduits have not issued the total maximum allowed amount. Figure 16 below illustrates the conduit sizes as of this date.

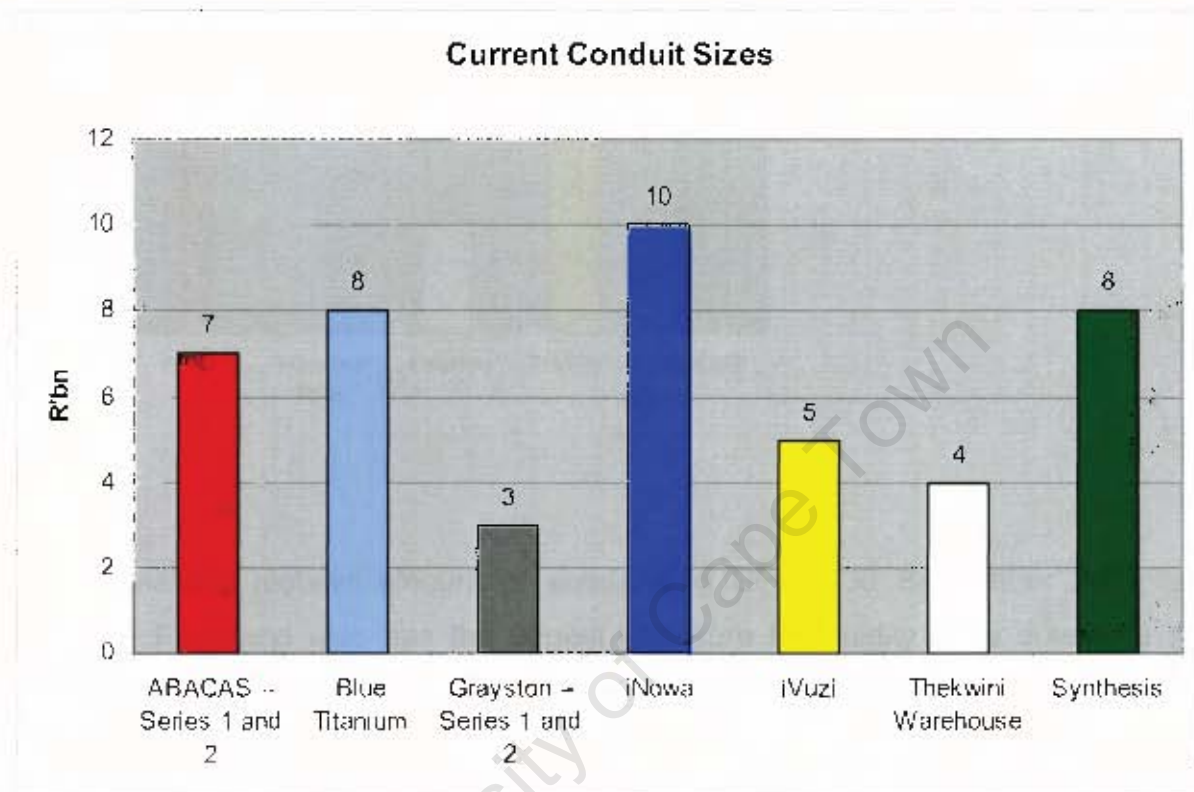


Figure 16

Based on the above conduit sizes at 30 September 2008, the exposure that the banks have relating to the liquidity facilities is as follows (Figure 17).

Bank Exposure to Liquidity Facilities

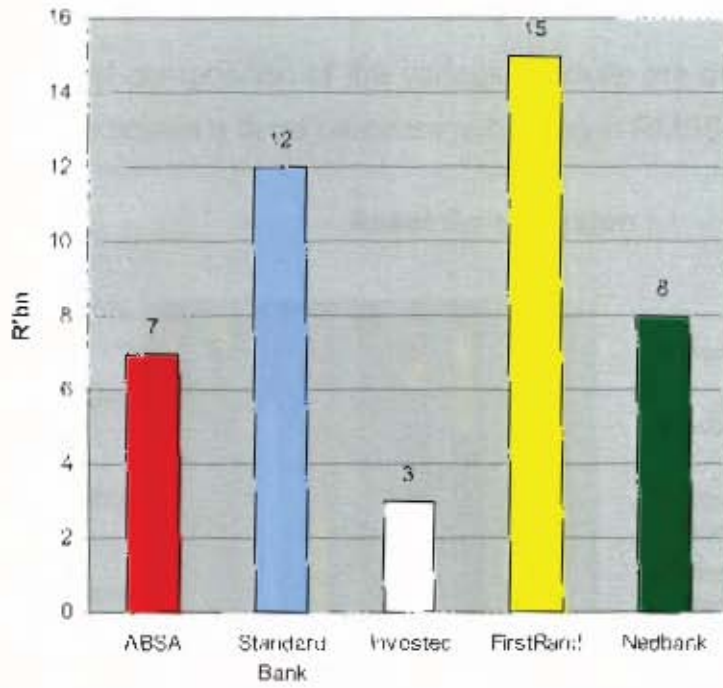


Figure 17

INDWA has the highest amount of outstanding CP at 30 September 2008 and therefore FirstRand also has the largest exposure to liquidity draw downs at this date.

The current size of liquidity facilities as a percentage of the banks Tier 1 capital is as follows (Figure 18).

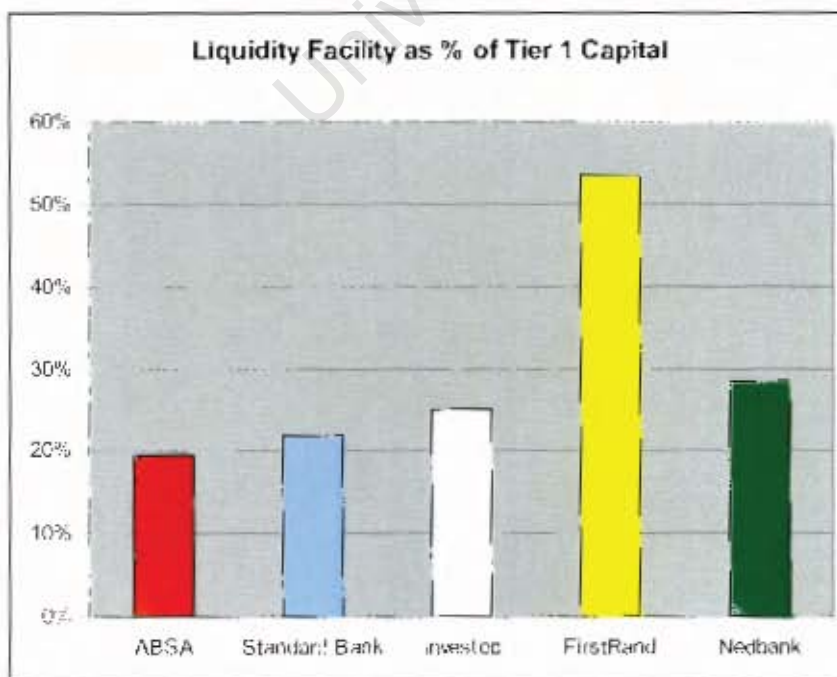


Figure 18

FirstRand at 54% is the largest. The Tier 1 capital is the amount as per the bank's latest annual financial statements.

The asset composition of the various conduits are depicted below (Figure 19) which clearly indicates a large percentage holding in RMBS and corporate exposure.

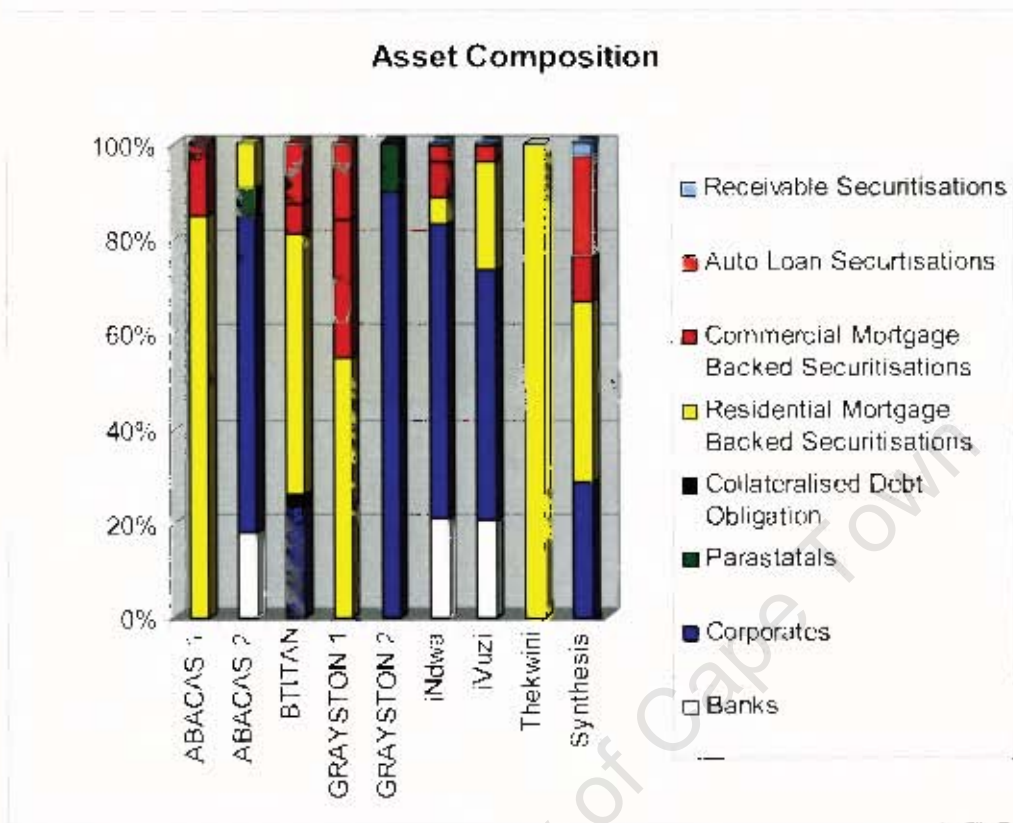


Figure 19

It is better illustrated in Figure 20 below that shows the total exposure to these asset classes for all the conduits. 38% is invested in RMBS assets and 37% in corporate paper.

Total Asset Composition

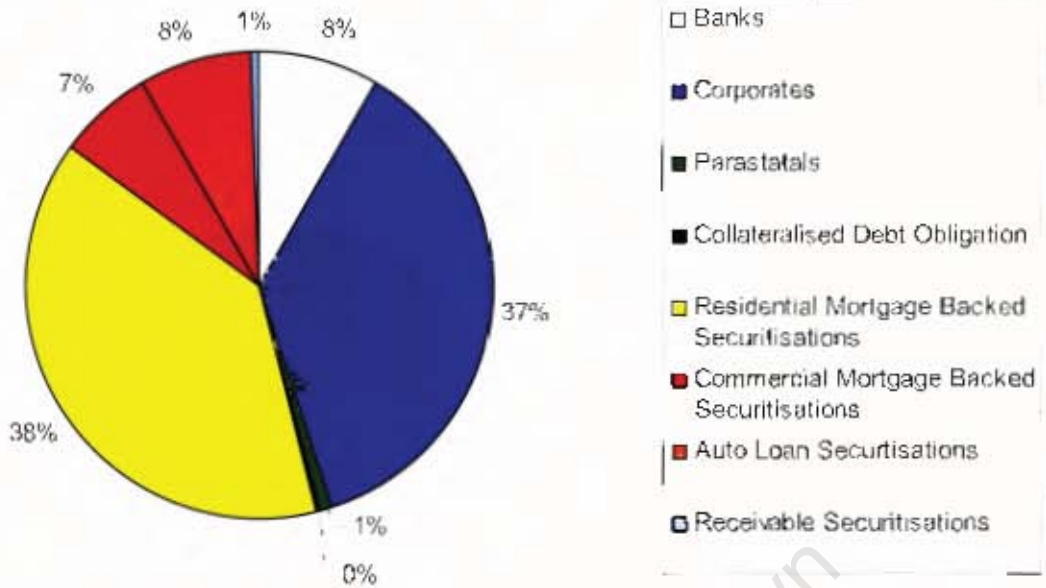


Figure 20

The asset quality based on credit rating is illustrated in Figure 21. Thekwini is excluded as it is a warehouse for home loans. There are no external ratings assigned per home loan.

Asset Quality

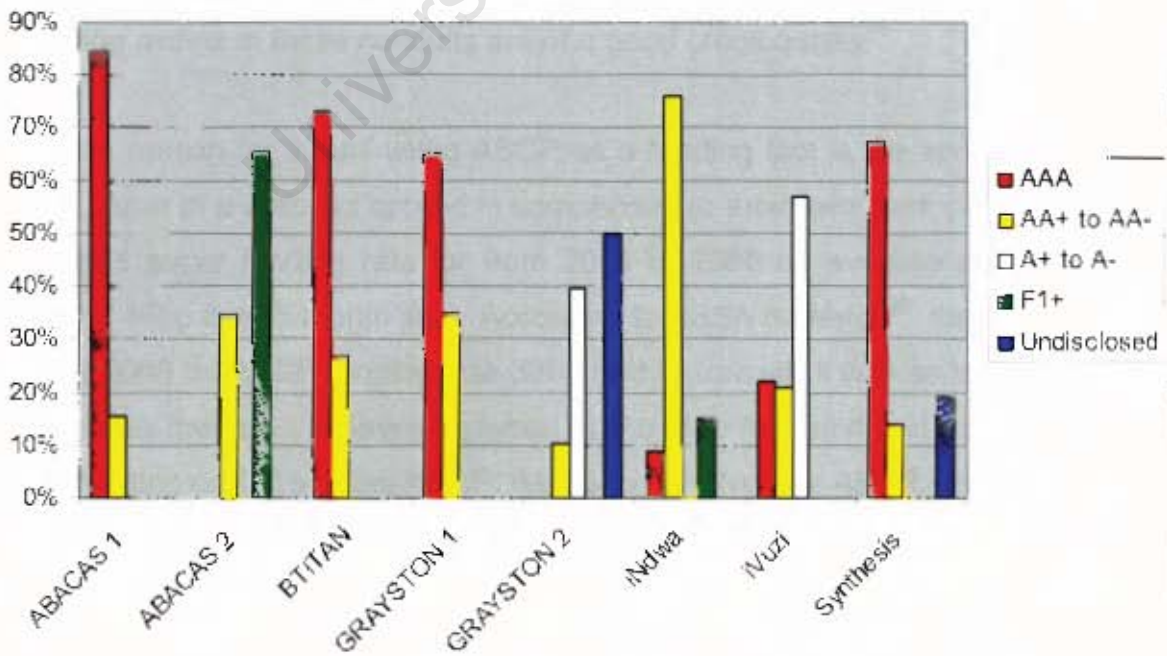


Figure 21

The total assets per credit rating for all conduits are a better illustration of the underlying risk in these structures (Figure 22).

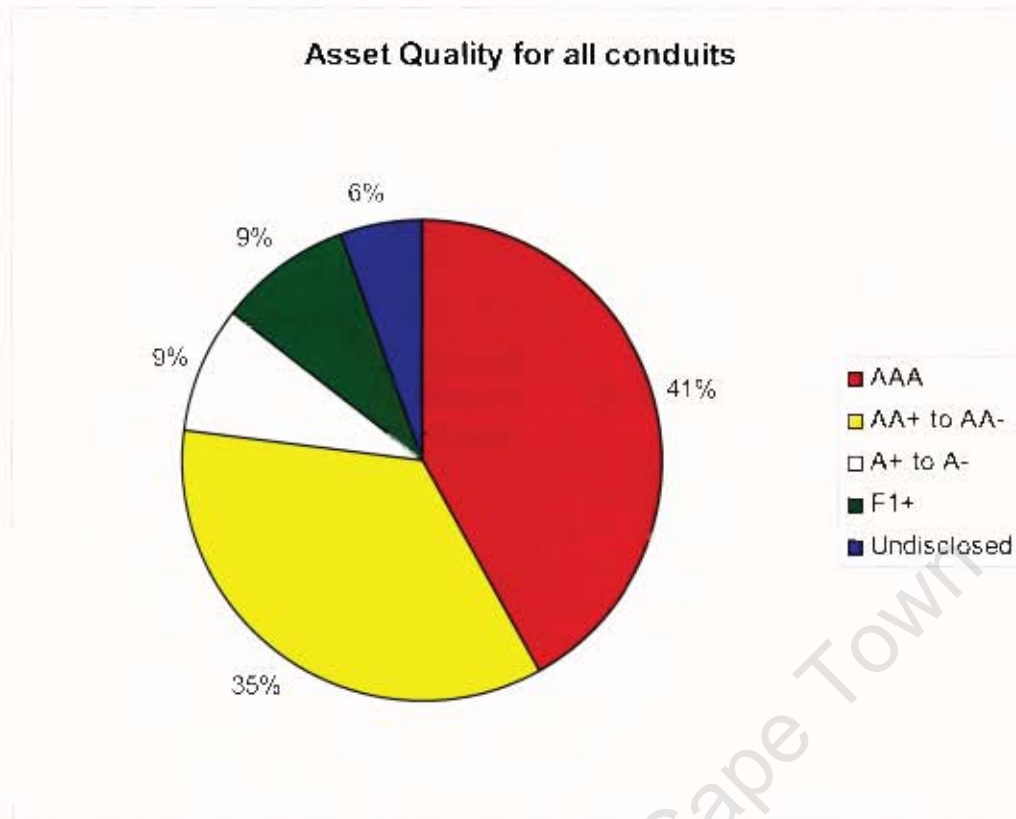


Figure 22

Figure 22 shows that 41% of all conduit assets (excluding Thekwini's home loans) are rated AAA and a further 35% rated AA+ to AA-. This illustrates that the underlying assets in these conduits are of a good credit quality⁹⁴.

The main reason for banks using ABCP as a funding tool is the spread it earns on issuing paper at a reduced spread in comparison to their own bank paper. Assuming the bank's paper funding rate for from 2001 to 2008 on average equals between 15bp and 45bp over 3 month jibar. According to ABSA research⁹⁵ the annual high at January 2008 for ABCP funding was 38bp and historically it was as low as 6bp. This would mean that a bank saved between 7bp on the high end and 9bp on the lower end in funding costs by using ABCP. Assuming an average ABCP conduit size of R5 billion, this equates to additional income of between R3.5 million and R4.5 million annually.

⁹⁴ Refer to the rating tables in Annex

⁹⁵ South Africa's Asset Backed Commercial Paper Market – The Whole Nine Yards, 5 March 2008. K. Rushton, J Gable.

After considering the sizes of the conduits, the asset composition and quality as well as the potential savings in funding costs, it is now necessary to consider the impact that a liquidity draw down will have on the balance sheet of the banks providing such facility.

Firstly the latest audited financial information for the liquidity providers are depicted in the Figure 23 below:

Liquidity Provider	Annual Report Date	RWA (R' billion)	Tier 1 Ratio	Tier 1 Capital (R' billion)
ABSA	31/12/2007	360	10.1%	36
Standard Bank	31/12/2007	524	10.4%	55
Investec	31/03/2008	119	10.3%	12
FirstRand	30/06/2007	305	10.3%	28
Nedbank	31/12/2007	352	8.3%	28

Figure 23

To determine if South African banks could face the same problems as IKB and Landesbank, the liquidity facilities as a percentage of RWA are shown below:

Liquidity Provider	Liquidity facility (R' billion)	RWA (R' billion)	Liquidity facilities as % of RWA
ABSA	15	360	4%
Standard Bank	35	524	7%
Investec	15	119	13%
FirstRand	30	305	10%
Nedbank	15	352	4%

Figure 24

Investec has the highest percentage but it is still far less than IKB and Landesbank at 28.8% and 31.6% respectively and is not considered a concern.

According to the Basel II principles discussed in Chapter 3.2 above, the credit conversion factor ("CCF") applied to the liquidity facilities is 20% based on the fact that the liquidity facilities meet the eligible liquidity facility definition. After application of the CCF, the risk weighting for an on balance sheet CP investment needs to be applied.

The table⁹⁶ (Figure 25) below can be applied based on the credit quality of the underlying assets in the conduits.

Long-term rating category					
External credit assessment	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ and below
Risk weight	20%	50%	100%	350%	Deduction

Source: South African Reserve Bank

Figure 25

The RWA are calculated as 20% of the total facility and then a weighting as per the above table is applied. F1+ is considered to be of similar credit quality as AAA.

The results per bank for current CP exposure are as follows (All amounts in R'm and 100% risk weighting assumed for assets with undisclosed ratings):

ABSA						
	ABACAS 1	ABACAS 2	Total	CCF	Weighting	RWA ⁹⁷
AAA	2,959	-	2,959	20%	20%	118
AA+ to AA-	541	1,147	1,688	20%	20%	68
F1+	-	2,169	2,169	20%	20%	87
	3,500	3,316	6,816			273

Figure 26

Standard Bank						
	BTITAN	Thekwini	Total	CCF	Weighting	RWA
AAA	5,837		5,837	20%	20%	233
AA+ to AA-	2,159		2,159	20%	20%	86
Undisclosed		4,388	4,388	20%	100%	878
	7,996	4,388	12,384			1,197

Figure 27

Investec						
	GRAYSTON 1	GRAYSTON 2	Total	CCF	Weighting	RWA
AAA	997		997	20%	20%	40
AA+ to AA-	538	160	698	20%	20%	28
A+ to A-		620	620	20%	50%	62
Undisclosed		783	783	20%	100%	157
	1,535	1,563	3,098			286

Figure 28

⁹⁶ Basle Committee on Banking Supervision (2003). The New Basle Accord, Consultative Document. Bank for International Settlements (April).

⁹⁷ Risk Weighted Assets

FirstRand						
	iNdwa	iVuzi	Total	CCF	Weighting	RWA
AAA	912	1,128	2,040	20%	20%	82
AA+ to AA-	7,702	1,076	8,778	20%	20%	351
A+ to A-		2,922	2,922	20%	50%	292
F1+	1,520		1,520	20%	20%	61
	10,134	5,126	15,260			786

Figure 29

Nedbank						
	Synthesis			CCF	Weighting	RWA
AAA	5,396			20%	20%	216
AA+ to AA-	1,111			20%	20%	44
Undisclosed	1,524			20%	100%	305
	8,031					565

Figure 30

If the above calculated RWA is added to the current RWA per the latest financial report, the results are as follows:

Liquidity Provider	Current RWA (R' billion)	Additional RWA (R' billion)	New RWA (R' billion)	Tier 1 Ratio (R' billion)	Additional Tier 1 Capital (R' million)
ABSA	360	0.3	360.3	10.1%	30
Standard Bank	524	1.2	525.2	10.4%	125
Investec	119	0.3	119.3	10.3%	31
FirstRand	305	0.8	305.8	10.3%	82
Nedbank	352	0.6	352.6	8.3%	50

Figure 31

Figure 31 assumes the same Tier 1 ratio is required as per the latest financial report and the last column then indicates the amount of additional capital that needs to be injected should the liquidity facilities as at 30 September 2008 be drawn down. The amounts are minimal.

Based on the following assumptions, a further calculation was performed:

- the total programme size is drawn down under the liquidity facility;
- a CCF of 20% and risk weighting of 20% is applied to all liquidity facilities; and
- the Tier 1 capital ratio remains the same as per the latest financial report.

	Total Programme Size	CCF	Risk Weighting	Additional RWA (R' billion)	Tier 1 Ratio	Additional Tier 1 Capital (R'm)
ABSA	15	20%	20%	0.6	10.10%	60
Standard Bank	35	20%	20%	1.4	10.40%	145
Investec	15	20%	20%	0.6	10.30%	61
FirstRand	30	20%	20%	1.2	10.30%	123
Nedbank	15	20%	20%	0.6	8.30%	49

Figure 32

The amounts are still minimal and Standard Bank and FirstRand has the largest exposure with R145m and R123m of additional capital required.

University of Cape Town

Chapter 7 - Summary and conclusion

The effect on banks of the draw down of liquidity facilities by conduits, has been extensively investigated and reported on in the credit crisis that started in August 2007 and which was still ongoing at the time of finalisation of this report. As an example, banks in Canada refused to meet liquidity demands due to the wording of the facilities giving them an opportunity to refuse liquidity demands in adverse market circumstances.

The study examines the conduits in South Africa and the impact that their potential liquidity demands would have on the banks providing the liquidity facilities. It examines 9 conduits in the market at 30 September 2008 and 5 South African banks.

Firstly, from an examination of the conduits' programme memoranda, it was determined that in South Africa, conduits can request liquidity support in any event which they cannot roll-over their CP. It therefore means that, unlike Canadian banks for example, South African banks will not have an option to refuse liquidity requests in adverse economic circumstances.

Secondly, it was determined that conduits could have saved banks funding costs of between R3.5 million and R4.5 million annually based on a 7bp to 9bp funding differential between bank paper and ABCP.

Thirdly, the current conduit sizes as well as the maximum potential conduit programme sizes were determined from investor reports and programme memoranda and used to calculate the additional tier 1 capital that would be required by each bank should a liquidity draw down be requested. The tier 1 capital ratio was calculated based on the Basel II requirements. The results concur with the view of Cresty and Krzychylkiewicz (2007)⁹⁸ that South African banks will be able to meet liquidity demands by the conduits they support. Standard Bank and FirstRand would

⁹⁸ Mike Gresty and Voyt Krzychylkiewicz; 3 October 2007; Conduits: Should we be concerned? - Deutsche Securities – Global Markets Research paper.

need to raise R145m and R123m of additional capital respectively should they be required to fund the liquidity facilities.

Fourthly, the research found German banks IKB and Landesbank were most exposed to liquidity risks, at 28.8% and 31.6% respectively of asset value and IKB subsequently failed to meet liquidity demands by conduits that it supported. In South Africa, Investec's liquidity commitments as a percentage of RWA are the highest at 13% but it is still far below that of the German banks mentioned above and not considered a concern.

The purpose of this study were to determine if a liquidity draw down event would have a material impact on any of the banks in South Africa providing such support and what the impact on these banks' assets and regulatory capital would be. The study has answered these questions and the conclusion is that the draw down of liquidity facilities would be manageable given that the size relating to the banks capital and assets are immaterial.

The study contributes to the literature available in South Africa regarding the impact of liquidity draw downs on South African banks and provides an estimate of the possible impact of such events.

Bibliography

1. Ratings Approach to ABCP Conduits.2002. 13 March 2002-last update. Available: www.standardandpoors.com.
2. ABSA Corporate and Merchant Bank Asset Backed Arbitrated Securities (Proprietary) Limited. ABSA Corporate and Merchant Bank a division of ABSA Bank Limited.
3. Armitage, J. 2007. High Street banks face huge bailout bill.
4. Basel Committee on Banking Supervision Consultative Document - The New Basel Capital Accord, Issued for comment by 31 July 2003. Bank for International Settlements.
5. Basel Committee on Banking Supervision International Convergence of Capital Measurement and Capital Standards - A Revised Framework. Bank for International Settlements.
6. Bate, S., Bushweller, S. & Rutan, E. 3 February 2003. The Fundamentals of Asset-Backed Commercial Paper. Moody's Investor Service.
7. Bergevin, P. 1 April 2008. The Current Credit Market Turbulence: The Build-up, the Trigger and the Fallout.
8. Berthault, A., Hamilton, D.T. & Carty, L.V. October 2000. Commercial Paper Defaults and Rating Transitions, 1972 - 2000. Moody's Investor Service.
9. Best, S. & Brennan, M. German Bank's Subprime Mortgage and Structured Vehicle Exposure Concerns are Overstated. Standard & Poors.
10. Bond Exchange of South Africa Bond Data - 31 January 2008. Bond Exchange of South Africa.
11. Carvalho, T. & McIntosh, B. October 2008. iNdwa Investments - Monthly report as at 30 September 2008. Rand Merchant Bank - Division of FirstRand Bank Limited.
12. Cresty, M. & Krzychylkiewicz, V. Conduits: Should we be concerned? Deutsche Securities - Global Markets Research Paper.
13. Davies, R. 2008. Power to the People. Risk Magazine. May 2008.
14. Duncan, H. 2007. Shares U-turn as UK Bank gets Crisis Loan.
15. Erman, B. and others. 16 November 2007. The ABCP Black Box Explodes.
16. Fender, I. & Hordahl, P. Overview: credit retrenchment triggers liquidity squeeze. BIS Quarterly Review. September 2007.
17. FitchRatings Fitch Rating Scale.
18. Fulcher, E. & Smith, T. 17 May 2007. iNdwa Investments Limited. FitchRatings.
19. Horowitz, K. 16 August 2007. Banking Industry - Drilling down on ABCP; Unlikely to be an issue for banks.
20. Investec Bank Limited Grayston Conduit 1 (Proprietary) Limited - Programme Memorandum. Investec Bank Limited.

21. Jobst, A. The Basel Securitisation Framework Explained: The regulatory treatment of asset securitisation. Journal of Financial Regulation and Compliance Volume 13, No1.
22. Jockle, J. and others. 23 August 2007. Asset-Backed Commercial Paper & Global Banks. FitchRatings.
23. Kjetland, R. 2007. Germany's State-owned Regional Banks helping IKB in Sub Prime exposure.
24. Kruger, E.M. 1 January 2008. Designation of an activity not falling within the meaning of "The Business of a Bank" (Securitisation Schemes). . Government Gazette ed.
25. Kubayi, D. and others. 6 February 2008. South African ABCP Bulletin - 2007. FitchRatings.
26. Linnell, I. and others. 12 September 2007. Asset-Backed Commercial Paper & Global Banks Exposure - 10 Key Questions. FitchRatings.
27. Linnell, I. and others. 31 August 2007. European Bank Exposure to Subprime. FitchRatings.
28. Mitchell, D. 14 January 2008. Boomerang Effect - Is Citi's Latest SIV Strategy. Asset Securitisation Report.
29. Moody's Moody's Rating Scale.
30. Nedbank 2008. Annual Report for the year ended 31 December 2007.
31. Nedbank Limited Synthesis Funding Limited - Final Programme Memorandum. Nedbank Limited.
32. Pittman, M. 14 August 2007. Banks Refuse Funding for Canadian Commercial Paper.
33. Polansky, J. and others. 24 August 2006. ABCP Market Overview: Mid-year 2006 Review. Moody's Investor Service.
34. Pottas, A. & Huntley, A. 2005. South African Securitisation Industry - Top 10 Issues for 2006. Deloitte Financial Services.
35. Rand Merchant Bank iVuzi Investments Limited. Rand Merchant Bank - a division of FirstRand Bank Limited.
36. Rand Merchant Bank 23 May 2003. Supplementary Offering Circular - iNdwa Investments Limited. Rand Merchant Bank - Division of FirstRand Bank Limited.
37. Rushton, K. 2008. South African Securitisation Handbook - Check or checkmate? ABSA Capital Research.
38. Rushton, K. & Gable, J. South Africa's asset backed commercial paper market - The whole nine yards. ABSA Capital.
39. Russell, P. 2008. Stress Test for Debt. Intersuisse Investment Research. (Tuesday 29 January 2008).
40. Rutberg, S. 2008. Dodging the subprime bullet. The Secured Lender. (January/February 2008):37.
41. Samuels, S. & Harrison, M. Creaking - declining marginal returns, declining free cash flow and "involuntary" asset growth. Citigroup Global Markets - Equity Research.

42. Sehnert, M.S. & Moskowitz, D. 15 September 2007. Liquidity: Why do asset-backed commercial paper conduits need it and where do they get it?.
43. Sonder, L.A. The ABCs of CDOs, ABCP, MBSs, SIVs and NAVs. [Homepage of Charles Scwab & Co., Inc.], [Online]30 November 2007].
44. Standard and Poors Standard and Poors Rating Scale.
45. Standard Bank Blue Titanium Investor Report - 31 January 2008. Standard Bank.
46. Standard Corporate and Merchant Bank Blue Titanium Conduit Limited - Final Information Memorandum. Standard Corporate and Merchant Bank - a division of Standard Bank of South Africa Limited.
47. Van der Poel, J. 26 March 2008-last update Securitisation.
48. Willis, A. 14 August 2007. Foreign banks refuse to backstop Canadian commercial paper programs.
49. Winning, P. and others. 25 October 2007. The Importance of Liquidity Support in ABCP Conduits. FitchRatings.
50. Zakaim, E. & Demeocq, A. 1 February 2008. 2007 Review & 2008 Outlook - EMEA Asset-Backed Commercial Paper; Steady Performance in H1 2007 Overshadowed by Turbulence in H2; Medium Term Recovery Anticipated in more Streamlined Market. Moody's Investor Service

Annexure – External rating scale

Long-term Ratings Mapping

Fitch Ratings ⁹⁹	Moody's Ratings ¹⁰⁰	S&P Ratings ¹⁰¹	S&P Obligators' ability to meet fin obligations
AAA	Aaa	AAA	Very Strong
AA+	Aa1	AA+	Strong
AA	Aa2	AA	
AA-	Aa3	AA-	
A+	A1	A+	Moderately Strong
A	A2	A	
A-	A3	A-	
BBB+	Baa1	BBB+	Reasonably Adequate
BBB	Baa2	BBB	
BBB-	Baa3	BBB-	
BB+	Ba1	BB+	Somewhat Weak
BB	Ba2	BB	
BB-	Ba3	BB-	
B+	B1	B+	More Vulnerable
B	B2	B	
B-	B3	B-	
CCC+	Caa1	CCC+; CCC; CCC-	Currently Vulnerable
CCC; CCC-; CC	Caa2	CC+; CC; CC-	Currently Highly Vulnerable
C	Caa3	C+; C; C-	Insolvency protection invoked
D	C	D	Default

⁹⁹ http://www.fitchratings.com/corporate/fitchResources.cfm?detail=1&rd_file=ifs

¹⁰⁰ http://www.rbcpa.com/Moody's_ratings_and_definitions.pdf

¹⁰¹ <http://nimeshforex.blogspot.com/2007/08/standard-and-poors-rating-scale.html>

Short-term Ratings Mapping

Fitch Ratings¹⁰²	Fitch Description	Moody's Ratings¹⁰³	Moody's Description	S&P Ratings¹⁰⁴	S&P Description
F1	Highest credit quality	P-1	Superior payment ability	A-1	Extremely strong
F2	Good credit quality	P-2	Strong payment ability	A-2	Satisfactory
F3	Fair credit quality	P-3	Acceptable payment ability	A-3	Adequate
B	Speculative	NP	Not Prime - do not fall within the above ratings.	B; B-1; B-2; B-3	Speculative
C	High default risk			C	Vulnerable
D	Default			D	Default

This table and the one on the previous page was prepared by Stephen Vlok, Credit Analyst at Sanlam Investment Management and is purely a guideline to the mapping of the ratings of the individual rating agencies. It is subjective and it should be kept in mind that very often two rating agencies will have differing ratings for the same transaction/entity.

¹⁰² http://www.fitchratings.com/corporate/fitchResources.cfm?detail=1&rd_file=ifs

¹⁰³ http://www.rbcpa.com/Moody's_ratings_and_definitions.pdf

¹⁰⁴ <http://nimeshforex.blogspot.com/2007/08/standard-and-poors-rating-scale.html>