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EFFICACY OF COLLATERAL TYPES USED BY FINANCIAL INTERMEDIARIES IN KWAZULU-NATAL

M.E. Kuhn, M.A.G. Darroch and G.F. Ortmann¹

Collateral is an important incentive device used by lenders to encourage loan repayment. However, collateral must have secure and transferable title, it must be marketable, have low lender liquidation costs and lenders must be able to attach the collateral. Study results for rural and micro-enterprise finance institutions in KwaZulu-Natal showed that assets such as vehicles and equipment were not effective as collateral due to high costs in attaching the asset. Cessions on crops were often constrained by flaws in collection mechanisms. Secure and transferable property rights were important preconditions for land to have value as collateral. Collateral substitutes such as joint liability mechanisms were less effective when lending to large farmer groups (30-60 members) compared with small groups (4-6 individuals) of micro-entrepreneurs operating in urban areas.

DIE DOELMATIGHEID VAN TIPES KOLLATERAAL GEBRUIK DEUR FINANSIËLE TUSSENGANGERS IN KWAZULU-NATAL

Kollateraal is 'n belangrike insentiefinstrument wat deur krediteure gebruik word om terugbetaling van lenings aan te moedig. Kollateraal moet egter 'n veilige en oordraagbare eiendomsware hê, dit moet bemarkbaar wees, lae likwidasielaste vir die krediteur hê en krediteure moet in staat wees om op kollateraal beslag te lê. Studieresultate vir landelike en mikro-onderneming finansiële instellings in KwaZulu-Natal het getoon dat bates soos voertuie en gereedskap weens die hoë koste aan inbeslagneming van die bate, nie effektiewe kollateraal was nie. Sessies op oeste is dikwels beperk deur swakhede in insamelingsmeganismes. Veilige en oordraagbare besitreg is belangrike voorvereistes vir grond om waarde as kollateraal te hê. Kollaterale substitute soos gesamentlike aanspreeklikheidsmeganismes was minder suksesvol waar daar aan groter boeregroepe (30-60 lede) geleen is as aan kleiner groepe (4-6 lede) mikro-ondernemers wat in stedelike gebiede opereer.

1. INTRODUCTION

Agency relationships arise in loan contracts due to the intertemporal nature of the contract where the lender contracts with the borrower to productively utilise and repay the lender's funds at a future point in time (Barry *et al.*, 1995). The lender may, however, not be able to accurately monitor the borrower's actions and hence cannot condition the contracts on these actions. It may also be difficult for the lender to separate the effects of random states of nature (adverse weather, theft, fire), about which the borrower has some,

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possibly incomplete information, from borrower's actions. The lender thus has difficulty in verifying whether the inability of the borrower to repay the loan results from the borrower's actions or unfavourable exogenous events. This leads to an agency problem, since the borrower has an incentive to take actions that maximise his own utility to the detriment of the lender (moral hazard) (Arrow, 1985).

The lender must thus design loan contracts to provide an incentive for the borrower to take appropriate actions and repay the loan, given that the loan contract must offer the borrower utility at least equal to what he could receive in other activities (participation constraint) (Hayami & Otsuka, 1993). An important incentive device used by lenders to encourage loan repayment is collateral. However, the use of collateral involves costs for both borrower and lender, and thus more collateral does not always result in better access to credit. The institutional environment also has an important influence on the value and acceptability of certain assets as collateral (Nagarajan & Meyer, 1995). This paper aims to assess the efficacy of collateral and collateral substitutes used by lenders who financed micro-enterprise and rural clients in KwaZulu-Natal (KZN) during 1996. Understanding of the limitations and costs which lenders incur in using collateral may facilitate local institutional reform to improve markets for collateral, and assist loan enforcement. This would complement efforts by the Strauss Commission to improve access of rural people to financial services in South Africa. Section two reviews factors affecting the efficacy of collateral, while sections three and four present research methodology and results. A concluding section considers the policy implications of the results.

2. CHARACTERISTICS OF COLLATERAL

Collateral is "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" (Nagarajan & Meyer, 1995:3). In addition, collateral should be characterised by appropriability, absence of collateral specific risks and allow the borrower to accrue returns by directly using the collateral or deriving returns from the investment with loans obtained using the collateral (Binswanger & Rosenzweig, 1986). Collateral generally includes physical assets such as land and chattel mortgages (equipment and machinery). Collateral can function as both an enforcement and a signalling device. As an enforcement device, collateral secures loans against exogenous risks (poor business performance due to events uncontrollable by the borrower) by allowing the lender to liquidate the collateral in the event of loan default, reducing his default loss (Barro, 1976). Endogenous risks are reduced when

threats of foreclosure discourage the borrower from engaging in moral hazardous activities (Bester, 1985). High risk borrowers will, therefore, be required to offer more collateral than low risk borrowers while the loan amount is expected to increase and the interest rate to decrease as the value of the collateral increases and lender transaction costs in using the collateral decrease (Barro, 1976).

As a signalling device lenders can use collateral to distinguish between high and low risk borrowers by offering a menu of contracts with different collateral and interest rate requirements. If preferences of borrowers depend systematically on their type, then lower risk borrowers exhibit a higher marginal rate of substitution between interest payments and collateral. Thus lower risk borrowers will be inclined to accept a loan contract with higher collateral and lower interest rate requirements since their probability of project failure is lower than for high risk borrowers (Bester, 1985; Besanko & Thakor, 1987; Chan & Kanatas, 1985). Lenders can thus use the signalling value of collateral as a low cost self-selection and incentive mechanism to sort borrowers according to their risk types. Hence, provided borrower wealth is sufficient and collateralisation costs are low, no credit rationing will exist in credit markets (Bester, 1985).

For collateral to serve as a useful enforcement device, the collateral must be able to reduce the lender's default loss or make it costly for the borrower to default. This requires that the asset has well established and transferable property rights, and a legal environment that facilitates loan contract enforcement such that the lender is able to foreclose and attach the asset. In addition, liquidation costs must be sufficiently low and asset marketability good to enable the lender to recover sufficient funds from liquidating the collateral to cover loan losses (Barro, 1976; Nagarajan & Meyer, 1995). The asset should also not be easily prone to loss of value due to collateral specific risks like theft, pretended theft, damage by fire or accident and poor maintenance (Binswanger & Rosenzweig, 1986). For collateral to serve as an effective signalling device borrower wealth and collateralisation costs are important. Borrower collateralisation costs include potential loss of collateral if the investment fails, costs incurred by the borrower in pledging collateral (group formation, legal costs) and foregone opportunities to use collateral to secure additional debt (Chan & Kanatas, 1985; Feder *et al.*, 1988).

The ability of collateral to serve as a signalling device may be undermined if the marginal collateralisation costs of low risk borrowers are higher than for high risk borrowers, and if low risk borrowers have less wealth to offer as collateral than high risk borrowers (Bester, 1985; Besanko & Thakor, 1987;

Chan & Kanatas, 1985). In addition, the asset holdings should be positively related to ability to repay so that low risk borrowers can distinguish themselves from high risk borrowers. The possibility of debt re-negotiation further undermines the ability of collateral to serve as a signalling device since high risk borrowers then have an incentive to pledge more collateral (Nagarajan & Meyer, 1995). The State has an important role to play in financial markets by facilitating contract law enforcement and institution building. The development of market institutions that improve tenure security and that facilitate the transfer of these property rights are important for assets such as land to have value as collateral. A credible and effective legal framework which enforces loan contracts is also necessary to provide a real threat to borrowers of possible foreclosure in the event of loan default (Fafchamps *et al.*, 1994). Thus costs of default to the borrower are increased, reducing the possibility of moral hazard and voluntary default (Bester, 1985). Hence, lender transaction costs and institutional constraints (absence of market for land, and poor contract enforcement mechanisms) may reduce the value of assets as collateral to the lender, while borrower collateralisation costs and limited wealth may reduce the ability of borrowers to pledge collateral (Barro, 1976; Bester, 1985). Financial intermediaries involved in rural and micro-business finance often face high transaction costs in liquidating collateral due to the often poor condition of the assets, institutional constraints (title to land often not secure and transferable), geographic dispersion of borrowers, poor rural infrastructure, low wealth borrowers unable to pledge suitable collateral, and a costly and/or ineffective legal system (Nagarajan & Meyer, 1995).

Given the limited value of land and chattel assets as collateral, as well as poor legal structures to enforce contracts, lenders have resorted to collateral substitutes. These are non-physical assets with or without market value, or physical assets that have qualities other than collateral to enforce loan repayment (Nagarajan & Meyer, 1995). Examples include interlinked contracts (crop processor - farmer), joint liability groups, savings and guarantee funds. While these collateral substitutes may alleviate the problem of suitable collateral, they are also subject to borrower collateralisation and lender transaction costs, reducing their efficacy. Group loans provide collateral through joint liability where the individuals engage in implicit screening and monitoring on behalf of the lender. This potentially effective collateral form requires considerable investments in group formation, frequent repayment schedules (weekly, bi-weekly, monthly) to generate meetings for interaction and discipline required to maintain group cohesion, and the spatial dispersion of the borrowers must be such that peer monitoring is feasible (Graham, 1995). Thus transaction costs for group formation are

necessarily high for both borrower and lender. Spatial dispersion of borrowers as encountered in group loans to large farmer groups may further increase monitoring costs for borrowers to the point where the joint liability mechanism is no longer effective. The frequency of the loan repayment schedules also may not fit seasonal cash flow patterns of farmers, reducing regular contact between borrower and lender, while high covariant risks of agricultural production further undermine the joint liability mechanism - thus group loans to farmers have been less successful (Graham, 1995). Group lending has been observed to work best with micro-enterprises (e.g. spaza shops, sewing clubs) operating in urban areas where groups are small (4 - 6 individuals per group) such that the monitoring costs are lower and the cash flow supports regular repayment schedules.

Third party guarantors, although potentially effective, may pose additional costs to the lender since their credit worthiness also has to be assessed. Reputational capital is created by the threat of no future loans should borrowers default on existing loans and use of credit listing agencies. The borrower's reputation depends on his past loan repayment performance and the reputation thus formed affects future economic opportunities. However, for reputational capital to acquire value and work effectively as collateral, information about borrower default must be communicated effectively between lenders, while the borrower must also derive sufficient utility from access to future loans in order not to default (Hayami & Otsuka, 1993). Thus collateral use may differ for lenders operating in different markets subject to borrower transaction costs, liquidation costs, collateral specific risks and institutional arrangements.

3. RESEARCH METHODOLOGY

Six KZN institutions (A1 to A6), who for confidentiality purposes cannot be named, were surveyed at regional and head office level in 1996 to document collateral characteristics. Data were collected on micro-enterprise and rural client loan contract mechanisms, with specific emphasis on different collateral types and other penalty and incentive schemes used by lenders. Lenders A1, A2 and A3 made primarily agricultural and community services loans, while lenders A4 and A5 financed micro-entrepreneurs in urban areas. Lender A6 focused on personal consumption loans to persons earning a fixed salary.

4. SURVEY RESULTS

Table 1 presents an evaluation of the efficacy (low, medium or high) of collateral types used by the six lenders. Cessions on crops used by A2 and A3 were registered with growers delivering to sugar and timber mills and other

Table 1 Collateral Types and Attributes

Collateral Types	Lender	Borrower Costs		Lender Costs				Efficacy of Collateral to Lender
		Collateralisation Costs	Potential loss of Asset	Asset Liquidation	Monitoring Costs	Collateral Specific Risks	Asset Transferable and Marketable	
Crop Cessions	A2	L*	L - M	-	M - H	M - H	L - M	L - M
	A3	L	L - M	-	M - H	M - H	L - M	L - M
Machinery, Vehicles, Equipment	A2	L	L - M	M - H	M - H	H	M - H	L
Permission to Occupy (communal land)	A2	L - M	L	-	-	-	ZERO	L
Mortgage bonds on Private Land	A2	L - M	H	L - M	-	L	H	H
Joint Liability Groups	A1 (farmer)	M - H	-	-	M - H	-	-	L
	A2 (farmer)	M - H	-	-	M - H	-	-	L - M
	A5 (micro-enterprise)	L - M	-	-	L - M	-	-	H
Third Party Guarantors	A4	L - M	H	L	L	L - M	-	H
Reputational Collateral	A6	L	H	-	-	-	-	M - H
	A5	L	H	-	-	-	-	M - H
	A4	L	H	-	-	-	-	M - H
	A2	L	L - M	-	-	-	-	L - M
	A3	L	L - M	-	-	-	-	L - M

* Note L = Low, M = Medium and H = High

processors where loan payments were automatically deducted on crop delivery, thereby increasing security of title to the lender. High collateral specific risks, resulting from exogenous shocks such as adverse weather and fire, and flaws in loan collection systems (for example some borrowers delivered on quotas of growers who had no loans and thus avoided deduction) reduced crop transferability to the lender. Thus potential loss of payment to the borrower was minimal increasing the incentive to default. Legal action was seldom considered due to the high costs and length of legal processes. This led to intensive borrower monitoring which increased lender transaction costs and lowered the efficacy of cessions as collateral.

Machinery, vehicles and equipment, used by A2, had high collateral specific risks because of 1) the possibility of theft, 2) borrowers could easily dispose of the machinery without the lender's knowledge, and 3) poor maintenance often resulted in rapid devaluation of the asset. High collateral specific risks and geographic dispersion made it difficult and costly for the lender to locate the borrowers, increasing lender liquidation costs, while poor condition and low value of the asset reduced marketability. Borrower collateralisation costs were low since costs involved in pledging the collateral were minimal. In addition, a lengthy and expensive legal procedure to attach the asset reduced the probability of loss of collateral to the borrower (legal action was unlikely). This, together with high collateral specific risks and liquidation costs, reduced the efficacy of machinery and equipment as collateral.

Lender A2 accepted permission to occupy certificates (PTO's) in certain instances when financing fixed property investments in communal areas of KwaZulu-Natal. Since the occupant of the property has only usufruct rights to the land, tenure is insecure, limiting the transferability of the land to the lender. This collateral type thus has no value since the lender cannot take possession on the land in the event of default. Lender A2 is able to use mortgage bonds on private land purchased outside communal areas. Lender liquidation costs are low to moderate since use of costly and lengthy legal procedures is still required. Collateral specific risks are low as land cannot easily lose value. Land title is secure, transferable and markets for land exist, giving land value and ready transferability to the lender.

Joint liability mechanisms were used by lenders A1, A2, and A5. Lenders A1 and A2 extended group loans to farmer associations for irrigation, food garden and seasonal crop establishment. Lender A5 extended loans to micro-entrepreneurs operating in urban areas. For A1 and A2 the group members were responsible for group formation with some guidance given by the lenders, lowering lender transaction costs while increasing borrower

transaction costs. In addition, these groups were large (30 - 60 members) and members were spatially dispersed, increasing monitoring costs between individuals, while group heterogeneity (consisted of men and women who did not know one another well) further undermined the joint liability mechanism. Both A1 and A2 negotiated loan terms with the group leaders who were then responsible for loan collection from the individual members, further reducing lender transaction costs. Loan repayment was seasonal resulting in less frequent contact between borrowers and lender, as is normally prevalent in group loan schemes. This enables the lender to monitor the groups and instil financial discipline amongst group members. Thus while potentially reducing lender transaction costs, borrower group formation and monitoring costs undermined the joint liability mechanism, making this form of collateral less useful when financing farmer groups.

Lender A5 financed small (4-6 members) homogenous groups (members knew each other well, were all women and were involved in similar business ventures) of micro-entrepreneurs (spasa shops, sewing clubs etc.) operating in urban areas. While the group was responsible for organising itself, borrower transaction costs were relatively lower since the groups were small and members knew each other well. The lender also invested considerable amounts of time in establishing the groups, while the income patterns of business ventures of members suited frequent (monthly) loan repayment schedules. This allowed the lender to effectively monitor group performance, increasing lender transaction costs. These groups were observed to be more successful than the larger farmer groups.

Third party guarantors were only used by A4. New borrowers were introduced to the scheme through existing borrowers who, in many instances, became the guarantors, thus lowering borrower collateralisation costs. Lender costs were also minimal since the guarantor was well known to the lender and reliable. This form of collateral worked effectively since both the guarantor and the new borrower would not be allowed to take out any new loans upon loan default. Reputational capital (policies of not granting new loans to borrowers who defaulted on existing loans and use of credit agencies) was used by all lenders but was effective only where strictly enforced by lenders. Lenders A4, A5 and A6 strictly applied the policy of no future loans while lenders A2 and A3 were more lenient, thus reducing the efficacy of reputational capital. Credit agencies were used as a means of spreading this information between lenders. These agencies can be an effective means of building reputational capital since they provide information to major furniture and clothing stores. However, credit agencies removed borrowers' names from their lists once these borrowers settled outstanding debts,

effectively removing historical information important in building reputational capital. This further undermined the use of reputational capital as collateral. Lenders also noted that borrower prosecution in the event of loan default was unlikely because of the costly and lengthy legal procedures. Hence the low possibility of foreclosure lowered the efficacy of especially the formal asset types as collateral.

6. CONCLUSIONS

It is important that assets used as collateral are characterised by ease of liquidation, low collateral specific risks and transferability. Lenders in the study sample have made use of a variety of collateral types to try and facilitate loan repayment. However, high collateral specific risks, high liquidation costs and poor asset appropriability reduced the effectiveness of crop cessions, machinery and equipment as well as property in communal areas of KZN as collateral types. This limits the ability of the lender to recover the full cost of a loan. In addition, a costly and ineffective legal system reduces the value of collateral as an incentive device, lowering the cost of default to the borrower thus not discouraging moral hazardous activities. Increased, although costly, monitoring may reduce collateral specific risks associated with chattel and cession collateral. While high collateral specific risks associated with vehicle and equipment finance are reduced through compulsory insurance with lenders, monitoring is still necessary to reduce risks of voluntary theft. Institutional reform, to promote secure and tradable property rights in rural areas is an important prerequisite in improving the collateral value of land, allowing individuals better access to institutional credit (provided that lenders can foreclose on land in the event of default). This is evidenced by PTO's which had no use as collateral since the property rights to which they pertain are insecure and not tradable. It is essential that contract law is backed by an accessible and effective legal system capable of providing a credible threat to individuals thus increasing the cost of default. This may further deter borrowers from misusing crop cession mechanisms and chattel assets. It may also assist in influencing the perceptions of the legitimacy of contractual agreements contributing to developing a culture of payment of loaned money.

Joint liability mechanisms require stringent conditions for success and may be less effective in providing access to credit for farmer groups in rural KZN. These groups were large and members spatially dispersed (such that individuals did not benefit from monitoring each other), not well constituted (limited investment in group formation), and heterogeneous, which often led to a divergence of interests amongst members. In addition, loan repayment

was seasonal and hence frequent contact between lender and borrowers was not maintained to instil borrower discipline and group cohesion. Constituting and maintaining farmer groups may also impose high costs on both borrower and lender, owing to substantial investments in group formation, and may therefore be a less desirable form of collateral for financing emerging farmer groups. Group loans were more successful in urban areas, where the groups were small (4 - 6 members), homogenous and members were able to make regular monthly repayments which brought them into contact with the lender could then monitor group performance closely. Reputational capital could also become an important collateral type, provided that lenders strictly enforce the policy of not giving borrowers access to future funds if they have defaulted on previous loans. This information can also be effectively communicated through credit listing agencies. However, stricter policies on name removal need to be adopted to increase the potency of reputational capital as a form of collateral. Rural finance institutions in KZN need to be able to provide borrowers with sufficient incentives to repay their loans and, together with the legal system, provide a credible threat of contract enforcement to reduce loan default and thus promote viable financial institutions.

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REFERENCES

- ARROW, K.J. (1985). The economics of agency. In: Pratt J W and Zeckhauser R J (eds). *Principals and agents: The structure of business*. Boston: Harvard Business School Press. pp. 37-51.
- BARRO, R.J. (1976). The loan market, collateral, and rates of interest. *Journal of Money, Credit and Banking*, 8(4):439-456.
- BARRY, P.J., ELLINGER, P.N., HOPKIN, J.A., & BAKER, C.B. (1995). *Financial management in agriculture*. Illinois : Interstate Publishers.
- BESANKO D. & THAKOR, A.V. (1987). Collateral and rationing : Sorting equilibria in monopolistic and competitive credit markets. *International Economic Review*, 28(3):671-689.

BESTER, H. (1985). Screening vs. rationing in credit markets with imperfect information. *The American Economic Review*. 75(4):850-855.

BINSWANGER, H.P. & ROSENZWEIG, M.R. (1988). Behavioural and material determinants of production relations in agriculture. *The Journal of Development Studies*, 22(3):503-539.

CHAN, Y. & KANATAS, G. (1985). Asymmetric valuations and the role of collateral in loan agreements. *Journal of Money, Credit and Banking*, 17(1):84-95.

FAFCHAMPS, M., DE JANVRY, A. & SADOULET, E. (1994). Transaction costs, market failures, competitiveness and the State. In Peters, G H and Hedley, D D (eds). *Agricultural competitiveness: market forces and policy choice*. Proceedings of the Twenty Second International Conference of Agricultural Economists. Dartmouth Publishing Company, Brookfield.

FEDER, G., ONCHAN, T. & RAPARLA, T. (1988). Collateral, guarantees and rural credit in developing countries : Evidence from Asia. *Agricultural Economics*, 2:231-245.

GRAHAM, D.H. (1995). Sustainable financial services for the rural poor: A challenge for the agricultural economics profession. *Agrekon*, 34(4):138-145.

GRAHAM, D.H. & VON PISCHKE, J.D. (1994). *Factors and strategies that lead to a sustainable supply of financial services for the rural poor*. Inter-American Development Bank, Paper prepared for the Workshop on Financial services for the Rural Poor.

HAYAMI, Y. & OTSUKA, K. (1993). *The economics of contract choice : An agrarian perspective*. New York: Oxford University Press.

NAGARAJAN, G. & MEYER, R.L. (1995). *Collateral for loans : When does it matter*. Ohio State, Department of Agricultural Economics and Rural Sociology, Ohio State University, Economics and Sociology Paper No. 2207.