



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Gordon Institute of Business Science

University of Pretoria

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans.

Jeanine Norden
20125969

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

10 November 2014

Abstract

Based on identified factors, non-traditional collateral secured loans can be viable to low income borrowers in developing markets. By being innovative and adjusting the typical banking business model, these loans can provide funding to people who otherwise would not have been able to get funding through the formalised banking system.

A large number of individuals, at the bottom of the pyramid in developing countries, do not have access to property rights (property is usually used as collateral in secured loans). The purpose of this study is to determine if non-traditional collateral secured loans can be provided to individuals, SME's and entrepreneurs at the bottom of the pyramid in developing markets.

A qualitative study was conducted from interviews with Heads of Credit, Chief Risk Officers and Secured Lending Heads in financial institutions that provide secured lending offerings in developing markets.

The study indicates that specific behavioural trends are associated with secured loan repayments that indicate favourable for lending institutions. Economies of scale in collateral evaluation and monitoring, is a critical factor to this lending approach to enable cost reduction. Being entrenched in the market and pro-active management in a market where very little infrastructure exist is a key factor to success.

Keywords

Non-traditional Collateral; Secured Lending; Emerging Markets; Informal Banking; Informal Market;

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Name: _____

Signature: _____

Date: _____

Acknowledgements

I would like to thank and acknowledge Dr. Eric Soubeiga for your guidance, patience, support and time, given generously throughout the journey of my thesis, despite your own demanding career.

To Kerry Chipp, I would like to thank you for your assistance and guidance throughout the entire process.

Gill Rodgers who assisted in the editing of this document, I thank you. I admire your skill and finesse with which you handle the English language, and how you applied this to my thesis. Thank you to Julie Rathbone, who assisted with the transcribing of the interviews. To each and every person who big-heartedly gave me their valuable time to interview: without your input, this report would not have been possible.

I would also like to acknowledge my work colleagues and employer for their support and encouragement throughout the MBA. Knowing you were behind me, encouraging me all the way, made all the difference in getting me to the end goal.

To my friends and fellow MBA colleagues, who have supported and believed in me through the past two years, I love and appreciate every single one of you. With special mention, my close friend, Louise Roets: you encouraged me, talked me through difficult times and were there with every twist and turn. I appreciate you so much.

It is to all of you that I dedicate my work.

Jeanine Norden

Contents

1	Chapter 1: Introduction to the research problem	1
1.1	Introduction to the problem	1
1.2	Research Title	2
1.3	Research Problem	2
1.4	Research Objectives	5
2	Chapter 2: Literature Review	6
2.1	The need for collateral	6
2.2	Evaluating Collateral	7
2.3	Collateral Risks	8
2.4	Collateral Monitoring	10
2.5	Liquidating Collateral	10
2.6	Considering the Moral Hazard	11
2.7	Secured lending compared to Pawn broking	12
2.8	Behaviour	13
2.9	Conclusion to literature review	14
3	Chapter 3: Research Propositions and Questions	16
3.1	Research Propositions	16
3.1.1	Research Proposition One	16
3.1.2	Research Proposition Two	16
3.2	Research Questions	17
3.2.1	Research Question One	17
3.2.2	Research Question Two	17
3.2.3	Research Question Three	18
4	Chapter 4 – Research Methodology	19
4.1	Proposed Methodology	19
4.2	Research Design	19
4.2.1	Research Approach	19

4.2.2	Study Type.....	19
4.3	Sampling.....	20
4.3.1	Research Universe.....	20
4.3.2	Research Population	20
4.3.3	Research Sampling	20
4.3.4	Data Collection	21
4.3.5	Analysing Data.....	21
4.4	Research Interviews	22
4.5	Saturation.....	22
4.6	Research Assumptions	23
4.7	Research Limitations	23
5	Chapter 5: Research Results.....	25
5.1	Research results relating to research propositions	25
5.1.1	Research Proposition One.....	25
5.1.2	Research Proposition Two.....	27
5.2	Research results relating to research questions.....	32
5.2.1	Research Question One.....	32
5.2.2	Research Question Two	34
5.2.3	Research Question Three	38
5.3	Research Results Conclusion.....	41
6	Chapter 6: Discussion of results	44
6.1	Introduction to results discussion.....	44
6.2	Discussion of results on research propositions.....	44
6.2.1	Discussion of results: Research Proposition One	44
6.2.2	Discussion of results: Research Proposition Two.....	45
6.3	Discussion of results on research questions	47
6.3.1	Discussion of results: Research Question One	47
6.3.2	Discussion of results: Research Question Two.....	49

6.3.3	Discussion of results: Research Question Three	50
7	Chapter 7: Conclusions and Recommendations	52
7.1	Introduction	52
7.2	Research Findings.....	52
7.3	Recommendations for Financial Institutions	53
7.4	Recommendations for further research	54
7.5	Conclusion.....	54
8	Works Cited.....	55

Table of Figures

Figure 1 - Secured Lending Landscape	3
Figure 2 - Number of new codes per respondent.....	23
Figure 3 - Volume vs Value secured lending comparison	50

1 Chapter 1: Introduction to the research problem

1.1 Introduction to the problem

This paper seeks to uncover why a lending institution would be willing or not willing to use non-traditional collateral to secure a loan. The research investigates the extent to which it would be possible to provide secured lending to consumers without discrimination, against consumers who do not have assets in the form of property. The research will determine if a model can be replicated from one financial institution (where non-traditional collateral is used in order to secure a loan) to another financial institution, irrespective of demographics.

The need for collateral in order to secure debt is well established. Menkhoff, Neuberger & Suwanaporn (2006) states that it is well established fact that the importance of using collateral in loan contracts (Menkhoff, Neuberger, & Suwanaporn, Collateral-based lending in emerging markets: Evidence from Thailand, 2006). Collateral is used as a means to reduce the risk of a borrower defaulting on the loan, in the case of an individual the borrower is incentivised to service the loan as failure to do so could result in the lender re-possessing the borrower's property used as collateral. The use of a collateral is even more important in the context of a default (that is failure by the borrower, individual or corporate, to service the loan) as it reduces the risk of the lender not recovering the loan amount outstanding (because the lender could sell the collateral and use the proceeds from the sale towards refunding the loan amount outstanding). In most developed countries, real estate property (such as land and buildings) and capital goods (e.g. heavy equipment such as excavators, forklifts, generators, metal-forming or metal-working machines, oil rigs and vehicles, which require a relatively large investment, and are bought to be used over several years) are among the most traditional forms of collateral. By contrast consumer goods, less durable goods and other assets such as such as jewellery, clothing, livestock and food crops are less often used as collateral and are referred to in this report as non-traditional collateral. For example the majority of wealth in India is in the form of gold. This is held as jewellery in households and in temples, and exceeds the entire gold reserve of the United States of America (Choudhury & Ananthalakshmi, 2013; Hamilton, 2013; Matthew, 2011; Parija, 2012).

Gold jewellery however, is not typically used as collateral to secure lending facilities in most international financial institutions. Another striking example of non-traditional collateral is livestock in Botswana where the livestock-to-human ratio in the country is as high as 3.75:1, a

unique case in Africa (International Livestock Research Institution, 2014). Livestock has been used as collateral in only a limited number of countries and in limited circumstances. It is not seen as a conventional or traditional form of collateral.

1.2 Research Title

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans.

1.3 Research Problem

Making loans available to consumers across the financial spectrum can assist in enhancing an overall economy in a country (Ronald, 1973, p. 94). In emerging markets with a less established formal market, the informal market and economic enablement is critical. Job creation, housing, education and infrastructure are at the forefront of international discussions for countries such as South Africa, Nigeria, Kenya and many others in emerging markets. GIBS Professor Adrian Saville (2013) argued in his 2013 TED^x talk in Cape Town that connecting people and information will lead to increased social mobility, which means changing the notion of 'if you are born poor, you are likely to live your life poor'. By connecting people, Saville suggests a reduction of more than half of South Africa's unemployment (Saville, 2013). When world and country leaders are faced with the question as to how the aforementioned will be achieved, they are often struck by silence. Sustainable economic growth and a reduction in unemployment go hand in hand.

In different countries, different profiles of consumers, own different types of assets. India, for example, is rich in gold jewellery, whereas Botswana is rich in livestock (Hamilton, 2013; International Livestock Research Institution, 2014). This research study focuses on lending facilities for individuals, Small Medium Enterprises (SMEs) and entrepreneurs, and not on Business, Commercial or Corporate clients. The study is across all financial institutions that provide credit to such consumers.

As Lenoy Barkai (2013) indicated, it is very difficult for entrepreneurs to set up businesses and raise capital in Emerging Markets (EM). Ronald (1973) indicated that poor farmers need capital to bridge the gap between the time they plant and the time they harvest their crops.

Aggarwal, Klapper, and Singer (2012) investigated why capital does not flow through to the poor and found that “the poor have so little to offer by way of collateral, and borrow such small amounts, that it is too risky and too expensive (for credit providers) to lend to them.” (Aggarwal, Klapper, & Singer, 2012, p. 4). In a 2012 World Bank Enterprise Survey, access to finance was identified by 30.9% of firm owners as one of the major constraints to growth (Aggarwal, Klapper, & Singer, 2012, p. 9).

In general financial institutions can provide loans on a secured or unsecured basis. A lending facility secured by collateral can also be either fully (100% collateralised) or partially secured (Jimenez, Salas, & Saurina, 2006, p. 263). Benmelech & Bergman (2009) states that when a borrower fails to make the promised repayment, the lender can seize and liquidate the asset for its market value (Benmelech & Bergman, 2009, p. 342). Thus, liquidating the asset indicates that the asset can be sold in the market for the highest value, or value closest related to the market value of the asset. It is important to note that collateralisation may be costly for both the borrower and the lender, depending on the type of collateral, the monitoring of that collateral, and the liquidation costs (Menkhoff, Neuberger, & Suwanaporn, 2006, p. 3; Oehmke, 2013, p. 184).

Figure 1 - Secured Lending Landscape below indicates the relationships that exist between a consumer, a financial institution and collateral types to secure lending facilities.

Figure 1 - Secured Lending Landscape

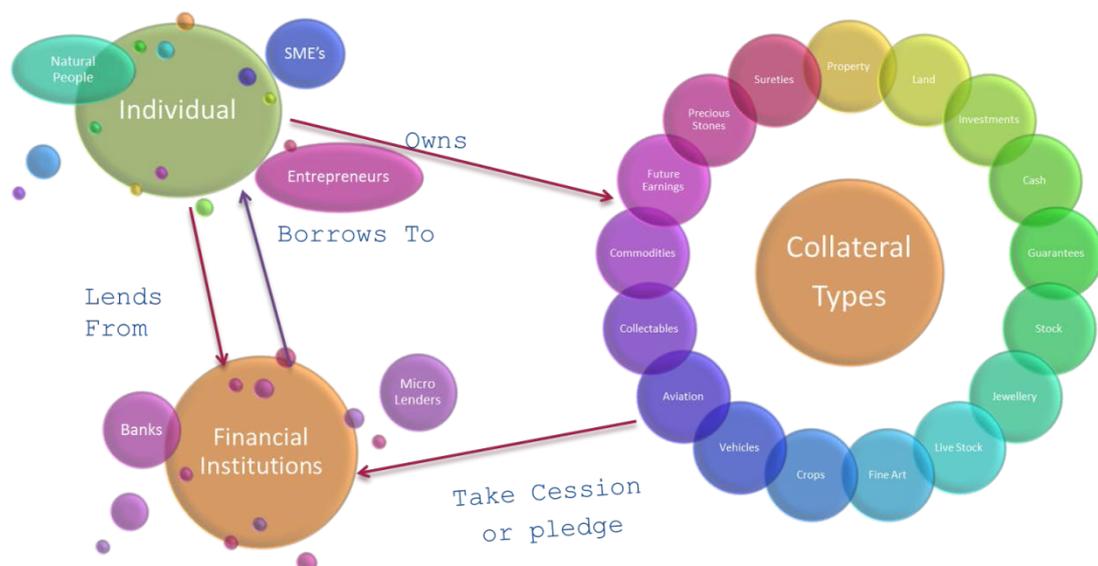


Figure 1 - Secured Lending Landscape indicates the focus of the research with specifics around the following:

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

- a) Lending will be to Individuals, being Natural People (Individuals) and/or Small Medium Enterprises (SMEs) and/or entrepreneurs
- b) Borrowing will be from Financial Institutions including Banks and Micro-lenders to clients
- c) Clients can own one or more of the specified collateral types

This research is focused on the potential use of non-traditional collateral to secure lending facilities, with a special focus on jewellery, livestock, crops and trading stock.

Ndzamela (2011) made references to farmers using their cattle as collateral to secure a loan. He stated that only some banks (Standard Bank and ABSA) offer the product in South Africa, and that First National Bank (FNB) offers a similar product in Namibia. "Absa and Standard Bank agree that livestock is a risky asset and the risk is sometimes mitigated by closely monitoring cattle herd combined with taking insurance on the livestock." (Ndzamela, 2011). Hungwe (2013) discovered that in rural Zimbabwe, informal banks are moving towards a more informal collateralised banking system, where the 'bank' is operational on the farms and in the villages, where air-conditioned offices and suits have been exchanged for cow dung and labourers wearing overalls. The bank branches are farms and the employees often go out to collect their deposits from the customers. Cattle is investigated and evaluated on the farm itself, and then used as collateral for small farmers (Hungwe, 2013). The cattle is removed and moved to a Trust Farm, where the cattle will be looked after, while the owner 'deposits' his cattle into a 'cow account' for a set period of time. A certificate is extended to the farmer than can then use this certificate as collateral for a loan (Hungwe, 2013).

Fleisig (1995) stated that movable property can be less attractive as security due to barriers. These barriers include the creation of security interest, perfection and enforcement of security interests. These barriers mean that the legal systems can make it difficult for lenders to be able to legally register their ownership or right over the security. The perfection of the security relates to the legal component involved in ensuring that the collateral adheres to the legal requirements of the specific jurisdiction where the collateral is being used. The perfection of collateral is ensuring all the legal processes are in place to protect the collateral from any third party making claim to the collateral (Investopedia, 2014c). Enforcement of security is the ability to legally liquidate the security when it required (Rusen, 2007, p. 253). At the time of the article, no private bank in Uruguay would accept cattle as collateral, whereas in Kansas, cattle were considered the best collateral (Fleisig, 1995, p. 2). This

research focuses on why certain financial institutions are willing to take the risk of using non-traditional collateral (such as livestock and trading stock) to secure lending facilities, while others are not. Furthermore, this research investigates the extent to which the use of a given type of non-traditional collateral at a given lending institution can be replicated at another lending institution or for another type of collateral. For example to what extent, using livestock to secure a lending facility in a specific financial institution in Namibia, can be replicated in Botswana. Or to what extent using livestock as collateral can be substituted by using jewellery as collateral. The study thus aims to provide insight on potential business models for secured lending using non-traditional collateral.

1.4 Research Objectives

The objective of this research study is to determine the challenges and opportunities associated with using non-traditional collateral to secure lending facilities. It is expected that the results of this research could assist in promoting the use of non-traditional collateral to secure loans to consumers in emerging markets. The specific non-traditional security of focus includes jewellery, live-stock and trading stock.

Specifically, a better understanding of the potential circumstances and criteria under which non-traditional collateral can be used to secure a loan could help inform the design and development of a collateral framework to support financial institutions that may be hesitant to use non-traditional collateral. From a borrower's perspective, the aim is to determine whether non-traditional security can be used in developing countries to increase access to finance for a wider consumer base. By providing loans secured on non-traditional collateral, there is the potential to enable the development of small businesses through funding which could, in turn, assist with job creation and social mobility.

2 Chapter 2: Literature Review

2.1 The need for collateral

Collateral has been described as “an asset that upon liquidation is adequate to cover all or most of the lender's risk exposure including principal, accrued interest and collection costs” (Kuhn, Darroch, & Ortmann, 1997, p. 638). Lending facilities have been provided to clients all over the world on a daily basis. For lenders to ensure repayment of the loan, the lender often used collateral as an incentive for the borrower, although liquidating collateral was not the preferred method of settling loans for lenders. Clients who were not able to repay these facilities were then said to be in default of their agreements and their loan conditions. Kuhn, Darroch & Ortmann (1997) pointed out that the use of collateral could have involved costs incurred by both the lender and the borrower.

Collateral, also known as security or assets, has been available in various forms, ranging from bonds, stock and property to other forms of less traditional security like livestock, art, jewellery, trading stock and many others. The literature section indicated the motivation for collateral to secure facilities in order to minimise default risks (Plaut, 1984, p. 401). It was important to note that Plaut posited that not all collateral have the same or equal probability of being realised, the cost of realisation differed and that there were various legal barriers to realising collateral (in the event of default) (Plaut, 1984, p. 412).

In the Basel III Liquidity report (Banks for International Settlements, 2013, p. 27), secured funding was described as the liabilities and obligations that were secured, or explained as collateralised by “legal rights to specifically designated assets owned by the borrowing institution in the case of bankruptcy, insolvency, liquidation or resolution”. Various hypotheses have been tested in the article ‘Determinants of collateral’ (Jimenez, Salas, & Saurina, 2006). The results of the tests summarised that a financial institution would have required a borrower to provide collateral to secure a facility. The main items were to secure a facility due to a previous default position, or a less desirable credit record. Secondly, collateral was provided where the facility size was large, typically for High Net-worth (HNW) individuals. These borrowers usually provided collateral in order to secure the facility to support negotiations for lower interest rates. Niinimäki (2011) supported the findings that a high-risk borrower may have been more willing to pledge collateral to secure a facility (Niinimäki, Nominal and true cost of loan collateral, 2011, p. 2782).

In addition, Menkhoff, Neuberger & Suwanaporn (2006) and Menkhoff, Neuberger & Rungruxsirivorn (2012) investigated the extent to which developed vs. developing markets utilised collateral to secure loans in the study 'Collateral based lending in emerging markets: Evidence from Thailand'. Their research indicated that Thai commercial banks had a higher degree of collateralisation than in developed markets.

2.2 Evaluating Collateral

The process of determining the value, including market value (MV) of the collateral both prior to granting the loan, as well as during the lifetime of the loan was described as the evaluation of collateral. In the evaluation of collateral, the determination of demand and supply of the asset in the market was important. Determining if a demand for a specific asset existed, would potentially aid in predicting the future demand for the asset, should it be required to liquidate the asset. McAndrews and Thompson (2007, p. 589), in their article 'The collateral value of fine art', investigated if fine art was acceptable as collateral to banks and financial institutions. In their research, they introduced the risk factors that made use of fine art as collateral to secure facilities too risky. McAndrews and Thompson (2007, p. 590) suggested that for fine art to be accepted as collateral, the asset class must have met the criteria required of lending institutions for loan collateral. "To qualify (as collateral), it must be possible for banks and financiers to quantify two essential elements of standalone credit risk: the default probability (PD) – the probability that borrowers would fail to service their loan obligations; and the loss given default (LGD) – the extent of the loss incurred in the event a borrower defaults".

Several key factors impacted the lending risk appetite, and the willingness and ability to absorb risk in the event of default. These included the accuracy with which the collateral was recorded, the ability to monitor the value of the collateral, and the lender's ability to have the collateral liquidated. To have collateral liquidated has been described as to have the collateral sold and that the proceeds would be used to settle the outstanding debt amount on the loan. The loss given default (LGD) as mentioned above was a critical determining factor, as the value of an asset must have been pre-determined in the event of default and through the life of the facility (over the term of the facility). The LGD should be as low as possible. Realisation and legal fees should have been taken into account, depending on the type of security that had to be realised, and subtracted from the collateral value.

In the article 'Liquidating illiquid collateral' (Oehmke, 2013), a model was built that indicated the implications of being able to liquidate pledge assets in the event of default. In the report from the Federal Reserve Bank of New York, Scheurmann and Hanson (2004, p. 3) identified the probability of default as the cornerstone of credit risk modelling along with LGD and loss severity and exposure at default.

The credit rating of the counterparty was analysed and an internal risk rating was assigned to the counterparty accordingly, alongside a probability of default (PD). The PD would have to be as low as possible indicating the likelihood that a client would default and the requirement to realised or have the collateral liquidated (Schuermann & Hanson, 2004, p. 1). A future value (FV) of the collateral assisted in determining if the collateral could be accepted for the loan. The FV would have also aided in indicating what the collateral could be when liquidated in the event that liquidation was required, hence there was an impact on the collateral's loan-to-value (LTV) ratio. Upon inception of the facility, a collateral evaluation would have been done to determine the current market value of the collateral.

Benmelech and Bergman (2009, p. 343) described an LTV as the "tranche cumulative loan-to-value ratio defined as the ratio between the sum of the principal amount of that tranche and all tranches senior to it, divided by an appraisal of the value of the assets serving as collateral". Explaining this in a simple example, this would mean that if the collateral had a worth of \$100 today and the FV would be \$150, and based on various risk and input factors the LTV of 50% would apply, it would indicate that a facility of 50% of the current market value (CMV) of \$50 could be granted, given that all other credit conditions were adhered to. Should the FV have been less than the CMV, the collateral may have been re-considered or discounted when it came to the LTV.

2.3 Collateral Risks

Menkhoff, Neuberger & Suwanaporn (2006, p. 3) indicated that Thai commercial banks did have a higher degree of collateralisation than in developed markets. This was mainly to have the higher credit risk reduced. The enforceability of contracts were highlighted in the study, however may have been less suitable if the collateral could not be enforced (Menkhoff, Neuberger, & Suwanaporn, Collateral-based lending in emerging markets: Evidence from Thailand, 2006, p. 2). This indicated that emerging markets did not always have the legal

infrastructure available in developed countries in order to easily liquidate collateral in the event of a default. Menkhoff, Neuberger & Suwanaporn (2006) indicated several factors were worth mentioning regarding collateral in a financial institution. These items included the cost of liquidation and utilisation of the collateral, the evaluation and monitoring of collateral, as well as the preparation of additional reports and the tolerance or appetite level (the accepted size of the collateral portfolio) of the assets in the institution.

Due to the costs involved in managing the collateral, the use of collateral may not always have resulted in a cheaper or easier access to credit (Kuhn, Darroch, & Ortmann, 1997, p. 638). These specific items may have been considered when mentioning non-traditional collateral, as the method and means to execute on the above may have been limited in some instances. This ultimately contributed to the risk appetite and willingness to accept non-traditional collateral as assets for secured lending. In the article *Collateral and its substitutes in emerging markets' lending*, Menkhoff, Neuberger & Rungruxsirivorn (2012, p. 819) indicated that the type of loan, the term and the purpose of the facility were often driving factors determining the use of collateral and the extent thereof.

As with all assets, the value of the asset may have either increased or decreased over time. Some security may have fluctuated in value more frequently than others. Some assets have a different market value (MV) on a daily basis, like listed shares and gold, as indicated in the price history graph by Long (2013, p. 3376). Some of the contract conditions associated with collateral of the secured loan may have included items such as insurance and a margin call, where the margin call referred to the decreased value of the associated collateral, below a desired value (Investopedia, 2014a).

High default rates have been associated with lending to the lower income earners. Due to higher default rates, financial institutions have had major concerns to lend to such individuals, especially in developing countries (Brehanu & Bekabil, 2008, p. 2229). Brehanu & Bekabil (2008) made the statement that "Lack of access to adequate financial services, especially credit is considered as one of the reasons for rural households to live in the vicious circle of poverty." The authors also indicated that even "The results of the econometric model employed in this study implied that the use of group lending would reduce defaults on borrowed funds as it helps to overcome liability problems of individual lending." (Brehanu & Bekabil, 2008, p. 2230).

2.4 Collateral Monitoring

Ongoing monitoring of collateral meant firstly, ensuring that the collateral would still be in place, and secondly, knowing the current market value of the collateral. More evidence of the requirement for active collateral management was raised in the Basel III report (Bank for International Settlements, 2010, p. 44). In the report, the Bank for International Settlements (BIS) stated that a collateral management unit had to be put in place. This unit would be responsible for calculating and making margin calls, and managing both margin calls and disputes. Reporting on collateral has been required and must be accurate (Bank for International Settlements, 2010, pp. 43-44).

Santa-Clara & Saretto (2009, p. 409) indicated that a margin call occurred when the market movement was against the current investor's position. For example, a financial institution may have had a 10 percent tolerance level for market movement of the collateral value, which meant that the financial institution would allow for the value of the collateral to have depreciated with a maximum of 10 percent. As an example, it meant that if the collateral was initially worth \$100 and the market price declined below \$90, the financial institution may have called on the borrower to rectify the position of the security value, to bring the collateral value back in line with the initial collateral value namely \$100. Various margin call rectification methods were available, and depended on the financial institution and the agreement with the client.

Despite collateral decreasing in value due to market conditions, collateral monitoring not only looked at the market value of the collateral, but also investigated other factors associated with the collateral. McAndrew & Thompson (2007, p. 590) have made reference to the monitoring of physical possession of collateral such as jewellery, cars and fine art. McAndrew & Thomson also stated that ensuring that insurance was in place may be one of the conditions of a financial institution.

2.5 Liquidating Collateral

One definition of default has been when the outstanding lending value (at a point in time) was greater than the collateral value of the number of units the borrower placed with the lender at a previous point in time (Plaut, 1984). Oehmke (2013) quoted Valukas (2010, p. 1092) in his report on Liquidating illiquid collateral. Valukas pointed out in the examiner's report on

Lehman Brothers, “Illiquid collateral requires longer time periods for sale at more uncertain prices, with time periods and prices dependent on the type of collateral, the amount of collateral to sell and prevailing market conditions” (Oehmke, 2013, p. 184). This ultimately indicated that not all forms of collateral had the same level of liquidity, implying that some collateral could be realised more quickly and easily than others. Some types of collateral may have required the financial institution not to liquidate in the event of client default. Oehmke suggested that some lending “institutions usually rush to unwind collateral assets on a large scale to recover their losses,” and this inherently caused low recovery values, spill-overs to other markets and even significant shocks to the financial system (Oehmke, 2013).

A lender’s risk-bearing capacity and business strategy could often have caused overshooting during liquidation (Oehmke, 2013, p. 204). It indicated that often, lending institutions might have opted to execute on the collateral due to a decline in market value, not taking larger economic factors into consideration. By doing so, it could often have caused a ‘run’ in the market and the specific collateral type (shares or gold as an example) could have declined in price only due to the fact that there was a surplus of supply in the market and a lack of demand due to financial institutions not considering all factors involved in the current value of the collateral. Oehmke claimed that liquidation was often “balance-sheet-driven” and lenders needed to remove the risk from their books (Oehmke, 2013, p. 185). When liquidation was balance-sheet-driven, the liquidation instructions could often have taken place in a less desirable market, causing a lower recovery value of the security. This may have caused the facility not to be fully settled, or to saturation in the market, leading to gaps or ‘spill-overs’ in other markets (Oehmke, 2013). The specific market conditions and overall size of the lender’s portfolio impacted the market. These should have received strong consideration during policy determining sessions, and in managing counterparty credit risk for the specific lending institution. An example of this would be when shares were pledged to secure facilities, and there was a decline in the stock market. If all lending facilities executed on the collateral (i.e. – selling of shares on the market to recover positions), it may have advanced a decline in the stock market due to saturation, causing lower value recoveries for lenders.

2.6 Considering the Moral Hazard

Hill defined a moral hazard as a “situation where a person or business will have a tendency to take risks or alter their behaviour because the negative costs or consequences that could result will not be felt by the person taking the risk.” (Hill, 2014). Investopedia on the other

hand indicated that moral hazard could have been present any time when two parties entered into agreement and that either party could have gained from acting contrary to the principles laid out by the agreement (Investopedia, 2014b).

Based on the definition on moral hazard, it was fair to question if it would be acceptable to accept collateral to secure loans could have given rise to instances of moral hazard. Niinimäki (2009, p. 520) tested nine different propositions around moral hazard in banking and showed amongst others that “if the collateral value is certain, the moral hazard problem disappears”.

2.7 Secured lending compared to Pawn broking

Most developing countries have experimented with different designs of their financial systems and investigated how low-priced credit could be distributed among rural borrowers with informal financial intermediaries. The cost to financial institutions of extending small loans remained higher than the revenues (Bouman & Houtman, 1988, p. 69). Bouman & Houtman indicated that informal finance has operated different to the formal finance world and that formal competition struggled to adapt to rural conditions. Loans were piecemeal for extremely short periods, which could be seen as bridging loans in the financial industry terms (Bouman & Houtman, 1988). In economies, such as the aforementioned, two major obstacles came to play, namely volume and risk (Bouman & Houtman, 1988). Bouman & Houtman indicated that savings in valuables, such as jewels, ornaments, gold, appeals to the rich and the poor and stated that “valuables can serve as collateral for loans, which improves the owner’s liquidity” (Bouman & Houtman, 1988, p. 73).

Pawn broking started in Singapore in 1875, where the core business activity comprised of giving out loans to walk-in pawners who presented valuables as collateral (Lim, 2001). Lim indicated that pawnbrokers made most of their profits from interest differentials between the interest charged and the cost of capital. Establishing authenticity and/or the market value lead to as much as 90% of all pledges accepted by pawnbrokers being gold and jewellery. By mid-1999 there were 70 pawnshops established in Singapore with each averaging S\$16 million per pawnshop and a total of S\$1.1 billion on the back of 2.7 million pledges (Lim, 2001). With economic instability, the number of loans from pawnbrokers increased. The managers and first loan offers that made the decisions of loan approvals had in excess of twenty years’

experience in the trade. The majority of the loans could have been seen as bridging loans, which usually did not exceed six months (Lim, 2001).

Pawn-broking has probably been the oldest way of lending and existed in Babylon, Athens and Rome where almost anything could be pledged (Bouman & Houtman, 1988, p. 73). Attractiveness of pawn broking existed to both the borrower and the lender with little or no credit relation. It was a simple agreement, should the borrower not pay the specified amount in the specified time, (s)he would lose the property and the pawn broker would sell it to recover the debt, hence there was no ever-increasing debt load (Bouman & Houtman, 1988).

With pawnbrokers (who were often some of the only 'lenders' willing to accept non-traditional collateral to secure loans), were more often than not seen as a villain and not in the light of a hero or saviour. The pawnbroker villain could have bought precious assets at below market value (MV) and this mere fact caused worldwide antagonism towards the private pawnbroker (Bouman & Houtman, 1988, p. 74). Bouman & Houtman said that pawnshop credit was seen as a necessary evil, as the impoverished and economically weak kept starvation at bay through selling their assets.

2.8 Behaviour

A large numbers of newspaper articles have been published around the revolutionary change to a lending approach by the Harvard University's Entrepreneurial Finance lab (E.F.L.) where a psychometric assessing have been used, to determine the behaviour associated with willingness to repay and affordability of a client, prior to approving a loan (African Business Magazine, 2012; Larson, 2012; Wheaton, 2013; Finovate, 2012).

Bailey Klinger, CEO and Co-founder of Entrepreneurial Finance lab (E.F.L.) stated in an online video that, access to finance have been at the core of increasing incomes and realising personal potential (Klinger, 2014). Bailey continued to say that one out of every three people on the planet have been lacking access to basic financial services, due to lenders in developing countries lacking information on the client, and have been scared of taking risks without collateral, proof of income and detailed credit history (Klinger, 2014).

A number of banks joined E.F.L in using the psychometric assessment tool, including banks such as Standard Bank (also trading as Stanbic) in South Africa, Mexico's BBVA Bancomer and Bank BPTA in Indonesia (Fitzerald, 2012). Despite reports of a large number of unsecured loans being approved by the banks (Terblanche, 2012), there were also reports of losses in Tanzania, which according to reports, were due to poor loan management (The Citizen, 2013).

The E.F.L assessment process has been used to determine two factors, namely a client's willingness to repay and the client's ability to repay (Finovate, 2012). Carpenter & Williams conducted a study in Paraguay in which they measured if loans which were monitored by peers have a lower level of default (Carpenter & Williams, 2014). Carpenter & Williams indicated in their study that the cost associated to loan repayments were usually high and found in their results that there was strong robust empirical relationship between propensity of peers to monitor each other and the performance of the group's loan (Carpenter & Williams, 2014, p. 126). During the same study, it was found that loans which were used for business purposes were less likely to have repayment problems than as example emergency situations. Carpenter & Williams also found that peer monitoring appeared to be a strong mechanism that reduced moral hazard (Carpenter & Williams, 2014, p. 130).

During the study of Bhattacharjee & Rajeev conducted in India on Modelling Loan Repayment behaviour in developing countries they "establish both theoretically and empirically that in India, the more unfavourable the terms of a loan from informal lenders compared to formal lending agencies, the better were the chances of borrowers making timely repayments of loans in the formal market. Thus, it is our contention that lowering interest rates in the formal sector (which makes informal sector interest rates more unfavourable) induces a borrower to repay a loan and obtain the benefits of taking a formal loan on a recurring basis (which is not possible in the case of default)." (Bhattacharjee & Rajeev, 2013, p. 288). In Carter & Skiba's study (2012) stated in their study that pawnshops loans were small, collateralised and typically used by low-income consumers. The study also pointed out the high repayment rates on pawnshop loans, specifically those secured by the sentimental items (Carter & Skiba, 2012).

2.9 Conclusion to literature review

Loans were provided in the formal finance market as well as informal market where micro-lenders and pawnshops often remained king. Loans could either be secured or unsecured.

The costs and effort associated with collateral management often drove financial institutions to rather provide unsecured loans to consumer. Without economies of scale, financial institutions have been hesitant to engage in secured lending for low-income consumers, as the cost outweighed the benefit to the institution. The financial institution's ability to manage collateral from inception of the loan through to maturing of the loan has been linked to the risk appetite of the financial institution.

Client repayment behaviour was driven through multiple aspects including peer monitoring, loan types, interest rates and collateral types. In the event where a client defaulted on a secured loan, the asset could be liquidated to settle the outstanding amount owed, however this was not the preferred method of financial institutions. Countries have had different levels of maturity in the legal system to assist with collateral perfection and realisation, and the legal system could have been a driving factor for financial institutions to have engaged in secured loans.

3 Chapter 3: Research Propositions and Questions

The literature has an inclination towards the support of collateralised loans as opposed to unsecured lending. In addition, the literature indicates that the tendency towards collateralised facilities is higher in emerging markets than in established ones. Many emerging countries have restrictions on owning land, which can limit the ability of the borrower to provide land or buildings as collateral. The purpose of the research is to investigate the possibility of accepting non-traditional collateral to secure lending facilities, and what the circumstances would be around accepting such collateral.

A result of this study should indicate if financial institutions are willing to accept non-traditional collateral for lending facilities, or if indeed there is no desire to approach that specific business market. It is important to understand the relevance of collateral to securing lending facilities in emerging markets.

The research propositions are focused on investigating the following:

3.1 Research Propositions

3.1.1 Research Proposition One

The use of non-traditional collateral to secure a loan (that would otherwise be unsecured) can favourably change the behaviour of the borrower to keep up the loan repayments.

The researcher suggests that there is a positive difference in human behaviour in the repayment of secured loans where a loan is secured by non-traditional collateral in comparison to an unsecured loan.

3.1.2 Research Proposition Two

Informal markets have specific factors associated with non-traditional collateral secured loans.

The factors related to informal markets specifically include:

- a) Being entrenched in the market
- b) Pro-active response to clients

- c) Understanding the collateral type
- d) Understanding the client

3.2 Research Questions

3.2.1 Research Question One

What conditions or factors would be needed to make the use of non-traditional collateral more attractive for financial institutions?

This implies investigating the extent to which a financial institution would be willing or not willing to accept non-traditional collateral to secure loans. This is based on the current situation in the financial institution, as well as the 'market noise'; the customer needs and the history that the financial institution has with non-traditional collateral. The risk appetite is often also linked to the level of comfort that the policy-makers in the financial institution have with the proposed non-traditional collateral and the offering thereof.

3.2.2 Research Question Two

Can financial institutions actively monitor non-traditional collateral?

In order for a financial institution to use any form of collateral to secure a lending facility, the financial institution must determine its market value: the price that the collateral could be sold for in the open market. The financial institution must also be able to determine if there is a demand in the market for the specific asset type. Based on the market value of the collateral, the financial institution is able to determine an estimate of the future value of the collateral, should the institution be required to liquidate it. Monitoring collateral involves ensuring that the collateral still exists, that the collateral is not damaged (which may cause a reduction in value), lost or stolen and continuously determining the market value of the collateral on different frequency levels based on the specific collateral type. This research question will determine what a financial institution's in-house capability is, or whether this function can and should be outsourced.

3.2.3 Research Question Three

Do financial institutions have the ability to liquidate non-traditional collateral in the event of default?

Liquidating collateral is only done in the event that there is no other method of recovering the funds to repay a loan. In the event that the financial institution must liquidate the collateral to repay the loan, it should have the ability to do so. The liquidation can either happen through an in-house liquidating capability or through an outsourced function. The psychometric assessment tool is then used to determine a customer's ability to repay a loan through multiple questions which include attitude and believe, honesty and problem solving skills. To date, nearly \$300 million dollars of loans have been provided.

4 Chapter 4 – Research Methodology

4.1 Proposed Methodology

The sections below outline the method that was followed for the research around the circumstances associated with non-traditional collateral to be used by financial institutions to secure lending facilities to retail and small and medium enterprise (SME) customers.

4.2 Research Design

4.2.1 Research Approach

The research approach can either be deductive or inductive, or a combination of both. “Induction is a research approach which involves development of theory as a result of analysing data already collected. Deduction is a research approach which involves the testing of a theoretical proposition by using a research strategy specifically designed for the purpose of its testing.” (Saunders & Lewis, 2012, pp. 108-109). Based on the specific definition by Saunders & Lewis, this research approach was based on an inductive approach. The qualitative research and semi-structured and unstructured interviews led to discoveries that both motivate and support the existing theory.

4.2.2 Study Type

A number of different types of studies exist. These include exploratory, descriptive and explanatory studies. An exploration study was conducted for this research study. The ways of conducting an exploratory study, according to Saunders & Lewis (2012), are usually:

- Searching the academic literature;
- Interviewing experts in the subject;
- Conducting interviews

“A descriptive study or research seeks to describe accurately persons, events or situations, where an explanatory study takes descriptive research a stage further by looking for an explanation behind a particular occurrence through the discovery of causal relationships between key variables.” (Saunders & Lewis, 2012, p. 111; 113).

Based on existing academic literature, it was evident that the preferred method of lending is through collateralised loans.

4.3 Sampling

4.3.1 Research Universe

The universe indicates the specific area around Banking and Financial Institutions which currently provide lending facilities to retail and small and medium enterprise (SME) clients. The main focus was on secured lending. Financial Institutions that provide micro-lending and unsecured lending will not be excluded from the universe.

4.3.2 Research Population

Saunders & Lewis (2012) define the population as the complete set of group members likely to be available to be sampled. The population for this study included Chief Risk Officers (CROs), Product Heads, and Heads of Credit in the various financial institutions and banks that were defined in the research universe. The motivation for the population selection was based on the key decision-makers in financial and banking institutions that form part of policy making forums, appetite level determination and overall company risk evaluation.

4.3.3 Research Sampling

A sample is defined by Saunders & Lewis (2012) as a subgroup of the whole population. The subgroup need not be a subset of people or employees. Therefore not all CROs, Product Heads and Heads of Credit of a specific institution were used in the sample. The interviews were spread across multiple institutions to cover the views from all perspectives indicated in the population. Probability sampling was eliminated from the sampling techniques, as an exhaustive list of all participants across all institutions in the population was not possible. Purposive sampling is a type of non-probability sampling in which the researcher's judgement is used to select the sample members based on a range of possible reasons and premises (Saunders & Lewis, 2012, p. 138). Another form of non-probability sampling is snowball sampling. This is used when it is difficult to identify members of your population. A first sample member is identified, and subsequent members are identified by earlier sample members (Saunders & Lewis, 2012, p. 139).

Some of the interviews resulted in snowball sampling, as the person being interviewed referred the researcher to multiple other individuals to interview as this process progressed. The researcher continued with interviews up to the point of saturation. The sample size was assessed to be sufficient based on the guidance of six-to-twelve interviews being an

appropriate sample size for qualitative research as recommended (Guest, Bunce, & Johnson, 2006).

4.3.4 Data Collection

The study was based on qualitative research. Semi-structured interviews were used as the data collection method. The research proposition was used to enable the structuring of the interviews. Based on the progress of the interviews and views based in different countries, the interviews did follow some unstructured approach. A combination of structured and unstructured information was used to identify the main topics of the interviews, which in some instances, led to follow-up discussions with the interviewees to ensure that the identified areas of discussion were covered by all interviewees.

Cassel & Symon (2004) indicate multiple data collection methods, including photography, unstructured documents and recordings. The interviews were conducted on a one-on-one basis and audio-recorded. The individuals interviewed provided their consent to be interviewed, and the identities of the interviewees were kept anonymous. The duration of the interviews varied between 45 minutes to one hour per interview. All interviews were transcribed and the transcribed documentation was used for the data analysis.

4.3.5 Analysing Data

Quantitative data is usually split into two overarching categories: Categorical & Numerical. Descriptive or nominal data is categorical data that are grouped into sets that have no obvious rank order (Saunders & Lewis, 2012, p. 167). The findings from the interviews were clustered into categories to define the main themes identified. Based on the themes, the observations from the interviews were used to support the specific themes. Meyers indicates that in qualitative research, the data collection and data analysis can often be blurred, as the questions asked will significantly affect the data collected (Myers, 2013, p. 165). He adds that qualitative research ends up with a great deal of data, and that the analysis of such data is often linked to the interpretation thereof. One of the data analysis methods that can be used for qualitative data is coding (Myers, 2013, p. 167).

The qualitative data analysis ATLAS.TI Version 7.1.7 was used to perform coding on all of the transcribed interviews. Coding is used to assist in the analysis of qualitative data (Myers, 2013,

p. 167). Coding can be seen as using labels or tags to mark all of the sections with a corresponding theme, key word or phrase (Myers, 2013, p. 167). Myers also indicates that coding is part of data analysis, and can be seen as the beginning of the data analysis phase. By sampling, the researcher identified the text or phrases that should be analysed. The researcher then identified the themes found in the data. These themes were linked back to the literature and the research proposition.

In addition to the use of ATLAS.TI, Microsoft Excel was also used to perform additional analysis and graphical representation of the data. In ATLAS.TI codes were created where the phrases that were associated with the same word or phrase were marked by means of codes. From the codes, families were created, which were used to logically group all related codes. Families are logical categories.

4.4 Research Interviews

The researcher conducted eight (n=8) interviews over a three-month period. The researcher met with the respondents one-on-one for interviews. The interviews with respondents based in Nigeria and Kenya were conducted telephonically through Lync.

The interviews were representative of the entire population. An initial analysis was done on the feedback received from the interviews to determine the confidence level of the saturation of the data. Various views exist on the ideal number for qualitative research interviews. Meyer argues that there is no such 'magic number' (Myers, 2013, p. 167).

Seidman (2012) addresses the question of "How many participants are enough?", and provides the conclusion that there are two criteria for 'enough': firstly, the numbers should be sufficient to reflect the range of participants and sites that make up the population, and secondly, saturation of information should be reached.

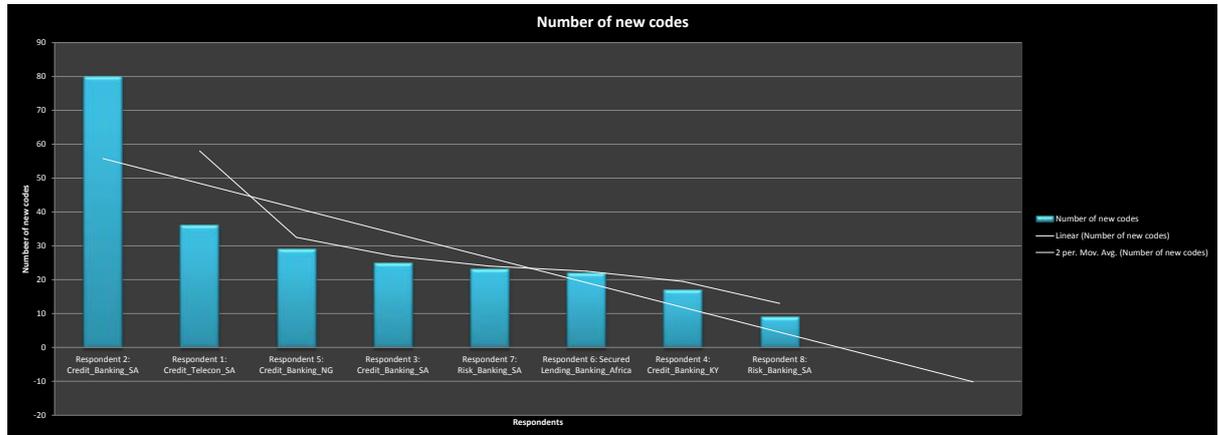
4.5 Saturation

From Figure 2 - Number of new codes per respondent below, it indicates the number of new responses per respondent. Based on the number of interviews conducted and the number of new codes found per interview that is represented on the linear line, it indicates that there

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

would be no new responses after interview eight. This indicates that the number of respondents was sufficient for the study, and that saturation was reached.

Figure 2 - Number of new codes per respondent



4.6 Research Assumptions

This section contains assumptions made during the data collection process and the research methodology applicable to this specific study. The list of research assumptions is not exhaustive.

- The information provided by the respondents is true and accurate.
- Different financial institutions and/banks have different views.
- The research is based on the emerging African market.
- Terms used by the various respondents have the same meaning.
- The pre-requisite specific credit requirements are proven, and the discussion is around collateral specific.
- The views of the respondents do not represent the views of the institution they represent.

4.7 Research Limitations

The section on research limitations indicates possible limitations that this study was not able to cover or that may require additional research. The list of research limitations is not exhaustive.

- It might not be possible to get a view of all countries in all emerging markets.
- Not all non-traditional collateral types can be tested.
- Not all financial institutions and banking institutions in emerging markets can be interviewed.
- Not all decision-makers in financial and banking institutions can be interviewed.

- e) Not all legal systems operate in the same manner.
- f) Infrastructure may differ across countries and financial institutions.
- g) All emerging countries may not use the same non-traditional security.
- h) Credit-related pre-requisites of a specific client(s) and specific financial institution(s) or bank(s) have not been investigated.
- i) Credit-related pre-requisites of a specific client(s) and specific financial institution(s) or bank(s) differ.
- j) Country-specific banking regulators differ in terms of regulatory requirements.
- k) Not all countries in emerging markets are at the same level of Basel standards.
- l) Based on the interviews, the number of new themes occurring decreased as indicated in 4.5 Saturation. The limitation is that previous interviews could have influenced the manner in which the researcher structured the questions and prompts during the interviews based on the previous discussions.

5 Chapter 5: Research Results

This chapter indicates the findings associated with the research propositions and research questions posed to the respondents during the interviews. This chapter includes some of the quotations from the respondents to support or challenge the research propositions. It also provides clarification on the research questions presented to the respondents.

As part of the data analysis, ATLAS.TI was used where the documents were coded. The codes are used as common occurrences of themes across the interviews. The codes are then grouped together into what is referred to as families. The families are logical grouping of multiple codes. An example would be a 'Law' family with all of the law related codes are grouped together. In this chapter, there are references to codes, families, grounded- and density associated with the codes. Grounded refers to the number of unique occurrences of a specific code. The density of a code indicates the inter-relationships that that code has with other codes, in other words, directly related codes.

5.1 Research results relating to research propositions

This section will address research findings specifically around the research propositions posed in Chapter 3: Research Propositions.

5.1.1 Research Proposition One

The use of non-traditional collateral to secure a loan (that would otherwise be unsecured) can incentivise the borrower to keep up the loan repayments.

From the data acquired, it appears that there is a specific cultural link to behaviour changes in secured lending. During the interviews, the comparison was drawn between non-traditional collateral and traditional collateral, where a home loan was used as an example of traditional collateral.

When the example was drawn on traditional collateral, respondent six said:

“So think about what we see, so let me just pick on a home loan: so why do people sometimes rather pay their credit card above the required instalment of the credit card, and not pay their home loan? Simple, because they use their credit card to live.

They know you are in the house, until you throw me out; it is not an immediate threat.”

When looking at traditional collateral from the example above, it is clear that not all collateral that is used to secure lending facilities are viewed in the same manner by borrowers. Not all collateral types impact the repayment behaviour of borrowers favourably; in fact some collateral types in actual fact impacts the repayment behaviour of the borrower in a negative manner. The incentive for a borrower to repay a home loan is not at the same level of impact as that of non-traditional collateral as an example of where the client is an informal trader in the market. The impact on the client ensuring that they maintain their status in the community and continue to trade poses much higher than that of a home loan, which cannot be repossessed as easily as their stock.

In Nigeria, there is a stock lending product currently available to the informal market, through the formal banking systems. The stock lending product takes cession and pledge over the stock that the informal trader has and may have in the future, in order to secure the lending facility. Other conditions are applicable too, like surety from a third party. When asked whether there is any capital benefit in this product or a reduction in the LGD and capital holdings, the respondent indicated that the collateral is not formally recorded and that there is no capital reduction taken into consideration. The clients, however, tend not to default on this specific offering in comparison to others. The researcher then enquired whether the collateral was used to alter the behaviour of the client in terms of repayment.

The respondent answered:

“That is exactly it. Anybody who knows you have some sort of claim over his stock and you can come and get it. The primary reason for us doing it is really the psychological effect of the customer understanding that we have a right to the assets that effectively we financed.”

In response to the indication of behavioural change, the researcher questioned if the behavioural change is country- or perhaps African- region- specific, to which the respondent replied:

“I think it is human nature. Even in South Africa, if you think about a customer and how they are going to think about what payments they are going to make... say for example someone has a home loan, a car loan and a credit card. You can clearly see what they are going to pay first and what they are going to pay last. If they’ve got a

limited income, they are unlikely to pay the credit card or they are unlikely to pay the home loan, just because of the way they think about things. They know it will take you a long time to come and perfect your mortgage and go to court, whereas your car they might understand that you can come and pick up the car the next day and they are not going to be able to go to school or get themselves to the shops, so they would make sure they make that payment. I think it is a human nature thing that people are encouraged or motivated to make payment in some sort of order depending on the nature of that transaction and the consequences of them not making the payment. I don't think it is particular. I think if someone thinks that there is going to be a certain negative impact on them not doing something, and then they would rather do that at the expense of something else that has a lesser impact. I think that is probably a universal principle."

The response of respondent seven to this question was:

"I think anything that makes people believe that they need to keep their loan payments regular and that there is something going to happen if they don't make a payment is advantageous to the bank who is lending the money."

Based on the outcome of this research proposition and the feedback from the respondents, the research proposition indicates that there is a favourable behaviour change in repayment associated with secured loans as opposed to unsecured loans. Additionally, from the research, it is clear that the type of collateral to secure the loan does have an impact on the overall positive repayment behaviour of the secured loan. A traditional secured loan, such as a home loan, is ranked lower in priority to secured loans than where non-traditional collateral is used to secure the loan. With non-traditional collateral secured loans receiving favourable repayment behaviour, the non-performing loans (NPLs) on the offering portfolio will be lowered in the financial institution, despite the fact that the collateral is not recorded for capital relief. The ultimate result will be a reduction in impairments for the financial institution, which will contribute to lowering costs and increasing profits.

5.1.2 Research Proposition Two

Informal markets have specific factors associated with non-traditional collateral secured loans.

Based on the interviews, the item which received most attention was, being close to the market and being close to the client. From the interviews, it was clear that the concern was how a financial institution with large overheads would be able to remain close to the market and close to the client, where both are situated in an informal market. This is supported by respondent five:

“A guy who kind of washes cars and has a little bit of income and you want to lend this guy a little bit of money, I suppose you could do it, but you’d have to be really close to that car wash and you would probably want to look for some collateral.”

From respondent two, there was the following:

“And that is where we saw our boots effectively in trader markets, it is because I would lend to you and in lending against packets of second-hand shoes, and there is a market, this is not like going into Johannesburg where people only buy fancy new shoes and go to Spitz in Sandton; these are second hand shoes, you pull them out, you choose them, but they might not be there tomorrow and I have given you R2,000 and my collateral is there, but you have moved somewhere else up in the trader market and I don’t know how to find you again. With cell phones you just pull out the SIM card – because there is no land line – so secured lending is particularly risky as you move further north of the traditional SADEC countries.”

During the discussion with respondent six, the question was posed if there is a need or a market specifically around the informal market, by means of a specific product that was related to stock lending in Nigeria:

“So absolutely I think it works! There are models you can go in with in many other emerging markets where you will see something like that, but I think a lot of it comes down to... you find the heart of those models are... it is very close to the front end, so a lot of that power and interaction are with the lender, and that is in the markets. So when the guy I have lent to, is not at the market today I know it. And straight away I am worrying about that guy. In a traditional bank we won’t know until he starts to miss payments.”

During the interviews, and covering the basis of secured lending to the informal market, a surprising factor came to light. The concern around a moral hazard was raised in the interviews. During the data gathering, several respondents indicated that when non-

traditional collateral is involved or considered, it is important to have a view of whether that non-traditional collateral comprises of items that ensures the person or household's income. Should the non-traditional collateral be the item that generates the income, there may be a moral hazard related that collateral.

During a question around secured lending based on non-traditional collateral, and taking moral hazard into consideration, respondent eight said:

“If that is a concern, you shouldn't be lending them the money. It is a similar thing to lending money to a church. You shouldn't be lending money to a church if at the end of the day you are going to take the church away or the school. If you are lending to a school and at the end of the day you are going to put school children out onto the street. If the individual is so desperate and it is such a function of their existence depending on that, you have to ask yourself the question whether it is responsible lending.”

During interview six, the example of moral hazard was provided. The specific example relates to traditional collateral.

“So it's like let's take a guy buying a house for R250,000, bottom end you know, it's just to give... I mean those sort of things are family-orientated; you have got to look at who gets impacted by that particular transaction. So to the particular point, to get out of like those child-headed households scenario, there is an answer, why don't you just insure those lives, because if those occur that problem is totally sidestepped. So yes, once again it goes up to costing the consumer money. Some of the players would argue that aren't you then just having the customer pay insurance and you are covering your loss? It is a good argument for some stuff, but it is not what I am trying to avoid, what I am trying to avoid is specifically what is the impact when my collateral goes sour and what impact do I leave, and how do you do that? So that is almost the approach philosophy I would use in the back of my head when it comes to that.”

Respondent six indicated that repossessing collateral is not as easy as simply taking the asset away from the client. There is a factor linked to moral hazard which can present itself when it comes to collateral repossession, the respondent indicated by means of the following example:

“There is this word I use loosely which is ‘general willingness’ and that ties into a lot more: what did I lend the money for – so I know we don’t do that because we have it highly mechanised to a large part, but when you start going these alternative type of things (non-traditional collateral), what do you do? How do you take collateral that is also your income stream because that’s an interesting debate? Business lending we do, and you do it across certain individuals, but the bottom of the pyramid, the person has six cows and you have encumbered these six cows, how does that all play itself out? So the guy can’t pay you, so then what you do? You take his only form of income and you liquidate it. Tough thing to do I would argue, if I have got it at the bottom of the pyramid. I almost equate it to somebody who has got a roof over their head, so let me give you my classic dilemma, you come to a house, it hasn’t been paid for, over a year or two, or let’s say a couple of months the guys come back and say ‘well there is no adult in the house, that is why it is not being paid, it is child-headed’. Now you have a debt on the house, it is child-headed, now what do you do?”

When it comes to secured lending, all of the respondents were very vocal about the fact that collateral should not be the primary item that is looked at, but rather the individual behind the deal is first and foremost the aspect that should be investigated. In a number of the interviews the respondents refer to “Jockey”, which indicates the person responsible for the loan. Respondent two:

“But often the business people when they are in country (African countries) and talking to credit, think the more covenants you can actually put into it, the more secure we are, because they think we are happy – we have got this, and that, and whatever – the reality is if it is a bad business we are going to lose money irrespective, whether they sell mobiles or anything.”

Respondent four said in response to a question asking which is more important, the collateral or the jockey:

“No the jockey or the PD estimate is by far the more important. Even if you theoretically have good collateral, if the customer has a bad inkling from the start he will collude with whatever collateral manager you have in place and pay them off and compromise the value of your collateral. That happened in a number of instances as well. For us of utmost importance it is to know your customer and to be comfortable with them and then rather use the collateral just to gear up the facilities to a higher level than we normally would have been comfortable. If we are comfortable to lend

\$1 million to a guy normally, if we are happy with him as a character and he has a proven business practice, we might be able to go to \$5 million if we have a good collateral structure. In the absence of that (collateral), the lower amount would be used. It is a risk, so it is taken into account, but it is not a primary factor.”

On the same question respondent five indicated:

“In theory you have to be happy with the person. You can’t say that... one should never say that because you’ve got some decent form of collateral you will... you won’t look carefully or you will not take into account some negative character traits or some things about a deal that you don’t like. Certainly you need to be happy with those, and then you will want to see what form of collateral you could take.”

In the same vein, respondent seven indicated:

“Just from a credit perspective: whenever you lend on the basis of collateral that is pretty much collateral only, then you are lost.”

In conclusion to this research proposition, it is confirmed that the informal market does have specific factors associated with it, that influence non-traditional collateral secured loans. In traditional banks, staying close to a customer means that automated systems monitor loan repayments and, based on no payment, the client is contacted. In informal markets, the interaction with the front end of the market is critical. In the event that a trader is, for example, not at the market, the financial institution should immediately be aware of this, and not only become aware of this once the client misses a loan repayment. This is due to the fact that the traceability of a client in informal markets is not at the same sophisticated level as that of a formal market.

From the ability to understand the specific informal market in which the client is involved, to the ability to be close to the client in that market and to know when either the client or the collateral is no longer that, which was accepted initially, the respondents remained very clear on the fact that collateral is not the solution to granting loans. Understanding the type of collateral that the client in an informal market has to offer enables the lenders to get a better overall understanding of the client and the market they operate in. The individual associated with the loan the ‘jockey’, is and remains the key determining factor in deciding if a loan can be approved or not. The collateral is the supporting fact to the loan. Based on research

proposition one, where it is confirmed that non-traditional collateral secured loans affect the repayment behaviour of clients, making it favourable; ensuring that the client is able to afford the loan and securing the loan with non-traditional collateral in an informal market, can assist in reducing non-payments of loans and clients defaulting on loans.

5.2 Research results relating to research questions

5.2.1 Research Question One

What are the factors which will motivate a financial institution to increase risk appetite in order to accept non-traditional collateral for secured loans?

When asked about the appetite to do secure lending through non-traditional collateral, respondent replied by saying:

“I suspect, and if it were me, that we don’t have an appetite for it. You have got to find other more intelligent ways because I mean the traditional bank lending is that you throw muck against the wall and say I’m juristic. So it is a portfolio approach, and that requires some sort of sophisticated tools that allow you to differentiate on risk. So you know that when you write this business, 10% of it is going to go bad. And that is not available in these markets. So you have got to use more traditional methods, proper money lending techniques, that is why lend local, you know if you are going to do it that it’s a very different business model, very different business model. It may be appropriate for Africa but I suspect something else.”

From the above, the respondent indicated that having historical data available to do analysis on a portfolio in advance to determine the percentage of the portfolio that one can suspect can default, is not available in most emerging markets. This places a damper on the appetite of banks to attempt a new lending product, as they don’t know what they don’t know.

The comparison with non-traditional secured lending and pawn broking was drawn by various respondents. In response to the question regarding the factors they would consider when looking at an item such as a Rolex watch, respondent seven responded:

“To me it is a business I am not in, you almost then becoming a pawn broker. So you need to get a value of the asset, but you need also to be able to dispose of it. You have to dispose of it, because it is no good having the asset if you haven’t got the skills

to sell it. So yeah, so you are not doing just Rolex watches, you are doing everything from a Timex to a Rolex and you have got to be able to value it up front when you are looking at the loan, so there is a very complicated process that would be involved to try and underwrite that loan based on each particular asset.”

The respondent indicated a more negative view in terms of the risk appetite, however on analysing the reasons stated by the respondent, it came down to ensuring authenticity of the actual collateral. Thus, being able to provide surety around the authenticity and being able to value and monitor the collateral, can overrule the concern factor raised.

Respondent four supported the same principle:

“If you just look at what is outside of Africa, these traders typically have a finance need to import stuff from China or the EU or anywhere in the world, it is typically clothes, second-hand clothing or relatively cheap clothing or shoes or motor vehicle parts. There is no market for those things. We have also done, again more on the commercial side, stock back lending where it is more commodities like coffee or tea or grain for commercial entities and we will continue doing that. Even that, I think with any stock, the collateral is not in our possession because the customer needs it to trade and our control over it is very minimal. If we do want effective control through a well know collateral management agency then it is extremely expensive and inconvenient for the customer. Then we must go and lock the stuff up in a warehouse and have a permanent guard there, and the customers must have a key, and we must have a key, and as they want to sell it they must release it piece-meal and it is never perfect. I would say it is not really the strength of a traditional bank, not like pawn brokers or something.”

From the data analysis associated with research question one, the grounded component, ‘non-traditional collateral’, ‘collateral type’, ‘close to market’, ‘cultural differences’ and ‘pawn-broking’ were the most significant in relation to the research proposition and or questions. From this, the density of ‘non-traditional collateral’, ‘emerging markets’, ‘know your client’ and ‘cultural differences’ are the densest codes.

Respondent two expressed a positive view on the potential appetite for non-traditional collateral secured loans:

“But you play into a market, so how are we going to do it and are there... there are lots of ‘low-hanging fruit’ in the rest of Africa which have just never been taken, so I think at the moment if we can consolidate in the low-hanging fruit and then build our capabilities from there. But it all revolves around people, systems and processes. And then we have got to think I am not just a credit shop, I am interested in what business is putting in, in terms of risk appetite and operationally we have got to be able to function on this – on all aspects – whether it is the collateral management or collection or disbursement or perfection.”

In summary to research question one, despite some resistance against non-traditional collateral secured loans, it is clear that there is opportunity in the market that is seen as ‘low-hanging fruit’. The data shows that an adjustment to a business model is required to be able to ‘go local’ and adjust to the methods in the emerging informal market. Once the market is better understood, and operational efficiencies enhanced, the opportunity will increase.

The informal market remains a real market with opportunities. There are risks involved in doing non-traditional collateral secured loans; however these risks are mainly associated with capability of formal financial institutions. Emerging markets and the penetration of them from the developed world is becoming more of a reality, and going into informal markets will require a different business approach, however it is critical to be able to remain at the forefront of competition. The informal markets will not be disappearing soon, as this is the key to providing food at the bottom end of the pyramid.

5.2.2 Research Question Two

Can financial institutions actively monitor non-traditional collateral?

On investigation and questioning if the financial institution has the skills and expertise to be able to evaluate, monitor and control non-traditional collateral, respondent four responded by saying:

“It is not only the skill, it is just the... it is not a scalable solution on the one hand, and I think the cost structure of a typical commercial bank is quite high. I am just trying to think, to operationalise something like this you must really be geared as a pawn shop because you will have to take on a lot of stock control, monitor it, a lot of in and out. Given the cost of our staff and the volume of transactions that we process, it is just not a practical expansion of our current interests. It is far more entrepreneurial of nature where it is more owner-run types of businesses like the pawn shop or whatever that I think it will be feasible with. I think it is different if you do go to upper end high valued items like gold coins, but I don't think gold coins is big in the rest of Africa and China and India. Top end art, again that won't be in my part of the bank, that might be a specialist discount house that will be justified in centres of wealth where there is a big concentration and specialisation to do something like that if you want to start financing art and whatever, but it is high risk though.”

On the examination of market value in relation to non-traditional collateral, loan to value, and ongoing collateral evaluation monitoring, the following items showed in the results. Collateral monitoring is indicated with a high grounded score in the data analysis. This indicates the importance of monitoring collateral, as the density is also very high, which indicates that collateral monitoring is related to a large number of other codes. Collateral management, evaluation, cost, storage conditions, and market value all show a high grounded score, which indicates a number of unique occurrences during the interviews. Market value does not show the same level of density as cost, for example, indicating that it is important, but is not entrenched in a large number of business functions that were discussed.

The data shows that the code with the highest grounded number, and a density of 23, is collateral monitoring. That in combination with a collateral manager (which relates to the collateral monitoring), confirms that the ongoing risk management associated with non-traditional collateral was raised on numerous occasions. As indicated by respondent four (above), it is not only the capability and skill, but also the ability to make the operations scalable.

The operational component related to the study is an item that raised a great deal of concern with nearly all of the respondents. They mentioned an expert being required, outsourcing vs

internal knowledge, operational efficiencies/deficiencies, as well as the ability to handle volumes of deals and having the correct governance and processes in place to be able to ensure that the operations are supported.

Scalability, operationalising and cost were mostly mentioned when it came to questions around an institution's ability to manage non-traditional collateral. From the family view of cost, various components are involved. The costs include the costs of recovery, facility, lending, insurance, collateral storage, collateral monitoring, as well as the cost of credit. All of these costs must be recovered against the loan to be able to ensure that it is a profitable business. During interview two, the respondent was asked if the costs involved in collateral monitoring and the frequency thereof have a relationship to the appetite to accept non-traditional collateral.

The respondent indicated that the costs are passed on to the customer, which impacts the pricing of the deal. Taking all of the costs involved into consideration, including origination fee, cost of collateral management, cost of operations, cost of collection and other related costs, a number is produced. A calculation of the amount of capital required to be held, also comes into play. Ultimately, the financial institution would like to achieve a specific return on equity (ROE) number. With all of the costs involved, the financial institution is hindered in its ability to conclude a large number of these types of deals, specifically due to the cost involved. The response to the appetite question then indicated that should the financial institution not have the ability to get scalability and put the required capacity in place to manage the operations, it would be too costly, and the financial institution would not have the appetite to continue with deals such as non-traditional secured loans.

Scalability is addressed in the discussion around Value vs Volume. The volume business describes the ability to do more transactions at a lower value, while value transactions indicate that while the institution may not have many transactions, the value of the transactions is very high. Typically, in value transactions the structuring of the deals is more customisable, whereas the volume transactions are standard pre-defined products. This is supported by respondent three:

“There is security you can take as a once-off type thing, if I think about it, but to think about it on a volume basis would be very difficult.”

Respondent five also confirmed the same:

“The way that we are structured in terms of our distribution network through to our credit shop, we aren’t geared to take huge volumes of collateral. If some guy brings in some asset that he has got, for me to try and take charge of that, it is simply too expensive and too onerous for me to do. If I can’t do it on an unsecured basis, I am not going to be able to do it profitably.”

Collateral evaluation and collateral monitoring are closely linked. Collateral evaluation was indicated as part of collateral monitoring in the data analysis. Collateral evaluation includes the upfront evaluation of the collateral, hence the link to Market Value (MV) as well as continuous determination of the current market value of the collateral to determine if a margin call was reached.

Collateral management implies the ongoing management of the collateral. This may include items such as collateral storage conditions, frequency of collateral monitoring (depending on the collateral type as described in the quotation below), stock controllers, covenants, as well as the required experts.

When discussing the ability to manage collateral with respondent two, a good analogy was provided:

“... The cashew nuts I think like cotton, if there is damp in that area it is useless. So the same with some of the soya beans and maize. There is a certain shelf life, even for fertilisers. A person is importing fertilisers and you are holding a stock covenant over that, and you are saying ‘yes, we know it is against future turnover’, we are comfortable. But if we go past a year the fertiliser is no longer useable. So it’s lost its potency – like a non-Viagra fertiliser!”

In summary, from this single quote, the importance of having good collateral management in place is illustrated. Without understanding the collateral, and having the expert skills to be able to manage the collateral, it can become worthless.

Based on the research question of whether financial institutions have the capability to evaluate, monitor and maintain non-traditional collateral, it is clear that there is a lack of

capability in the financial institutions. This is largely due to the fact that the range of non-traditional collateral can be very wide. There must be a demand in the market for financial institutions to have an offering to be able to mitigate the costs involved with having the capability to support non-traditional collateral.

Despite the financial institutions lacking the in-house capability, the majority of financial institutions do make use of outsourced specialist skills that are able to execute this on their behalf, with relatively high levels of confidence in the capability of these companies. The constraint with outsourcing the capability is that additional costs are added to the facility, and the overall profitability of the offering reduces. The ability to create a scalable business that is able to control the full life-cycle associated with collateral, and more specifically non-traditional collateral, will reduce the costs associated with non-traditional collateral secured lending. By creating economies of scale and reducing the overall operational cost of such an offering, more opportunities could be provided to the informal market to be able to utilise the loans at a more affordable cost than that of pawnbrokers and micro-lenders.

5.2.3 Research Question Three

Do financial institutions have the ability to liquidate non-traditional collateral in the event of default?

In the event of default of a secured loan, the collateral can be sold to recover some of the outstanding debt of the client and outstanding costs associated with the account. Looking at the ability to liquidate non-traditional collateral, as well as a default event associated with a loan secured by non-traditional collateral, the following codes presented themselves during the data analysis.

The data associated with research question three shows relationships between default, margin call, legal, LGD, write-off, consequences of default and covenants. The relationships are described below, indicating the responses from the respondents. Collateral monitoring is the most grounded code. This indicates that collateral monitoring was the code that occurred most frequently when analysing the codes associated with this research question. Collateral monitoring is also the code with the highest density. This implies that the code has the highest number of relations with other codes.

From the research, the country-specific elements were highlighted. The items specific to a country involved the legal aspects and the ability to legally liquidate collateral when required. The legal issue was raised, but was not seen as the biggest concern in the various countries. Respondent five indicated that:

“It (the legal liquidation process) is generally a difficult process especially at the moment where we are operating here (East Africa); the legal processes are particularly inefficient. It elongates the process materially. Generally what we are required to do, obviously there again it depends on what kind of collateral we hold, if it is cash we can then just apply ourselves so that doesn’t require anything external. If it is something like importation of some dried fish and the customers couldn’t meet the terms so we had to dispose of that container of stock. We didn’t have to go to court. Our documentation was such that under the LC (legal contract) we had ownership of that stock so we appointed someone to sell it for us. If it is a mortgage you would need to go to court. You would need to appoint a solicitor. You would need to go through a relatively onerous process of affecting your title, possibly up-stamping it, attaching and then disposing of the property. It is long and expensive and drawn out.”

With regard to the legal process, the law family created in the data analysis does indicate where red tape and legislation show a relationship. The legal agreement also relate to non-performing loans (NPL’s), where a legal process is followed based on the legal agreement. Ensuring covenants are defined up-front, is important. Ensuring the sufficient insurance associated with the collateral is in place does allow some insurance around recovery of the collateral in the event that the collateral is stolen, goes rotten or get damaged.

Looking at collateral in the event that a deal defaults, it is important to examine the ability to realise (or liquidate) the collateral, and convert it into cash that is not necessarily representative of the market value, but can be used to settle the facility and any other recovery cost associated with the default. A good example of this came from respondent two’s interview, where the question was around the liquidation of non-traditional collateral.

“...and you turn around and it is a specialised sugar mill, so if it goes south what are we going to do with it? Are we going to sell it to somebody, try and sell it? Break it down for scrap? So you look at the asset and say well, I have a 30 million dollar asset against 25 million dollars of lending that has gone into it, but the reality is we have no expertise to run it, is there any opportunity to sell that to another market place, you

know – and so what does the business cash flows of this business actually show you, and how do we link in transactional revenue and any liabilities that might come from it?”

Respondent number five was very vocal about the ability of a bank to liquidate and monitor the non-traditional collateral. The respondent said:

“No we certainly don’t and even for the types of collateral that we do take we don’t have, we don’t always have the internal, in fact we quite seldom have the internal capability.”

In conclusion, the default process regarding non-traditional collateral indicated that there may be a lack of repossession storage capability. The example of currently repossessed cars was used, indicating that there are locations with multiple levels covered in repossessed vehicles. Despite the behavioural changes addressed in 5.1.1 Research Proposition One, the behavioural change with non-traditional secured loans, the question around the PD was highlighted as not having an impact, or at least not considered to have an impact. After building up a history of lower default levels with non-traditional collateral secured loans, the PD may decrease, as indicated in Research Proposition One. The PD is, however, linked to the client and not to the collateral. The lack of a track record of clients in informal and emerging markets does not assist in a lower PD level. Respondent two highlighted the ETL product, as developed by Harvard Business School. This is a lending product that investigates the psychological profile of a client through multiple questions asked up-front. This is done specifically due to the lack of formal banking structures and the bankable market in emerging markets. The psychological assessment will provide insight to the probability that the client will default. This product was tested in some formal banking environments. However, the success rate was not as high as expected. Respondent two also indicated that there might have been a large number of factors associated with this product that were not implemented correctly. Looking at the outcome of research proposition one and the offering designed by Harvard Business School, there may be a ‘sweet spot combination’ between the psychological assessment of a client and taking non-traditional collateral to secure the loan that may very well increase the overall probability of repayment and lower the PD, as well as a lower LGD. This will then ultimately assist with the reduction of capital cost and impairments cost with NPLs.

Based on the collection family network diagram, several items are linked to collection. This includes the turn-around time and the time to liquidate. The longer it takes for the financial

institution to liquidate the collateral, the more time the defaulted loan will remain in NPL. This will continue to raise impairment numbers and affect the bottom line of the portfolio. Pro-active collateral monitoring is vital in accepting non-traditional collateral, but to be able to know when the trader is not at the market the day already. This may suggest appointing monitoring officers to monitor the actual markets or areas in which the financial institution operates in. By appointing officers that rotate the markets can assist in job creation in emerging markets.

5.3 Research Results Conclusion

Based on the various research propositions and the findings, several items were highlighted. These include the behavioural change of people when a loan is secured in comparison to an unsecured loan when repayment is taken into consideration, and that accepting non-traditional collateral can potentially aid in altering human behaviour in terms of loan repayments. From an existing banking offering, it appeared that accepting non-traditional collateral to secure a lending facility, as opposed to granting an unsecured loan, changed the repayment behaviour of clients and resulted in less NPL, in turn reducing impairment costs.

A mainstream commercial financial institution has large overheads and may not be geared to be able to accept non-traditional collateral for secured loans, unless they are able to scale their operations. This implies that the cost associated with evaluating, monitoring and maintaining the operational aspects associated with non-traditional collateral loans can be too high for it to be profitable for commercial financial institutions. Should the financial institution not be able to reach economies of scale, it may remain a less attractive offering for commercial financial institutions, and be a market for pawnbrokers to exploit. The requirement of expert skills, and the potential lack of in-house expert skills, play a part in not only increased cost, but also in the ability to be pro-active with collateral monitoring. Not having the skills at hand when required can cause a time delay and, in a very competitive market, late delivery can result in an unsuccessful transaction, and losing it to a competitor.

Throughout all of the research, it remained clear that it is important to know the client and remain close to them when conducting secured lending in emerging markets. Despite the fact that remaining close to the client is applicable to all secured loans, the data shows that it is considered to be an item with even higher importance when it comes to non-traditional

collateral secured loans. This may be due to the lack of internal capability in financial institutions, as well as the controls that can be put in place around the monitoring of both collateral and client in informal markets. Despite the client remaining the focus, scalability as a factor impacts on operational capacity, capability and efficiency. Without ensuring that an offering with non-traditional collateral secured loans is scalable and profitable, the risks and overheads involved become too high.

Multiple respondents highlighted that the individual ('jockey') behind the deal, and the affordability associated with the loan, should be the first considerations when approving a loan. Collateral should not be the primary consideration for approving a loan. Lending should also be done in a responsible manner, and should not be reckless. It is critical to determine the purpose of the loan prior to its approval. The moral hazard concern arises when the purpose of the loan is not very clear, or where the loan is used for month-to-month living and for consumables such as food and groceries.

There was also a link demonstrated between moral hazard and non-traditional collateral. The specific concern is where the non-traditional collateral used to secure the loan is in, fact, the mainstream item used to generate the individual's income. The income of the individual and the non-traditional collateral used to secure the loan should be identified separately.

Emerging markets are entrepreneurial and opportunistic, and have a large degree of informal trading. The ability to connect to the market and remain close to it, with an understanding of the role played by culture, is critical in enabling expansion in emerging markets. Cultural differences in emerging markets play a larger role than in developed markets. This is not, however, seen as the largest differentiator.

In the event of loans defaulting, the legal process was raised as a concern in some countries, however is country specific, but was not seen as the main concern around an institution's ability to liquidate collateral. The liquidation of collateral and the cost associated with the process as well as the storage capability of the collateral has been raised as a large concern. The capability of effectively managing the non-traditional collateral liquidation process is currently not a capability that seems to exist in commercial financial institutions. The cost implications with collateral management are a concern that actually impacts the appetite of a

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

financial institution to do non-traditional secured loans. The volume vs. value comparison was drawn upon when discussing the viability and cost comparison of non-traditional secured loans.

6 Chapter 6: Discussion of results

6.1 Introduction to results discussion

Based on the literature review compiled in chapter two and the data results in chapter five, the purpose of this chapter is to provide an interpretation of the data results, linking the results to the research propositions and questions set out in chapter three. In this chapter, clarity will be provided around the confirmation of conforming findings to the literature, or opposing findings.

6.2 Discussion of results on research propositions

6.2.1 Discussion of results: Research Proposition One

Accepting non-traditional collateral to secure a loan does favourably change the repayment behaviour of a client in an emerging market.

In the literature studied, Kuhn indicated that collateral is used as an incentive for lenders, but is not the preferred method to settle a lending facility (Kuhn, Darroch, & Ortmann, 1997). Carter & Skiba (2012) highlighted high repayment rates on pawnshop loans, specifically those secured by sentimental items. The data results show that using non-traditional collateral to secure a loan does show a favourable repayment behaviour change in the borrower. The incentive associated with the collateral is that the client can either continue to trade, or keep their sentimental asset or be faced in losing their business or precious possession.

Carpenter & Williams (2014), in the study on peer monitoring of loan repayments found that peer monitoring does impact behaviour change in loan repayments of borrowers. Again, the psychological connotation of how a borrower is seen in their community forms one of the driving motivators for the borrower to ensure repayment.

The results does indicate that repayment behaviour is not altered favourably with all secured loans, however the collateral that is either required immediately, or is used for the borrower to continue with daily living (such as a car or trading stock), will receive priority above a house as example. This finding supports that of Plaut (1984), where stated that not all collateral have the same or equal probability of being realised and that the cost of realisation differs.

The data shows that the cost and effort to record all collateral formally, does not outweigh the benefit in capital relief for banks when non-traditional collateral is used; however the psychosocial contract with the borrower, due to a legal contract, aids in the repayment incentive. Due to potential high costs associated with collateral maintenance, the positive impact of increased repayments on a loan will reduce a couple of expenses for a bank. These include a reduction of NPL's, which will lead to a reduction in impairments and ultimately more profit on the specific product. Despite the indication of difficulty to sell the items in the event of a default, there can be a reduction in LGD, should the financial institution manage to put the correct processes in place to ensure easier sell of reprocessed goods.

Should a model which is the amalgamation of non-traditional collateral secured loans, with peer monitoring be developed, the probability of default will decrease which will speak to the concern raised by commercial financial institutions around the ability to monitor the collateral and frequency thereof.

6.2.2 Discussion of results: Research Proposition Two

The research proposition states: There are factors specific to informal market that influence non-traditional collateral secured loans.

From the ability to understand the specific informal market in which the client operates, to the ability to be close to the client in that market and to know when either the client is no longer available, or the collateral is no longer that which was accepted initially, the respondents remained very clear on the fact that collateral is not the solution to granting loans. The individual associated with the loan, the 'jockey' remains at the forefront. When looking at Plaut (1984), this is not a new phenomenon in the banking industry, as this was stated in 1984 already (Plaut, 1984, p. 401). The validity of Plaut's findings around the use of collateral to minimise default risk remains sound.

The collateral is the supporting fact to the loan. Based on research proposition one, where it is confirmed that non-traditional secured loans affect the repayment behaviour of clients, making it favourable; ensuring that the client is able to afford the loan; and securing the loan with non-traditional collateral in an informal market can assist in reducing non-payments of loans and clients defaulting on loans. Menkhoff, Neuberger & Suwanaporn found that in

Thailand commercial banks do have a higher degree of collateralisation than developed countries, mainly to reduce the higher levels of credit risk (Menkhoff, Neuberger, & Suwanaporn, 2006, p. 3).

Certain countries, such as Tanzania, do not have an identification document (ID) system, making tracing a client very difficult. Established credit bureaus also do not exist in all emerging markets, which contribute to difficulty in tracing customers. The examples of the car washer, and the person selling second-hand shoes were provided by respondents and the ability to track the borrower. Klinger (2014) said during a pre-recorded video on E.F.L.'s website that lenders in developing countries lack information on the client and are therefore sceptical of taking risks without collateral, proof of income and a detailed credit history (Klinger, 2014). The example provided around the car washer and second-hand shoe seller shows exactly the fear from financial institutions. This fear is however reality in informal- and emerging markets. The psychometric assessment product, developed by E.F.L, allows the financial institution to be able to determine up front what the character of the borrower is, and that includes assessing the behaviour associated with willingness to repay and affordability of the client.

Moral hazard was raised by a number of respondents, and the concern around moral hazard seems to be very valid. Niinimäki conducted a study to test the implications of moral hazard and if moral hazard can be found in different scenarios. The result from that study states that "if the collateral value is certain, the moral hazard problem disappears" (Niinimäki, Does collateral fuel moral hazard in banking?, 2009, p. 520). Based on that single finding around collateral fuelling moral hazard, it is clear that there is a bridge to be built over the moral hazard concern. The expertise and capability is required in financial institutions to be able to fairly and accurately determine the collateral value. Some respondents indicated that banks are not pawn shops and cannot have the skills to absolutely be able to determine the value of every single item that a client may bring as non-traditional collateral. This however is found as a weak argument, as pawnshops are able to succeed in this regard. There are specialist skills available in the market, and outsourcing such skills is an option to the commercial financial institutions. The evaluation can be done at a pawnshop and the evaluation certificate can be presented at the bank. The same way as banks make use of approved collateral managers, the commercial financial institutions can establish approved pawnshops for evaluation.

From the report from The Citizen in Tanzania in 2013, there were losses associated with this product, however the product was provided on an unsecured basis. From research proposition one, the study found that secured loans does show favourable repayment behaviour (The Citizen, 2013). Previous studies by Carpenter & Williams show that peer monitoring also increases repayments (Carpenter & Williams, 2014). To mitigate the risk of not having the formal documentation required by commercial banks in a developing country, a product such as E.F.L can be used to do upfront behavioural scoring of a client, then, should the client qualify for a loan based on the psychometric assessment, provide secured loans, supported by non-traditional collateral, that will impact the borrower's life should that collateral be repossessed (Klinger, 2014). In conjunction with the psychometric assessment and non-traditional collateral, peer monitoring can be incorporated, as it shows to increase repayments. This provides three different methods, which have all been tested in isolation previously, to ensure more risk mitigation.

Pawn-broking was mentioned in this specific question, where respondents indicated the lack of capability to determine value on all collateral types. The example of a Timex to a Rolex was used by a respondent, where the respondent indicated that should non-traditional collateral be accepted, the expertise around determining the value of a Rolex is no longer sufficient, but the skill to be able to determine the value in a large range would be required.

6.3 Discussion of results on research questions

6.3.1 Discussion of results: Research Question One

The research question is: What are the factors involved to motivate a financial institution to increase risk appetite in order to accept non-traditional collateral for secured loans?

Respondents had a negative outlook in terms of appetite to accept non-traditional collateral to secure loans. From the research the following factors were found: 'Know the market', 'have control over the collateral', 'be close to the market and close to the client', 'build the capabilities to be able to deal with volumes and the different approaches to informal markets'.

Not all respondents had a negative perception about non-traditional collateral, in fact some of the respondents indicated that the information market and accepting non-traditional collateral

for secured loans, is actually 'low-hanging fruit', or an opportunity. There was also indication from some of the respondents in East-Africa, that this is an offering that is already available in the market, and has positive response.

Based on the factors raised, there are mitigates that can be put in place to lower the risk on all of the aforementioned items. The problem however is when these items are viewed in isolation and the focus is that of a person with a single view short term lens.

The factors raised around know the market and know the client can be addressed by having community members employed as monitoring officers in the informal markets or in the specific community or town where the lending takes place. These officers do their rounds on a daily basis, visiting the clients. They can inspect the animals (in the event of a farmer), engage in the market should it be a small trader or visit the businesses in the event that it is an SME or entrepreneur. By doing this, several things can get addressed: There are people on the ground, entrenched in the market monitoring the collateral, there are people who build a relationship with the borrower and get to understand the client needs. These officers do not have to be bankers. They become the pillar of reliance for the bankers, the eyes and ears of the bankers in essence. This principle is similar to the report from Hungwe (2013) described the way that banks travel to the farms in rural Zimbabwe to evaluate the cattle on the farm.

Fleisig also found in the research, that movable property can be less attractive as security, due to barriers, which included the creation of interest, perfection and enforcement of the security interest (Fleisig, 1995). These concerns were also raised in connection with the appetite to accept non-traditional collateral. The specific concern was related to the ability to control the asset. The costs associated with locking-up the asset as well as the release of the asset to the borrower, then this asset is used to generate income, and the loan was approved based on future income. Legal barriers were mentioned, however was not indicated as the most prominent concern.

6.3.2 Discussion of results: Research Question Two

Can financial institutions actively monitor non-traditional collateral?

The answer to this question in short is no! This question showed no ambiguity. Two items were the main concerns. They were scalability and cost.

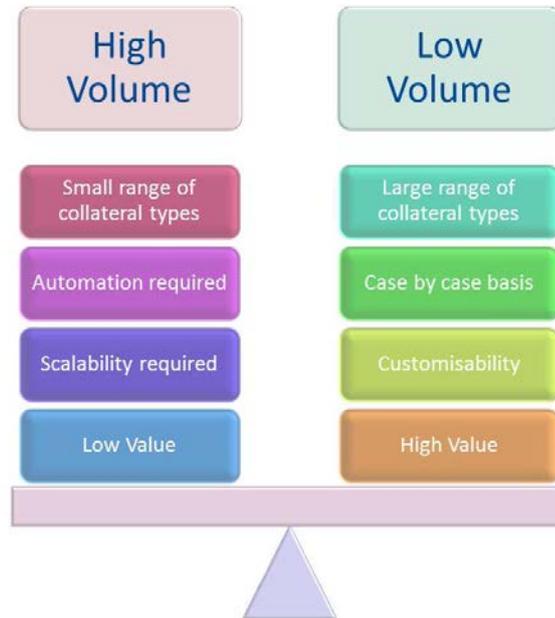
The model in Figure 3 - Volume vs Value secured lending comparison shows a model associated with secured loans in the banking industry. This model is a result of information provided by the respondents during the interviews. It is a value and volume comparison model for secured loans. When accepting a large number of volume deals (this means the number of loans is high), the factors involve that only a small range of collateral types can typically be accepted, due to complexity associated with each collateral type. Automation of monitoring, evaluation and management is required, as the impact of a manual process would be time consuming and would require a larger workforce. Scalability is required. By creating economies of scale, the financial institution will be able to reduce cost associated with each loan; which in turn will assist in getting closer to the desired ROE target of the product. The last factor is that high volumes are associated with low value. This implies that there are more loans that come in, but each loan will be of a lesser amount.

The low volume leg of the model is contradictory to the high volume leg of the model. Where a small range of collateral would be acceptable in the high volume leg, a larger range of acceptable collateral types can be found in the low volume leg of the model. The reason for this is that each collateral type is evaluated on a case-by-case basis and the product would be highly customisable. The value associated with these types of loans would be high and typically not associated with the bottom of the pyramid, but rather with the wealthy clients.

Menkhoff, Neuberger & Suwanaporn found in their research that several factors were worth mentioning regarding collateral in financial institutions which included the cost of liquidation and utilisation of collateral, as well as evaluation and monitoring of the collateral with all of the reports associated with this (Menkhoff, Neuberger, & Suwanaporn, Collateral-based lending in emerging markets: Evidence from Thailand, 2006). Kuhn, Darroch & Ortmann (1997) confirms this, by stating that due to the costs associated with managing collateral, the use of it

may not always result in cheaper or easier access to credit (Kuhn, Darroch, & Ortmann, 1997, p. 638).

Figure 3 - Volume vs Value secured lending comparison



The ability to create a scalable business that is able to control the full life-cycle associated with collateral and more specifically non-traditional collateral will reduce the costs associated with non-traditional collateral secured lending. By creating economies of scale and reducing the overall operational cost of such an offering, it provides more opportunities to the informal market to be able to utilise the loans at a more affordable cost than that of pawnbrokers and micro-lenders.

6.3.3 Discussion of results: Research Question Three

Do financial institutions have the ability to liquidate non-traditional collateral in the event of default?

Respondent five could not have stated the answer better: “No we certainly don’t and even for the types of collateral that we do take we don’t have, we don’t always have the internal, in fact we quite seldom have the internal capability.”

Oehmke states in the examiner’s report on Lehman brothers that “Illiquid collateral requires longer time periods for sale at more uncertain prices, with time periods and prices depending on the type of collateral, the amount of collateral to sell and prevailing market conditions”

(Oehmke, 2013, p. 184). Despite not having the capability to liquidate non-traditional collateral, the time involved and the type of collateral also has an impact.

From the opinions expressed in the interviews, the respondents indicated that being close to the market and the client is more critical in non-traditional collateral secured loans than in traditional secured loans. The pro-active collateral management is not only to detect a default on a missed payment, but also to be able to know immediately when the trader is not at the market. This may suggest appointing monitoring officers to monitor the actual markets or areas in which the financial institution operates in. Appointing officers that rotate in the markets can assist in job creation in emerging markets.

Repossession storage capability was raised as a concern, where the financial institutions do not have the required space to be able to house all the repossessed collateral, should they be required to repossess all the non-traditional collateral associated with loans. This may include repossessing fresh goods, such as fish or other items such as second hand shoes, or caps or roses.

The attempt to liquidate collateral could potentially not only be a time consuming process, but could be of such a nature, that the collateral can in actual fact not be liquidated. From the interviews, the example of a sugar mill was used, which may be high in value, however is highly specialised that there may not be demand in the market for the specific type of collateral. This links up with Oehmke (2013) saying that specific collateral types as well as market conditions may impact the time to liquidate.

Despite not having the capability, valid concerns were raised regarding the liquidation of non-traditional collateral (and also collateral in general). Being able to determine the demand in the market for a specific asset type, prior to accepting the asset as collateral is invaluable.

7 Chapter 7: Conclusions and Recommendations

7.1 Introduction

The chapter on conclusions and recommendations contains some of the concluding findings from the research. These recommendations are specifically focused around financial institutions and consideration for acceptance of non-traditional collateral to secure loans to the bottom end of the market.

7.2 Research Findings

Informal and developing markets have challenges, specifically related to banking that is not necessarily found in the developed markets. The ability to adapt and adjust to the culture and dealing in a developing market is more critical than that of a developed market.

The capability in commercial financial institutions lack in terms of the ability to monitor, evaluate and liquidate non-traditional collateral. The formal governance processes that can be found in developed markets also do not exist in developing markets. These include the ability to determine the client's identity, trace the client and obtain a credit history of the client. It becomes vital to find innovative mechanisms to work around these short comings, while the country is build up to a similar level of maturity as developed markets, where track records become available.

To be able to maintain at the forefront of innovation and beat the competitors to market, it would require a leap in business approach for most commercial financial institutions. Being established and entrenched in those markets and to have the ability to have eyes and ears on the ground shows to be more critical, in order to be successful in lending.

A psychological linkage between borrowers and default rates does exist. These include the different behaviour of clients when a loan is secured, in comparison to an unsecured loan. There are also other behavioural factors that impact loan repayment such as peer lending, and that of formal institutions vs. informal institutions.

The potential for non-traditional secured loans does exist, however ensuring scalability, being close to the market and pro-active monitoring is instrumental in the success of such an offering.

7.3 Recommendations for Financial Institutions

The research indicates a number of items that is confirmed, like non-traditional collateral secured loans that show favourable in terms of the repayment behaviour and incentives to clients. Being close to the market and client specifically in informal markets and emerging markets is more important than close to the client in traditional secured loans. The ETL product developed by Harvard University is a tool that can assist banks with determining the probability of default of a client prior to granting the loan. Not knowing the behavioural profile of a client in an unbanked mainly cash focused market, it is difficult to determine the clients PD.

By using a combination of techniques acquired from the research, it can allow financial institutions to place a caveat on the concerns associated with non-traditional loans. From the respondents involved in the African market, the strategic goal is to first ensure that the client is banked and secondly providing lending solutions to the client. In cash focused environments, the track record of the client can be developed by allowing a client to acquire funding by making used of the psychometric behaviour profile in conjunction with the repayment incentive of non-traditional collateral loans. By establishing the platform to incentivise clients to progress banking to a formal banking environment, it can enhance future products for clients to a formal banking platform too. By starting small with one product and gradually increasing the client's exposure to formal banking, a track record can be build up for the client.

There is not a one size fits all solution for all financial institutions and all countries when it comes to secured lending, however there are specific guidelines as set out in this research paper that will enable commercial financial institutions to be able to achieve the economies of scale associated with non-traditional collateral loans at a rapid rate and eliminate some of the initial teething problems. The key factors are to ensure that pro-active monitoring is in place, and not to follow the conventional route where one waits for the client to default before acting on it. Being entrenched in the market and becoming one with the market shows to be of higher priority than sitting on the side-line thinking that one has an understanding of the

business. Yes, experts are required to be able to monitor collateral, however based on a specific collateral type, it is possible to train staff who understands informal markets to be your eyes and ears on the ground and in the process add to job creating.

7.4 Recommendations for further research

In further studies related to the circumstances under which financial institutions could consider using non-traditional collateral, the following would serve as recommendations:

- a) Determine how the implementation of non-traditional collateral secured loans can be scaled to allow for a profitable business at interest rates lower than that of micro-lenders, but still making use of commercial institutions to provide the funding.
- b) Determine how the perception around non-traditional collateral secured loans can be altered in large corporations to allow flexibility and less red tape, to be able to provide funding to a client in a short turnaround time.
- c) Determine the use of technology as an enabler to financial institutions to provide non-traditional collateral secured loans to clients, with self-monitoring.

7.5 Conclusion

The potential in non-traditional collateral secured loans does exist and only considering one factor associated with a loan is bound to fail. The psychometric assessment developed by E.T.L, is an innovative solution, specifically for developing markets where a large portion of people remains unbanked, methods around the concerns raised on non-traditional collateral evaluation and monitoring is available.

The repayment behaviour of clients with non-traditional collateral secured loans, as opposed to unsecured loans indicates good results. The ability to find the amalgamation between psychometric assessments, peer monitoring and non-traditional secured loans might just be the innovative product that the developing markets are yearning for.

8 Works Cited

African Business Magazine. (2012, January 10). *Squaring the lending circle*. Retrieved from African Business Magazine: <http://africanbusinessmagazine.com/finance/reforms/squaring-the-lending-circle/>

Aggarwal, S., Klapper, L., & Singer, D. (2012). *Financing Business in Africa - The Role of Microfinance*. Washington: The World Bank Development Research Group. Retrieved May 03, 2014, from <https://openknowledge.worldbank.org/bitstream/handle/10986/3261/WPS5975.pdf?sequence=1>

Bank for International Settlements. (2010). *Basel III: A global regulatory framework for more resilient banks and banking systems*. Basel: Bank for International Settlements.

Banks for International Settlements. (2013). *Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools*. Switzerland: BIS. Retrieved May 3, 2014, from <http://www.bis.org/publ/bcbs238.htm>

Barkai, L. (2013, October 31). *Micro-finance: the fuel or fall of entrepreneurship in emerging markets?* Retrieved May 3, 2014, from Ventureburn Startup News For Emerging Markets: <http://ventureburn.com/2013/10/microfinance-the-fuel-or-fall-of-entrepreneurship-in-emerging-markets/>

Benmelech, E., & Bergman, N. K. (2009). Collateral Pricing. *Journal of Financial Economics*, 91(3), 229-360.

Bhattacharjee, M., & Rajeev, M. (2013). Modeling loan repayment behaviour in developing countries. *Applied Economic Perspectives & Policy*, 35(2), 270-295.

Bouman, F. A., & Houtman, R. R. (1988). Pawnbroking as an Instrument of Rural Banking in

the Third World. *Economic Development & Cultural Change*, 37(1), 69.

Brehanu, A., & Bekabil, F. (2008). Repayment rate of loans from semi-formal financial institutions among small-scale farmers in Ethiopia: Two-limit Tobit analysis. *The Journal of Socio-Economics*, 37(6), 2221-2230.

Carpenter, J., & Williams, T. (2014). Peer monitoring and microcredit: Field experimental evidence from Paraguay. *Oxford Development Studies*, 42(1), 111-135.

Carter, S. P., & Skiba, P. M. (2012). Pawnshops, behavioural economic. *Review of Banking & Financial Law*, 32(1), 193-220.

Cassel, C., & Symon, G. (2004). *Essential guide to qualitative methods in organizational research*. Sage.

Choudhury, S. D., & Ananthalakshmi, A. (2013, August 29). *Exclusive - India might buy gold from citizens to ease rupee crisis*. Retrieved from Reuters: <http://in.reuters.com/article/2013/08/29/india-economy-gold-rbi-rupee-idINDEE97S09R20130829>

Finovate. (2012, June 25). *Entrepreneurial Finance Lab*. Retrieved from Finovate: <http://www.finovate.com/asia12vid/efinlab.html>

Fitzerald, M. (2012, December 5). *Can a test tell if you're a good entrepreneur?* Retrieved November 08, 2014, from Pacific Standard: <http://www.psmag.com/navigation/business-economics/psychometrics-developing-world-business-50171/>

Fleisig, H. (1995, April). The Power of Collateral. *Viewpoint: Public Policy for the Private Sector*, 43. Retrieved from <https://23.21.67.251/bitstream/handle/10986/11674/multi0page.pdf?sequence=1>

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Notebooks*, 18(1), 59 - 82.

Hamilton, A. (2013, September 6). *India Gold Soars*. Retrieved from Zeal Speculation and Investigation: <http://www.zealllc.com/2013/indgold.htm>

Hill, A. (2014, 10 24). *Moral Hazard in Economics: Definition & Examples*. Retrieved from Education Portal: <http://education-portal.com/academy/lesson/moral-hazard-in-economics-definition-examples.html#lesson>

Hungwe, B. (2013, December 18). *Zimbabwe farmers benefit from cattle collateral*. Retrieved May 04, 2014, from BBC News Africa: http://www.bbc.com/news/world-africa-25156209#story_continues_2

International Livestock Research Institution. (2014, May 02). *Livestock production systems in Botswana and the research strategy*. Retrieved May 02, 2014, from International Livestock Research Institution: <http://www.ilri.org/InfoServ/Webpub/fulldocs/MathModl/Livestoc.htm>

Investopedia. (2014a, November 08). *Margin Call*. Retrieved from (I) Investopedia: <http://www.investopedia.com/terms/m/margincall.asp>

Investopedia. (2014b, 10 24). *Moral Hazard*. Retrieved from (I) Investopedia: <http://www.investopedia.com/terms/m/moralhazard.asp>

Investopedia. (2014c, November 08). *Perfected Lien*. Retrieved from (I) Investopedia: <http://www.investopedia.com/terms/p/perfected-lien.asp>

Jimenez, G., Salas, V., & Saurina, J. (2006). Determinants of Collateral. *Journal of Financial Economics*, 81(2), 255-281.

Klinger, B. (2014, July 2). *EFL*. Retrieved from Home: <http://www.eflglobal.com/>

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

Kuhn, M. E., Darroch, M. A., & Ortmann, G. F. (1997, December). Efficacy of collateral types used by Financial Intermediaries in Kwazulu-Natal. *Journal of Financial Intermediation*, 36(2), 637 - 649.

Larson, G. (2012, April 1). *Needles in the haystack: How a new tool is unlocking entrepreneurship in Africa*. Retrieved from Kennedy School Review: <http://harvardkennedyschoolreview.com/needles-in-the-haystack-how-a-new-tool-is-unlocking-entrepreneurship-in-africa/>

Lim, G.-S. (2001). Pawnbroking in Singapore. *Asian case research journal*, 5(2), 251-270.

Long, Y. (2013). Visibility graph network analysis of gold price time series. *Physica A: Statistical Mechanics And Its Applications*, 392(16), pp. 3374-3384.

Matthew, G. (2011, August 10). *Indians hold gold worth \$1 trillion*. Retrieved from Indian Express: <http://archive.indianexpress.com/news/indians-hold-gold-worth--1-trillion/829619/>

McAndrew, C., & Thompson, R. (2007). The collateral value of fine art. *Journal of Banking & Finance*, 31(3), 589-607.

Menkhoff, L., Neuberger, D., & Rungruxsirivorn, O. (2012). Collateral and its substitutes in emerging markets' lending. *Journal of Banking & Finance*, 36(1), 817-834.

Menkhoff, L., Neuberger, D., & Suwanaporn, C. (2006). Collateral-based lending in emerging markets: Evidence from Thailand. *Journal of Banking & Finance*, 30(3), 1-21.

Myers, M. D. (2013). *Qualitative research in business and management*. Sage.

Ndzamela, P. (2011, August 29). *Cattle can be used as collateral*. Retrieved May 03, 2014,

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

from Moneyweb: <http://www.moneyweb.co.za/moneyweb-financial/cattle-can-be-used-as-collateral>

Niinimäki, J. P. (2009). Does collateral fuel moral hazard in banking? *Journal of Banking & Finance*, 33, 514-521.

Niinimäki, J. P. (2011). Nominal and true cost of loan collateral. *Journal of Banking & Finance*, 35(10), 2782-2790.

Oehmke, M. (2013). Liquidating Illiquid Collateral. *Journal of Economic Theory*, 149, 183-210.

Parija, P. (2012, December 12). *India must tap household, temple gold to reduce imports*. Retrieved from Bloomberg News: <http://www.bloomberg.com/news/2012-12-11/india-must-tap-household-temple-gold-to-reduce-imports.html>

Plaut, S. E. (1984). The Theory Of Collateral. *Journal of Banking & Finance*, 9(3), 401-419.

Ronald, M. I. (1973). *Money and capital in economic development*. Washington: Brookings Institution Pres.

Rusen, G. (2007). Financial Collateral Arrangements. *Journal of International Commercial Law and Technology*, 2(4), 250-258.

Santa-Clara, P., & Saretto, A. (2009, August). Option strategies: Good deals and margin calls. *Journal of Financial Markets*, 12(3), 391-417.

Saunders, M., & Lewis, P. (2012). *Doing research in business & management: An essential guide to planning your project*. Harlow, England: Pearson.

Saville, A. (2013). *TEDx Cape Town*. Retrieved from The World of Win-Win Economics:

Circumstances under which financial institutions would consider using non-traditional collateral to provide loans

Breaking Down Boundaries, Stepping Over Borders & Building Communities:
<http://tedxcapetown.org/video/world-win-win-economics-breaking-down-boundaries-stepping-over-borders-building-communities>

Schuermann, T., & Hanson, S. (2004). *Estimating Probabilities of Default*. New York: Federal Reserve Bank of New York.

Seidman, I. (2012). *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. Teachers college press.

Terblanche, B. (2012, January 08). *Standard hails SME lending experiment*. Retrieved from Times LIVE: <http://www.timeslive.co.za/business/money/2012/01/08/standard-hails-sme-lending-experiment>

The Citizen. (2013, November 21). *How Kariakoo traders defrauded Stanbic Bank*. Retrieved from The Citizen Tanzania: <http://www.thecitizen.co.tz/News/-/1840392/2082350/-/2cdnj3z/-/index.html>

Valukas, A. R. (2010). *Examiner's report in re Lehman brothers holdings*. Southern District of New York: United States Bankruptcy Court.

Wheaton, S. (2013, December 30). *Credit score, by multiple choise*. Retrieved from The New York Times: http://www.nytimes.com/2013/12/31/business/credit-scores-from-a-test-not-a-history.html?pagewanted=all&_r=0