Micro credit and the transforming of uncertainty since 1976: International lessons for South Africa

Polly Mashigo
Tshwane University of Technology
Economics Department
mashigomp@tut.ac.za

Christie Schoeman
University of Johannesburg
Economics Department
christies@uj.ac.za

Abstract

The formal banking system plays a pivotal role in the delivery of financial services, particularly credit. However, the delivery of credit to poor households in South Africa by the formal banking system is hampered by the existence of irreducible uncertainty. The article analyses a sample of successful practices in different countries to determine the genotype structure in these cases that support specific social technology and the minimalist solidarity group lending method, to transform financial uncertainty that cannot be solved by the market mechanism and even brokerage institutions like banks. Based on the findings, this article recommends that existing social technology can be developed in an environment created and conditioned by a proposed system of constituents or principles, to give the poor access to low-cost credit in South Africa.

Keywords: Micro Credit; Historical best practices; Stokvel; Uncertainty; Minimalist solidarity group; Banking; Insurance.

Introduction

Banking institutions, because of potential economic rent in an uncertain environment characterised by private information and superior knowledge, play a significant role in the creation of liquidity.[1] Access to cash and credit (liquidity) through banking institutions is central in a capitalist system, not only to act as a medium of exchange in uncertainty but also as a precautionary measure to decrease the exposure to shocks (uncertainty) and thereby to

1 DW Diamond and PH Dybvig, "Bank runs, deposit insurance, and liquidity" *Journal of Political Economy* 91(5), 1983, pp. 401-419 and P Davidson, "Uncertainty in Economics: Keynes, Knowledge and Uncertainty," *Journal of Economic Perspectives*, 5(1), 1991, pp. 107-116.

smooth consumption.[2] The relatively high collection costs associated with formal financial transactions limit access to low-cost credit, reinforcing low levels of income, consumption, savings and exposure to even minor shocks.

The poor people in South Africa and in various parts of the world have, with time, developed self-insurance support mechanisms in the form of informal savings organizations which, according to Verhoef,[3] emerged from socio-anthropological analysis of the African community strategies of shaping economic behavior, economic development and mutual support. These informal savings organizations are known as stokvels in South Africa- referred to rotating savings and credit associations (ROCSAs) type which dates back to the nineteenth century, organized to facilitate social interaction, saving and access to a lump sum of cash. Among the strategies developed by urbanized Africans, was urban wage labour engagement to provide material needs through mobilization of social capital using various informal arrangements/ activities to sustain themselves. Stokvels use informal mechanisms of cultural organizations to contribute to social security by using social features such as trust, norms, reputation and networks to improve the efficiency of society by facilitating coordinated actions.[4] Women, who were mostly the ones carrying the burden of maintaining their families in the absence of or irregular income, integrated stokvels as a means to smooth income through the usage of social networks. The mechanisms behind these stokvels in the late nineteenth and/ or the early twentieth century have offered a very distinct form of survival and are prevalent in the current urban and rural communities in South Africa to provide guaranteed access to financial resources (credit and savings) which are not provided by formal financial intermediaries (banks). A large segment of the population in South Africa (23%) is unemployed and the majority live in informal settlements and/or rural areas where poverty is still rife (Mpahlwa, 2008; Wilson, 1996).[5] Poor households lack the necessary education or skills (social assets) and financial means (financial or liquid

2 JM Keynes, *The General Theory of Employment Interest and Money,* (London, MacMillan Company of Canada Limited, 1936); J Tobin, "Liquidity Preference as Behaviour Towards Risk", *Review of Economic Studies*, 25, 1958, pp. 68-85; and P Davidson, "Uncertainty in Economics: Keynes, Knowledge and Uncertainty," *Journal of Economic Perspectives*, 5(1), 1991, pp. 107-1165.

3 G Verhoef, "Social capital in voluntary savings organizations in South Africa in historical perspective", *New Contree*, 56, 2008, pp. 51-80.

4 HD Seibel and D Torres, " Rural finance: Are Grameen replicators sustainable, and do they reach the poor? The case of CARD rural bank in the Philippines",Working Paper No. B1. (Philippines: International Fund for Agricultural Development (IFAD, 1999); G Verhoef, "Social capital…", pp. 51-58.

5 M Mpahlwa, "Economic, Investment and Employment Cluster's Programme of Action", *Cycle Two Report*, (Pretoria, Department of Trade and Industry, 2008); G Wilson, *Bank management*, (Washington, McKinsey and Co, 1996).

assets) to secure stable consumption. They generate income for the purpose of providing minimal subsistence means for their families and, if possible, for precautionary motives. In a capitalist environment, the inadequate social and illiquid physical capital or assets of poor households make them vulnerable to even minor consumption shocks. This also has detrimental effects on their consumption. Access to credit can assist them to cushion themselves against the effects of consumption shocks by smoothing income.

Alternative to these problems, interest has been rekindled in the role of alternative financial institutions prospering around the world, especially in Bangladesh, Indonesia, Thailand and India, that had united and use institutional arrangements such as group lending programs to transform financial uncertainty (imperfect information, collateral constraints and transaction costs). These arrangements serve as a commitment to serve clients, especially the poor that have been excluded from the formal banking sector. Ghatak and Guinnane (1999; Karlan, 2007)[6] explore how group lending programs where loans were made to homogeneous self-selected groups of individuals belonging to the same village tended to be more successful.

The objective of the article is to determine common principles (see genotypic structure in Ostrom and Basurto, 2009: p7) needed for successfully implementing and developing the minimalist solidarity group lending method. The identification of principles or genotype in different structures is essential for the development of, out of the existing social technology, stokvels, a sustainable low-cost credit mechanism to assist the poor. The hypothesis of the article is that the underlying constant of principles provides the needed basis for social mechanisms to be sustainable for the providers of low-cost credit to poor households. In view of this, the article attempts to identify the principles that underlie successful international experience and practices in implementing social technology to deal with uncertainty about probability to default, so as to extend, in a sustainable way, low-cost credit to the poor. As in the case of South Africa, the poor, especially women, need low-cost credit to hedge consumption shocks. Countries such as Bangladesh, Indonesia, Kenya, Ghana, Sri Lanka, Thailand and India became important benchmarks in providing low-cost credit by using a specialised lending technology like group lending, which decreases transaction costs, asymmetric information, and the

6 M Ghatak and TW Guinnane, "The economics of lending with joint liability: theory and practice", *Journal of Development Economics*, 60, 1999, pp. 195- 228; DS Karlan, "Social connections and group banking", *The Economic Journal*, 117, 2007, pp. F52-F82.

use of physical collateral.

The article resumes with an analysis of uncertainty to distinguish between risk and Knightian irreducible uncertainty. It is demonstrated how the nature of uncertainty, as opposed to risk, constrains the banking sector in providing credit to poor households. In section 3, uncertainty and the role of a solidarity group lending method in transforming uncertainty to calculable risk is analysed. An analysis of the best practice data on group lending is done in section 4. This is to determine what is needed to support the solidarity group lending method to deal, in a sustainable way, with uncertainty in the provision of low-cost credit to poor households. The narrative data based on best practice is analysed in an attempt to determine the constituent, or system of principles for a strategy needed to support an environment for a sustainable mechanism/s of rules and norms to allow the poor access to low-cost credit.

In this article, the term 'strategy' is used to describe a plan of action to achieve certain outcomes. For the success or not of implementing or supporting strategies, plans are limited by information on the existence of similar successful basic structures. Rules or norms contain prescriptions. Rules are continuously monitored with specific sanctions to penalise forbidden action. By this rules are implicit and explicit effort to achieve order and predictability among humans (Ostrom and Basurto, 2009)[7].

A short contextual overview on uncertainty, risk and insurance

Decision-making in an uncertain environment is problematic and needs the development of institutions like financial assets to curb or bridge this uncertainty. Characteristic in the theoretical history of classical asset pricing is the way in which idiosyncratic effects and historic time (pricing is objectively done independent from historic time) are ignored in the pricing of financial assets or risk.[8] Complete information in a real time (physical time or "timeless") environment is assumed with the only uncertainty the exogenously determined random states in which the consumer lives. This uncertainty is resolved to a real time environment by assuming the existence of complete

7 E Ostrom and X Basurto, "The Evolution of Institutions: Towards a New Methodology, Workshop in Political Theory and Policy Analysis, Indiana University, 2009, pp. 5-7.

8 KJ Arrow, "The role of securities in optimal allocation of risk bearing, *Review of Economic Studies,* 31(2), 1953, pp. 91-96; W Sharpe, "Capital asset prices: a theory of market equilibrium under conditions of risk", *Journal of Finance*, 19(3), 1964, pp. 425-552.

state contingent contracts. The assumption of the fully diversifiable nature of idiosyncratic risk and the payment of fair premiums was, in the 1970s eased to consider incomplete information in the form of asymmetric information and the affects this incompleteness has on insurance cost, idiosyncratic risk, risk insurance and risk premiums in imperfect insurance markets (Ehrlich and Becker, 1972; Dixit, 1987)[9]. It was though left to Knight, Keynes and later on the Post-Keynesians to accentuate the role played by liquidity and liquidity markets as insurance mechanisms in a historic time dependent irreducible uncertain economic environment where expectations of consumers differ and where the preferences of consumers are determined by historic time, the actualizing of believed states rather than by exogenously given human nature (genetics) (Davidson, 1990; Davidson, 2009; Keynes, 1936; Keynes, 1937; Knight, 1921; Keynes, 1920)[10].

Frank Knight (1921)[11] and Keynes (1920)[12], as discussed above, broke the ground for economics in this regard when they made a distinction between risk and irreducible uncertainty as part of an analysis of profit and its origins and probability and uncertainty, where both sought to explain the persistent difference between zero profits predicted as a result of perfect competition in economic theory, and the actual positive or negative profits found in reality. Basili (2000) and Epstein (1998)[13] later describe and defined unreduced uncertainty as a situation where information about the future is too vague, ambiguous and imprecise to be summarised by a single or unique additive probability measure – that is, where no unique assignment of the future can be obtained. The risk of any decision is therefore incalculable as it may arise in an environment (state of nature) where all plausible available information fails to give even a sense of the risk. Classical theory also adjusts over time to this reality. Limited, partial, or even no knowledge and information about

9 I Ehrlich and GS Becker, "Market insurance, self-insurance and self-protection". *Journal of Political Economy*, 80(4), 1972, pp. 623-648; A Dixit, "Trade and insurance with moral hazard", *Review of Economic Studies*, 56(2), 1987), pp. 235-247.

10 P Davidson, "Uncertainty in economics: Keynes, knowledge and uncertainty. *Journal of Economic Perspectives*, 5(1), 1990, pp. 107-116; P Davidson, "Risk and uncertainty in economics", *Paper presented at the Conference on the Economic Recession and the State of Economics,* (London: Westminster, 2009); JM Keynes, *"The general theory of employment interest and money",* (London: MacMillan, 1936); JM Keynes, "The general theory of employment", *The Quarterly Journal of Economics,* 1937, pp. 109-123; FH Knight, *Risk, Uncertainty and Profit* (New York, Houghton Mifflin, 1921), pp. 76; JM Keynes, *Treatise on probability*, (Reprint 1989, London, MacMillan, 1920), pp. 26.

11 FH Knight, *Risk,Uncertainty and Profit...,* pp. 76.

12 JM Keynes, *Treatise on probability*..., pp. 26.

13 M Basili, "Knightian uncertainty in financial markets: an assessment", *Quaderni*, Universita degli Studi di Siena, February, 2000, p. 1; and LG Epstein, "A definition of uncertainty aversion", *Review of Economic Studies*, 66, 1999, p. 579.

the future, therefore, is endemic to actual life. All possible knowledge on prospects is tentative and beliefs in actual life situations are thus not only based on the prescriptive rules of weak and statistical dominance, but must consider respect for actuality (Manski, 2008).[14] This means that economic agents in actual life do not know, or have limited knowledge about, prospects, and prefer 'probable' or 'certainty' rather than 'optimal', but in reality have to deal with only 'possible' final options. They will therefore take sequential decisions to keep the future or prospects as flexible as possible in the face of uncertainty about the future and the possibility that new directive information will arrive. Even knowledge about the future, if it does exist, is considered in a weighted manner and thus even partial or credible information makes optimisation impossible, or due simply to pure luck. Therefore, agents will, under uncertainty, try to prevent the downside risk of loss, or possibility of loss, rather than maximising utility (Kahneman and Tversky, 1979).[15] This explains why poor people, labouring under uncertainty and possible loss, will insure and take risk (speculate) at the same time, at a high cost (Kahneman and Tversky, 1979).[16]

In trying to avoid endemic losses in unreduced uncertainty, the poor will therefore be prone to risk-taking behaviour in overvaluing and choosing small probable winnings at great cost, thus lowering consumption even further. By focusing on and manipulating the state or environment of the poor by giving them the opportunity to hedge (insure) risk in a collective mechanism or pool, their behaviour is influenced in a positive way, as uncertainty can be removed at no cost. In this way responsible behaviour and rational decision-making are supported, resulting in smoother and more stabilised consumption.

In prescriptive theory there is the possibility of learning from the past and repetition about an uncertain environment or uncertain nature of the future (subjective probability) and beliefs about the future can make room for a stochastic, but calculable future (objective probability). This makes it possible to resolve uncertainty through stochastic models and economic means and mechanisms (Bernanke, 1980).[17] Risk is not uncertainty but is a situation in which the relative odds of events are known, or when future events occur

14 CF Manski, "Partial prescriptions for decisions with partial knowledge", *NBER Working Paper Series*, Working Paper 14396, 2008, pp. 15-26.

15 D Kahneman and A Tversky, "Prospect Theory: An Analysis of Decision under Uncertainty", *Econometrica,* 47(2), 1979, pp. 263-291.

16 D Kahneman and A Tversky, "Prospect Theory: An Analysis…", *Econometrica*, 47(2), 1979, pp. 263-291.

17 BS Bernanke, "Irreversibility, uncertainty and cyclical investment", NBER Working Paper No. 502, 1980, pp. 15.

in regular mode or even patterns, and have measurable probability (Basili, 2000 and Knight, 1921).[18] Market risk, the same risk everybody is exposed to at the same time and in the same way but to a different extent, can't be controlled, is exogenous, timeless and random. This part of risk determines individuals' vulnerability to shocks that cannot be diversified away, but is calculable in reference to a benchmark. Market risk is therefore calculable and quantifiable due to its relative nature and can be priced and traded in the presence of financial markets (Davidson, 1996 and Knight, 1921).[19] Prices that are paid in the market for the buying and selling of risk are established so that the cost associated with market risk (covariance) in consumption is exactly compensated for by the price. The theoretical result is the smoothing of consumption without cost. Uncertainty is, in effect, removed at no cost.

Specific risk, the focus in the article, refers to a situation in which a portion of the population incurs income losses that do not affect the aggregate consumption of the population. Specific risk is the risk that is specific in terms of its nature and the extent of its effect thereof on the individual. Specific risk can, because of its imperfect correlating nature, be insured by individuals either by self-insuring (diversification of assets) or pooling, thereby following the mutual principle. In the latter, people make a mutual agreement to protect themselves by pooling assets to hedge against specific risk, or by paying a premium that guarantees smooth consumption without cost – an optimal exchange (Wolfe, 2005; Knight, 1921; Pauly, 1974).[20] It is problematic, though, when the transaction costs of entering a pool by way of a insurance contract from a seller (diversifying assets by exchanging cash for future entitlement to it, or the replacement of assets) are at a premium, or high cost, due to either unfairness from the seller's side and/or when risk can be manipulated by purposeful action of the buyer that creates uncertainty for the seller, with negative externalities for the low risk. The price that is paid for certainty smooth (ascertain) but decreases consumption. Consumption, in other words, is smoothed at a cost. This then makes diversification problematic and all sorts of measures and endogenous mechanisms (surveillance, for instance) will have to be introduced at high cost to deal with systematic

18 M Basili, "Knightian uncertainty …" , *Quademi*, Universita degli Studi di Siena, February 2000, pp. 1 and FH Knight, *Risk, Uncertainty and Profit*..., pp. 76.

19 P Davidson, "Uncertainty in Economics...", *Journal of Economic Perspectives*, 5(1), 1990, pp. 107-116 and FH Knight, *Risk, Uncertainty and Profit*..., pp. 76.

20 J Wolfe, "Uncertainty, incompleteness, and relativity", (Nanotech Insider, 2005); FH Knight, *Risk, Uncertainty and Profit*..., pp. 76 *and* MV Pauly, "Over-insurance and public provision of insurance: the roles of moral hazard and adverse selection", *Quarterly Journal of Economics,* 88 (1), 1974, pp. 141-156.

(purposeful) and endogenous behaviour and to support the diversifying mechanism (Pauly, 1974).[21] The poor firstly have only irreversible assets in their portfolios that can be exchanged only at high cost because diversification is not efficient in hedging specific risk, and secondly, cannot act as collateral to decrease the cost of the seller at default. This makes any self-insurance very costly and, in effect, unattainable for the poor.

Uncertainties as well as risk are thus actual and real economic costs. Under unreduced uncertainty, cost and return will only match by chance or accident. Financial decision-making has to calculate and consider the cost of risk and/or uncertainty to be in line with probable return. Risk can, under specific conditions, be priced and solved at no cost by the market. The cost associated with irreducible uncertainty, though, always needs purposeful action (brokerage) and something other than market mechanisms to be solved. In the absence of a formal market to optimise exchange risk, and in the absence of compensation mechanisms under uncertainty (liquidity, skills and collateral), the full and optimal costing of credit and the writing of financial contracts are hampered and constrain access to cash or low-cost credit.

Uncertainty and banking dependence in history

To transform uncertainty under the discussed limitations needs purposeful action and specialised institutions. Banks, by their origin and nature, are purposeful economic mechanisms with the ability and means to transform uncertainty into risk (Diamond and Dybvig, 1983).[22] Banks are assumed, in classical orthodoxy, to be a naturally given in a world with imperfect capital markets. The reality though is that banks have a long institutional history, first as traditional and very loose conventional structures in extreme uncertain economic environments to later evolve into the highly regulated structures with which we are familiar today. From facilitating liquidity needs firstly in commodity systems then in commodity based systems up to our current fiat system. Haines (1966; Kindleberger, 1984; Diamond and Dybvig, 1983;

21 MV Pauly, "Over-insurance and public provision of insurance…", *Quarterly Journal of Economics*, 88 (1), pp. 141-156.

22 DW Diamond and PH Dybvig, "Bank runs, deposit insurance, and liquidity", *Journal of Political Economy,* 91(5), 1983, pp. 401-419.

Davidson, 1990)[23] specifically accentuates the role banks play as creators of liquid contracts and long run insurance mechanisms in imperfect capital markets in historically bound practices and as well as in theory. Chick (1986; Chick, 1993)[24] derived a descriptive monetary theory from the institutional historic characteristics in a banking system. In this manner, Chick identifies six stages of banking development which starts with the Italian financiers in the twelfth century of which the Bardi is the best known as primary and primitive savings institutions, demonstrating the dependence of monetary theory on the history of the banking sector or historic time environment in which they react in dynamic ways to bridge an extreme uncertain economic environment. According to Hicks (1967)[25], in his creed on the monetary economist, monetary theory, policy and regulation, do not lead such historic institutional developments but in fact follow these developments.

In this, information on probable default in an irreducible uncertain economic environment plays a central role in financial institutions' transformation of uncertainty. The information intensity needed to compile financial contracts and the derived and forward nature of these contracts means that various probable, specific, systematic events and probable states under uncertainty need to be assessed before any contracting can take place. Information in irreducible uncertainty, though, is characterised by its private and asymmetric nature. The limitations on human knowledge or ignorance and/or the lack of or asymmetric and private nature of information particularly in the short term, hampers informed decision-making by the market. Pricing in such an environment is only possible at high cost and is not in balance with the return needed to enforce contracts (Stiglitz and Weiss, 1981; Bernanke, 1980).[26] This means that it is difficult and costly to acquire information about borrowers and also to secure repayment after a transaction, which makes transactions inefficient. The lack and/or scarcity of information and irreducible uncertainty

23 WW Haines, *Money, prices and policy* (New York, McGraw-Hill Book Company, 1966); CP Kindleberger, "Financial institutions and economic development: A comparison of Great Britain and France in the eighteenth and nineteenth centuries", *Explorations in Economic History*, 21, 1984, pp. 103-124); DW Diamond and PH Dybvig, "Bank runs…," *Journal of Political Economy*, 91(5), 1983, pp. 401-419; P Davidson, "Uncertainty in Economics…," *Journal of Economic Perspectives*, 5(1), 1990, pp. 107-116.

24 V Chick, "The evolution of the banking system and the theory of saving, investment and interest", *Economies et Societies*, 3, 1986, pp. 33-46; V Chick, *The evolution of the banking system and the theory of monetary policy in Frowen, S.F. (ed.) Monetary theory and monetary policy: New trends for the 1990s* (London, Macmillan, 1993).

25 JR Hicks, "Monetary theory and policy: A historical perspective", The Seventh Edward Shawn Memorial Lecture in Economics (University of Western, Australia, Perth, 1967), pp. 39-44.

26 JE Stiglitz and A Weiss, "Credit rationing in markets with imperfect information", *American Economic Review*, 71, June 1981, pp. 393-409 and BS Bernanke, "Irreversibility, uncertainty and cyclical…", NBER Working Paper No. 502, 1980, pp. 15.

lead to the absence of markets in an uncertain environment. Markets therefore only start to play a role in costing uncertainty in an environment where structures like liquid, homogeneous, or standard marketable products already exist to curb the uncertainty. Therefore, markets operate efficiently in a risk environment rather than an uncertain environment.

In contrast to markets, banks can solve the uncertainty problem by hiding (privatising) information from competitors and economising on this information. The market cannot transform uncertainty in an economic manner because all information becomes public on a market and there is no incentive to gather information to transform uncertainty (Diamond and Dybvig, 1983).[27] This is demonstrated by the commercialised and viable existence of a whole different range of institutions from banks, individual credit references and credit agencies, to merchant banks and the use of mechanisms like collateral and history of default, all playing a pivotal role in the transforming of uncertainty. This private and asymmetric nature of information under unreduced uncertainty and the risk-taking behaviour specifically of the poor, creates many problems for them.

The high initial cost due to uncertainty or the private, asymmetric and endogenous nature of financial information in relation to the poor negatively affects transactions in that prices will not reflect and balance real costs and benefits or gains. Even banks are unable to control the endogenous behaviour of the poor, or can do so only at high supervisory cost, therefore needing a thorough knowledge of the borrowers which is difficult and expensive to acquire (Bowles and Gintis, 1991 and Stiglitz and Weiss, 1981).[28] Active economic discrimination against the poor under uncertainty is also most probable and effective (Bowles and Gintis, 1991).[29] High transaction costs result in high interest rates making credit unaffordable especially for the poor borrower, and becomes costly in terms of probable default for the bank. This happens especially in the case of small loans to the poor who have very little or no financial history and because of the economics of scale that act as a hurdle to small transactions.

27 DW Diamond and PH Dybvig, "Bank runs…," *Journal of Political Economy*, 91(5), 1983, pp. 401-419.

28 S Bowles and H Gintis," Contested exchange: New microfoundations for the Political Economy of Capitalism" *Politics and Society*, 18, 1990, pp. 178-184 and JE Stiglitz and A Weiss, "Credit rationing in markets..." , *American Economic Review*, 71, June 1981, pp. 393-409.

29 S Bowles and H Gintis, "Contested exchange...", *Politics and Society*, 18, 1990, pp. 178-184.

Collateral plays an important role in banks' vulnerability to loss and therefore in the transforming of uncertainty. Collateral serves as a hedge for the uncertainty of credit in that it decreases the amortisation period relative to a comparable loan without uncertainty. The need for collateral as a mechanism to decrease possible loss causes constraints on the lender to serve the credit needs of poor households which do not have collateral or valuable assets that can be used to secure credit. The illiquid nature of the assets of the poor exacerbates this problem (Faig, 1999)[30]. This makes most of the formal banking products and distribution channels unsuitable to the needs of the majority of poor households. Poor households need small, random but regular loans. Banks, due to economies of scale, prefer to deal with periodic large loans hedged against uncertainty by collateral. The pricing of small loans therefore requires significantly higher rates, as higher than risk premiums are needed to compensate for uncertainty in the absence of collateral. The financial environment of the poor seems to be beset by insoluble contradictions resulting in their systematically abstaining from formal channels of credit.

Micro-lending and uncertainty

The concept of micro lending is derived from numerous examples of traditional informal financial systems that have existed around the world for many years. Micro lending emerged in its current form as an alternative to conventional banking, and micro credit has become a major tool of development among poorer segments of society as an appropriate solution to the uncertainty problem. Micro lending, in which vital components include access to credit, savings, and insurance schemes, involves the distribution of small-scale loans to poor households (Meagher and Wilkinson, 2001).[31] The micro lending sector differs from the banking sector with respect to client features, loan portfolios, culture, and institutional structure. Micro credit originally emerged for reasons already discussed as an alternative to conventional banking under uncertainty and a tool for developing the poor households of the world. Micro finance was founded on innovative financial contracts and products, and new attitudes other than conventional insurance

30 M Faig, "Money with Idiosyncratic Uninsurable Returns to Capital", *Journal of Economic Theory*, 94 (2), 2000, pp. 218-240.

31 P Meagher and B Wilkinson, "Filling the gap in South Africa's small and micro credit market: An analysis of major policy, legal, and regulatory issues", Revised Final Report submitted to the Micro Finance Regulatory Council of South Africa (IRIS Center, University of Maryland, 2001), pp. 12-19.

mechanisms, to extend credit to the poor. Micro finance in developing countries is founded on, and generally made through, the dominant social technology in this field. The so-called minimalist solidarity group lending method, where clients are expected to form solidarity groups through peer group self-selection, depends on rules in terms of peer review to ascertain trust and a thorough knowledge of each member's life circumstances, to overcome uncertainty in the absence of financial collateral. These rules make transaction outcomes predictable and restrict the discretion of the individual. As Nelson and Sampat (2001)[32] remark in relation to the role of rules in uncertainty:

> …well understood rules establish baseline conditions for human interaction, and give a certain predictability to what other parties will do in a particular context, that permits individual decision making, and multi-party negotiation, to proceed with some degree of certainty, the actions of different individuals to be coordinated, and efficient transactional agreements achieved. Second, rules can serve to discourage or rule out actions that, if widely practiced, would be economically costly, and encourage actions which, if widely taken, can be productive at all.

This article seeks, as discussed, to investigate through the analysis of best structures and practice, what is needed to sustain the existing solidarity and mutuality of such a group, therefore a strategy of common principles or a constant that ensures the baseline conditions or culture that must exist for norms and rules to have a lasting, binding and adherent effect on participants.

An economic history of successful international micro lending best practices: Solidarity group lending

The provision of subsidized credit in many countries was viewed as a development strategy from the early 1950s through the 1980s to alleviate poverty. However, this strategy tended to be disastrous as much credit was diverted from the intended recipients, the poor, due to collateral constraints, high transaction costs and imperfect information (Ghatak, 1999; Morduch, 1999; Karlan, 2007).[33] The premise was that poor households are neither creditworthy (cannot afford to borrow at high interest rates) nor able to save

32 RR Nelson and BN Sampat, "Making sense of institutions as a factor shaping economic performance", *Journal of Economic Behavior and Organization*, 2001, pp. 33-45.

33 M Ghatak, "Group lending, local information and peer selection", *Journal of Development Economics*, 60, 1999, pp.27-50; J Morduch, "The Microfinance Promise", *Journal of Economic Literature*, 37(4), 1999, pp. 1569-1614; DS Karlan, "Social connections and group banking", *The Economic Journal*, 117, 2007, pp. F52-F82.

money.

The past two decades saw a diverse assortment of new financial programs in Europe. Credit cooperatives and rotating savings and credit associations started to blossom in Europe in the late nineteenth century with the aim of assisting the poor and low-income households save money and obtain credit (United Nations Educational Scientific & Cultiural Organisation (UNESCO), 2001; Ghatak, 1999; Morduch, 1999).[34] Credit cooperatives served 1.5 million people in Germany by 1910. In South India, following what happened in Europe, more than 400 000 poor Indians already belonged to credit cooperatives in 1912 and membership exceeded 9 million by 1946.

This Western trend found new root in the East as a result of experiences of Professor Muhammad Yunus studying at the University of Colorado and Vanderbilt in 1965 and teaching at Middle Tennessee State University in 1971 as well as Professor at Bangladesh's University of Chittagong in 1976. In 1972, Professor Yunus returned to Bangladesh and he was later distressed by the plight of the poor as famine struck the country (in 1974) and espoused the view that credit (access to economic resources) is a basic human right. He started to develop a lending methodology tailor-made for the impoverished clients. To protect the poor who were trapped in a cycle of debts because of local moneylenders who charged them exorbitant interest rates, and that the poor were unable to obtain credit from traditional banks, Yunus began by lending the poor money himself and allowing them to buy raw materials, make handiwork (e.g. pots, weaving bamboo stools) and sell them at a profit (UNESCO, 2001; Morduch, 1999). He structured the loans with daily through weekly payments so that he could be able to detect problems early. In an attempt to get traditional banks to lend to poor people who had no collateral, he managed to obtain loans from the Janata Bank and signed himself as guarantor, and with the money, the Grameen Project (known as the Grameen Bank) (literally "of the village") was established in 1976 and launched in January 1977 (UNESCO, 2001). Micro credit (lending) then continued to be based on the dominant Grameen model that had emerged as the minimalist solidarity group lending. A unique feature was that clients were expected to form a group of five through peer group self selection. Five percent of each loan was saved into a group fund that served as insurance.

34 United Nations Educational Scientific & Cultiural Organisation (UNESCO), *Grameen Bank* (Britannica Concise Encyclopedia, 2001); M Ghatak, "Group lending…" , *Journal of Development Economics*, 60, 1999, pp. 27-50; J Morduch, "The Microfinance Promise…" , *Journal of Economic Literature*, 37(4), 1999, pp. 1569-1614.

Loan repayment exceeded 97% and in view of this, Yunus managed to struck up an arrangement with the Bangladesh Krishi (Agriculture) Bank which exonerated him from having to sign himself as a guarantor for every single loan. The Grameen Bank grew institutionally, its credit operations expanded rapidly, and demonstrated its strength in many neighbouring villages during 1976-1979. The Bank was initially sponsored by the Bangladesh central bank and supported by commercial banks but in October 1983, the Grameen Bank was transformed into an independent bank by government of Bangladesh.

In 1976, the Grameen Bank (GB) as alluded to above, attracted widespread attention for its approach that, to the low-income and poor, could mean creditworthiness (Porteous, 2001).[35] It came into operation with the objective of extending banking facilities, especially credit, to poor men and women. The GB method supports increased client discipline through precise rules and procedures, extensive training, and fairly rigid services (Wilson, 1996)[36]. The GB differs from conventional banking practice in that it removes the need for collateral to hedge uncertainty. The GB method is based on social considerations of mutual trust, accountability, participation, creativity and decentralised decision centres to transform uncertainty, rather than being conventional in the use of payment history, collateral and centralised decision making, supported by expensive IT systems and specialisation to hedge risk. Grameen centres, which are equivalent to local village banks, are settled in physical structures built by bank members and which seems to be the only commonality with traditional banking. The GB groups are formed by individuals in their communities in rural areas, in order to access credit and savings. All GB members are required to attend regular group meetings at the centre. This is considered to limit the ability of staff to undermine the system by favouring particular individuals or using their position to further their own objectives. The centres require clients to memorise and adhere to a list of decisions that guide not only borrowing behaviour, but often social behaviour as well. The GB group members are jointly liable for all individual loans. In the case of some schemes, when members fall behind with loan repayments, they are followed up on an individual basis in the form of household visits. The lending and borrowing contracts take advantage of local information and social assets. The concept of joint responsibility is very important, and members have a strong commitment to save. This informal financial approach

35 D Porteous, *Is Cinderella finally coming to the ball?: South African micro finance in broad perspective* (South Africa, FinMark Trust, 2001), pp. 1-3.

36 G Wilson, *Bank management* (Washington, Mckinsey and Co, 1996), pp. 15.

has succeeded in lowering the high unit costs associated with administering small savings or loan accounts. Social collateral mechanisms decrease the information costs associated with screening potential borrowers. The GB issues small loans that give the poor the means to grow crops and make crafts or start other businesses that can eventually sustain them. GB targeted the poor and low-income stratum and yet succeeded in achieving exceptionally high loan recovery. The GB has over two million borrowers, 95 per cent of whom are women who receive small loans amounting to $30-40 million per month, with repayment rates averaging 98 per cent (Morduch, 1999)[37]. Grameen Bank today is the focal point and benchmark of a global network of institutions which provide micro credit in an attempt to fight poverty, empower the poor and attain further development in a sustainable way. The best practices of solidarity group lending in Bangladesh form the basis for analysis in different countries. Rural banks were established in Indonesia and none had a status imposed or controlled by the central bank. Member banks organised their own funds transfers and training programmes, and some networks adopted an approach such as the network of rural Islamic banks, which focused on savings mobilisation. A substantial share of the savings they attract is deposited in long-term accounts. The network structure made it possible to optimise supervision and monitoring efforts and achieve economies of scale with respect to training and technical support services. These rural banks systematically disburse approximately 80 per cent of their assets in the form of loans and have expanded the financial market by offering credit (Wilson, 1996).[38]

The Kenya Rural Enterprise Programme (K-Rep) was established in 1984, and in 1987 it became a non-governmental organisation working in both rural and urban areas. The purpose of K-Rep was to facilitate poverty alleviation by developing mechanisms and institutions that enable poor people to organise their lives financially. Groups co-guarantee repayment mechanisms. If a member defaults, they forfeit all savings, inclusive of interest earned. If the borrower has insufficient funds, the group to which he or she belongs forfeits an equivalent amount of its savings. If this is still insufficient, the member's pledged items are sold to recover the loan. Kenya was influenced by the experiences of banks in Latin America, India, the Grameen Bank in Bangladesh, and other countries, on specific credit mechanisms which led to the development of loan products like *juhudi*, which means determination.

37 J Morduch, "The Microfinance Promise…" , *Journal of Economic Literature*, 37(4), 1999, pp. 1569-1614.
38 G Wilson, *Bank management* …, pp. 15.

This product is a decentralised group lending method where groups hold compulsory weekly group meetings regarding financial matters such as credit and savings. The *chikola*, which means merry-go-round, was introduced in 1991. It blends the concept of the lending methodology of the indigenous rotating savings and credit clubs, with that of the Grameen Bank. Groups where members operate small to micro-enterprises must be at least one year old. Monthly group meetings are held regularly. Groups operate a joint bank account with a minimum balance equivalent to 10 per cent of the loan amount to be borrowed. Money is lent to individual members to develop their businesses and cater for other needs and the group is collectively responsible for the performance and repayment of the loan. Loan duration in this regard is one year and over (Kenya Rural Enterprise Programme Group, undated on-line).[39] The *kati kati*, which means moderate, is another mechanism in group lending and caters for moderate credit needs open to the general public. A group of between five and 10 members from one locality and with a common need must be registered and operate a small enterprise and must be willing to open a K-Rep Bank account. A group must contribute regular savings to the account. Weekly meetings are attended for a certain period, and, thereafter, monthly attendance of such meetings is compulsory.

In Ghana, perceptions of high risk, high cost, low returns and asymmetric information turn banks away from serving the rural poor communities (Embassy of Ghana, undated on-line).[40] However, to deal with these uncertainties, the rural banks which operate as the semi-informal financial sector manage high proportions of rural credit and savings. The rural banks are public companies owned by communities with capitalisation assistance from the Bank of Ghana (BOG), registered and licensed as unit banks under the provisions of the Banking Law, which accommodates a tiered structure of licensed financial intermediaries and of financial regulation. These rural banks are decentralised and founded on a human rather than physical structure and operate in a clearly defined rural area, providing facilities for the rural communities in which they are located. One of their notable principles is that these banks are owned and managed by local residents and are permitted to offer banking services limited to loans and to checking savings accounts and time deposits. Their ownership and voting control structures resemble credit

39 Kenya Rural Enterprise Programme Group, undated (available at http://www.k-rep.org/bank.asp, as accessed on 3 February 2006), pp. 2-3.

40 Embassy of Ghana, "Financial institutions in Ghana", undated (available at http://www.ghana-embassy.org/financial-institutions.htm, as accessed on 7 February 2006), pp. 1-2.

unions and savings and credit cooperatives because of their one-share-one-vote structure. These banks are characterised by easy access, flexibility in loan use, rapid processing, flexibility in interest rates and collateral requirements. The rural banks operate as informal financial agents such as the *bank-susu* collectors who mobilise savings from community groups, i.e., the *susu* groups or rotating credit and savings associations, or friends and relatives. The *susu* collectors in Ghana are unusual in having an apex organisation to represent them. They run their businesses from kiosks located in the market place and act as mobile bankers (Jones *et al*, 2000).[41] The success of their system is their ability to take deposits that are often low but of regular value, on a daily basis from community groups over the course of a month, after which the accumulated savings are returned to the group, but one day's savings are kept as commission. As savings collectors, these banks in Ghana are characterised by a large client base, large individual deposits, and a high annual aggregate value of deposits. The banks also advance loans to their regular depositors which are usually of low value, very short term (less than one month) and which are provided on an interest-free basis without collateral and are disbursed immediately (Jones *et al* 2000).[42]

This principle deals with the problem of asymmetric information because business is conducted with regular and known clients. Further successes in Ghana lie in the linkages between the rural bankers and formal banks which comprise complementarity between them, among activities or different clients in the same activity, or wider interaction such as through savings or credit across types. In terms of complementarity, the scale of activities and position in the enterprise life-cycle are important determinants of sources of credit preferred and to a lesser extent, of deposit-making. Those clients with substantial capital assets tend to use the widest variety of credit sources but mainly save with formal banks. Some significant wider linkages are frequent and regular, e.g. traders depositing liquid funds with the *susu* collectors who ultimately deposit the mobilised savings in formal banks. These linkages offer the rural banks the potential for reaching additional and marginalised rural clients.

The formal financial institutions in Sri Lanka have extensive outreach in both urban and rural areas. However, they have not tended to reach the poor

41 H Jones, O Sakyi-Dawson, N Harford, & A Sey, *Linking formal and informal financial intermediaries in Ghana: conditions for success and implications for the RNR development* (Ghana, Oversees Development Institute (ODI), 2000), pp. 45-46.

42 H Jones *et al*, *Linking formal and informal financial intermediaries*…, pp. 45-46.

and most low-income communities. The concern is lack of targeting, where institutions do not specifically target the poor communities (Sri Lanka, undated on-line).[43] Additionally, uncertainty was the core reason for not extending credit to these communities: for example, high interest rates, administrative costs as well as operational costs are said to be contributing factors to the inaccessibility of such credit. Even some government micro lending programmes did not target these marginalised communities and also did not operate on a sustainable basis. Sri Lanka, therefore, started to implement a financial system for the poor based on principles derived from different credit and savings cultures and adequate support services, in order to improve access to credit and savings (Sri Lanka, undated on-line).[44] According to Johnson and Rogaly (1997, Sri Lanka, undated on-line)[45], a formal sector bank in Sri Lanka, the Hatton National Bank, introduced an innovative micro lending programme in 1989. It is based on the concept of 'barefoot banking', where credit and savings are taken to low-income and poor people through linkages between the bank and the rural community, with most banking transactions carried out in the village rather than at a bank branch. The bank's success lies in the regular mobilisation of savings from the community groups. The bank officers and community groups hold meetings weekly or monthly to collect money. In addition, the bank has a linkage programme for lending to these communities. The accumulated savings serve as collateral for the loans and this reduces uncertainty, as the bank is sure to recover its costs. Furthermore, the effectiveness of 'barefoot banking' is that bank staff take banking services to people in their homes and work with NGOs to make links to groups of micro-entrepreneurs, relying on NGOs to address social needs.

In Thailand, as in many developing countries, uncertainty is regarded as the main contributing factor to inaccessibility of credit by poor and low-income households. Banks usually consider the poor as undesirable clients because the administrative costs of granting small loans are high and these groups lack collateral or loan guarantors. The risk of default is thus high. During the 1970s, organisations in Thailand started to be concerned with the socio-economic development of poor communities and also adapted the traditional model of peer group lending programmes to meet the financial needs of these communities. Communities, and especially women, form

43 Sri Lanka, "Getting the framework right", undated (available at, http://www.bwtp.org/Publications/pub/Appenditure.htm, as accessed on 6 February 2006), pp. 5-7.

44 Sri Lanka, "Getting the framework right... ", as accessed on 6 Feb. 2006, pp. 5-7.

45 S Johnson and B Rogaly, *Microfinance and Poverty Reduction* (London, Oxfam and Action Aid 1997); Sri Lanka, "Getting the framework right... ", as accessed on 6 February 2006, pp. 5-7.

groups usually based on a common background and meet regularly (weekly or monthly) to pool savings. In Thailand, certain organisations and the government, together with the banks, started to establish systems to link with the community groups, and identified a local agency that could manage the loan and savings accounts. These agencies include commercial banks, credit unions, and NGOs. Tucker (2002)[46] emphasised that state-owned banks that were developed in Thailand, implemented many micro and small business loan programmes to small enterprises.

To deal with the problem of uncertainty and the lack of access to formal credit, the Self Employed Women's Association (SEWA) was established in India. Members initially raised the issue of their need for credit so as to free them from the clutches of moneylenders and traders, to enhance their businesses, build up assets in their own names for their children's education and for several emergencies which they might face, including illness, and for many other purposes. Recognising the need for financial support, SEWA has helped women to take a number of initiatives. The rural bank provides financial services in a decentralised and affordable manner. This is based on joint liability guarantee arrangements, relying on the relationships among members to apply pressure to repay loans, since all loans are a shared responsibility. The bank is owned by the women themselves, as shareholders. Policies are formulated by their own elected board of women workers. The bank is professionally run by qualified managers who are accountable to the board.

Historically based parameters for successful micro lending best practices in South Africa

This article assumes the existing norms and rules of the game (peer review and punishment in group lending) as given (see Chick 1993)[47] and instead tries to identify the common genotype, the principal factors (referred to only principles in the rest of the paper) that ensure the attracting of specific behaviour, or mean behaviour, that will ensure success and sustainability in a model of credit extension. By following these rules of the game (acting in accordance with the model of minimalist solidarity group lending), in a game or model bound (parameterised) by these principal factors, an environment is

46 B Tucker, "Heed South Africa's experience", in *Nation*, (Thailand, EBSCO Publishing, 2002).
47 V Chick, "The evolution of the banking system …", *Economies et Societies*, 3, 1986, pp. 33-46.

structured that ensures an economic rationale for continued solidarity.

In the following sub-sections, we analyse attempts to determine the factorial basis needed for a strategy to make existing stokvels a social technology in South Africa as sustainable, productive and economically viable institutions within the finance industry. The environment for stokvels, therefore, has to be actively constituted and maintained to ensure parsimonious behaviour in this industry. In view of the narrative above, we attempt to identify and isolate the factors fundamental to a common constant or genotype – a constituent of factors or principles that bind and condition the long-term successful operation of the minimalist solidarity group lending model as a viable economic institution in practice.

From the narrative or descriptive data it seems that norms and rules create trust in the relationships between members of a solidarity group that can be used to ascertain predictable outcomes, individual gain and smooth consumption, encourage risk aversive behaviour and assure collective gain, instead of using formal financial structures and mechanisms to transform uncertainty about the future. It is hypothesised in this article that mutuality (cohesion and solidarity) among members, no matter the social technologies (norms and rules) involved, needs certain structured principal factors, or a constant of factors, to attract mean behaviour. This type of structure is critical to mechanisms which have to support the mutualism needed for ensuring specific risk by specific behaviour (to act in terms of the norms and rules) in transactions between members. Predictable behaviour makes it possible to hedge specific risk at no cost, smooth consumption and share scarce resources in a way that makes it possible for members to prosper economically, for development to be sustainable and for the poor to be assimilated into the formal sector of the capitalist system, as seen in the factual database. Social technology, moulded by and founded upon these strategic principles, ensures an environment of continued trust and adherence to the rules of the game that result in predictable behaviour. The predictable behaviour of members in transactions within the group transforms uncertainty about the future into, at least, a stochastic determinable future or risk. The principal factors further facilitate ongoing coordination and cooperation between members (cohesion and solidarity) for continuing long-run individual and mutual benefit, and living by, rather than obeying, the norms and rules of the game.

The identification of a common genotype of principles to act as a framework on which the social technology of solidarity group lending has to be planned

(molded and founded) to support and sustain the mutuality principle is essential to make the implementation of this lending technology efficient. The purpose of this article is to determine, from the analysis of factual data on international best practice of solidarity group lending, the common principles, or system of principles, or constant needed to make the solidarity group lending technology a sustainable mutuality model on which to base mechanisms to extend credit to the poor. This genotype, or constant of principles, can then be used by government as a constituent structure in which existing mechanisms can be founded to support access for the poor to low-cost credit in South Africa in a sustainable way.

Social foundation

The social factor seems to form the matrix in which every development of an environment of trust is embedded and bound, with economics only reaping benefits from the external. As in the previous narrative, poor households in South Africa use local informal credit in dealing with social and domestic emergencies through socialisation (social relations rather than marketing or priced relations) where informal savings (insurance) are regarded as a point of departure. The spontaneous origin, development and existence of these informal networks and the high propensity to save for precautionary purposes provide fertile ground for a system that minimises costs. This minimalist solidarity group lending model, where informal networks are used to access credit and savings, shows that lending and borrowing are relationship-based and loyalty, trust and reputation play an important role among the poor communities. Socialisation is fundamental in constituting and maintaining mutuality because of the mutuality (commonality) that is needed to develop a network of trust and reciprocity for improving neighbourhoods or investments in social relations, by individuals or groups. It also shapes their capacity to work together to access credit through weekly or monthly financial contributions which are first accumulated as savings and then lent to a group member who is experiencing financial constraints. The purpose of weekly or monthly meetings held by members is to reinforce mutuality (for instance the formal annual meetings of health funds with their members) that helps to improve social connections where members are experiencing vulnerabilities, screening each other and inspiring performance. These social connections take advantage of members' desire to value their reputation and protect their loyalty and trust. None of them wants to be viewed by others

as irresponsible and their mutuality binds them together and improves their joint commitment to the smooth running of their financial activities.

This helps to manage risk and uncertainty, as the members provide mutual motivation to take precautions and save, which then makes it possible for them to access credit and to maintain reputation and trust. The pooling of social capital seems to be important in dealing with uncertainty and specific risk and may also be used as a pool of social capital (social securitisation) to secure group credit. These efforts and the operation of community groups in harnessing and pooling social capital should be taken into consideration, and conditions under which precautionary savings are mobilised and credit extended have to be restructured to meet the increasing need for credit in South Africa. The development of credit instruments has to take into consideration the already existing and developed social capital in poor communities, rather than creating artificial socialisation drivers, like banks, without much success.

Social capital in collateral

The adoption of effective collateral substitutes is necessary in dealing with uncertainty. Lenders need a system in which claims against assets can be created, established and enforced, and the more efficient this process, the more willing lenders will be to enter into contracts with borrowers. It is clear that poor households do not have liquid assets and are, because of this, not in a position to provide collateral. In South Africa, as in India, Indonesia and Bangladesh, for example, the pooling of social capital is a way of ensuring knowledge and information for members. This is making the need for liquid assets as collateral obsolete. Comprehensive and near-complete information on the creditworthiness of borrowers prevails in a group. Collateral substitution based on social capital can be sustained by peer pressure and peer monitoring, and can even be used as a substitute for formal collateral, as seen in the narrative of data on informal lending. These have been shown to be effective collateral substitutes because peer pressure is exerted on each group member to repay the loans and defaulting becomes minimal. The lender will possess the information and knowledge that permits accurate predictions to be made about the risk status of a borrower as part of a group rather than as an individual. The allocation of resources, or provision of credit, is facilitated with a great deal of certainty on what the future performance of the individual in the group context is going to be.

The concepts of uncertainty and unpredictability are rarely thought about, as lending and borrowing occurs in a situation where the probability relation in the group context is known. Therefore, incomplete information is not as prominent at group level as in the case of an individual in the formal financial sector. It is evident in the countries discussed above that these informal or solidarity groups have been effective in ensuring that individual loans are being repaid. This partly dispels the notion that the poor are unable to repay loans. This may be true only in the case of some individuals.

Decentralisation in institutions and instruments

Frameworks have to support existing mutualisms by minimising free-riding and legal loopholes. Decentralisation of credit includes creating by-laws, a process which asks members to determine how often they will meet to collect payments, which can receive a loan, how loan requests will be approved, and what happens if a member is late in making a loan payment or misses many meetings. These by-laws form the constitutions of the solidarity groups and the more formal village banks. The specific decentralised constitution or rules governing informal stokvels in poor communities have proven to be effective in dealing with irreducible uncertainty in the provision of credit. It is a custom or norm in the poor communities in South Africa that stokvel group members attend regular meetings at their various stokvels to discuss important matters relating to credit and savings. These meetings continue to take place at centres and village banks. These rules or constitutions, according to which groups operate, are formulated by the group members themselves. Stokvels are freely entered into and members are bound by free will to become part of a very specific community with its own constitution and objectives. In some cases, or in different communities where the level of education is low, the rules are memorised, whereas in others they are written down for the members to refer to. Because of personal relationships, trust and reputation among members, violation of the rules does not normally occur and this reduces the risk and uncertainty in financial transactions. These informal rules or constitutions should be taken into consideration when extending credit to the poor in a more formal environment.

Lessons can be learnt from the major achievements of financial institutions in the countries discussed above, in the context of improving the living standards of poor households who have been financially marginalised. Attention has to

be focused on the customising and non-discriminatory nature of any legal framework so that it does not conflict with existing and sometimes local practices and conventions already developed in the informal lending sector. Baydas *et al* (1997)[48] highlighted the aspect of language, for instance, and also pointed out that social and cultural barriers do not allow for easy relationships with non-familiar people and modern banking institutions. This is also true of the standardising of social relationships and social conventions in general. The government, as a policy-maker, therefore needs to understand the operation of informal stokvels in different communities and community groups, which seem better equipped to curb the uncertainty problem that hinders the extension of credit. The potential of the stokvel groups has to be considered by the government, which must ensure that legislative interventions nurture and support the stokvel groups. It is also important to pay attention to relations between solidarity groups, micro lending interventions and other existing anti-poverty programmes to prevent free-riding and racketeering, for instance.

Research that was conducted by Coetzee (1998)[49] on retail finance in the rural areas in South Africa found that the banks are failing in their role to provide formal commercial banking activities to all rural areas, and these banks do not seem to have the answer to improving access to credit by poor households. The banks concentrate on centralised standard instruments and products, rather than adopting a decentralised approach. This is even worse in the case of the new commercial banking models.

Solidarity groups, because of their decentralised nature, not only improve access to credit by the poor but also bring such credit products and instruments close to these marginalised households, resulting in very low transaction costs. In Ghana and Indonesia even more formal institutions use targeted credit to customise instruments and products. These formal low-cost banks are characterised by easy access, flexibility in loan use, rapid processing, flexibility in interest rates and collateral requirements. The way in which the banks operate is highly decentralised. Informal financial agents, such as the *bank-susu* collectors, i.e. the *susu* groups or rotating credit and savings associations, friends and relatives, mobilise savings from community groups. In Kenya, products like the *juhudi*, *chikola* and *kati kati* are developed and tailored to

48 MM Baydas, DH Graham & L Valenzuela, "Commercial banks in micro finance: New actors in the microfinance world", (USA, Houghton Mafflin Company., 1997), pp. 41-47.

49 G Coetzee, "Regulation and supervision of micro finance institutions: The experience in South Africa", (Pretoria, University of Pretoria, Department of Agricultural Economics, 1998).

the specific needs of the client (Johnson and Rogaly 1997)[50].

It is therefore important that financial products and instruments are decentralised and flexible. Products and instruments have to differentiate between target groups and in so doing, all levels of poor households will be able to take full precautions for specific risks (full insurance). Developing a specific low-cost credit for specific risk and needs will smooth consumption for the poor (Morduch 1999)[51].

Social infrastructure maintenance and development

Appropriate training in financial operations, ensuring an able social infrastructure, is another important principle to be considered. In South Africa, there is a lack of training and technical assistance in financial operations for poor people and procedures that exclude these very same households are used. Therefore, technical training in financial operations has to be provided in South Africa. In addition to training, a local partner (discussed above) who will communicate with community groups and the community groups themselves, as members of village banks, need appropriate training in order to improve the management of their own savings and loans operations. Although community members have the experience through stokvels in managing their own informal credit and savings, they still need relevant and appropriate training in this regard. Training programmes should be put in place to help the members develop skills to manage, supervise and monitor the solidarity group activities. Well-designed and structured training at relatively low cost can act as an accelerator of increased efficiency, higher self-esteem, poverty reduction and improved status within the poor communities. The poor would also acquire more and better survival skills that would help them to cope in times of crisis. Group lending in the Grameen Bank, for example, was built on strong investment in a group formation and substantial investment in recruiting low-cost, committed and well-trained staff, before lending began. None of these human capital investments have been strong in South African financial programmes (Morduch 1999)[52].

50 S Johnson and B Rogaly, *Microfinance and Poverty*..., pp. 5-7.
51 J Morduch, "The Microfinance Promise…" , *Journal of Economic Literature*, 37(4), 1999, pp. 1569-1614.
52 J Morduch, "The Microfinance Promise…" , *Journal of Economic Literature*, 37(4), 1999, pp. 1569-1614.

Conclusion

Banks, as we know today and as it has already been discussed in this article, have a long history that emerged from the Italian financiers in the twelfth century, primarily as savings institutions. As Chick (1993)[53] and Hicks (1967)[54] have also alluded to above, the theory of overcoming periods of extreme economic uncertainty follows the best monetary practice and reality in extreme uncertain economic environments. Theory cannot create the ideal reality when it comes to monetary institutions and practise in irreducible uncertain environments. To be successful in this, one has to use this existing social knowledge and follow what is practiced.

The formal banking system plays a pivotal role in the delivery of financial services, particularly credit. However, the delivery of credit to poor households in South Africa by the formal banking system is hampered by its modern nature and structure.

The poor people in South Africa and in various parts of the world have, with time, and in reaction to this inability of formal systems, developed self-insurance support mechanisms in the form of informal savings organizations. Since 1976, the formalisation of solidarity group lending became a successful mechanism of giving the poor access to much needed cash and credit. In light of this successful mechanism, the best international solidarity group lending practices were analysed in the article to determine the principles that underlie the successes of these practices.

Critical factors, the conditions that underlie and bind these successes, were identified and condensed into a genotype structure, or principal factors, to act as benchmark criteria to ascertain successful implementation of social technology or social mechanisms to extend credit to the poor households in South Africa. One common constant denominator that was identified in all best practices is the social embeddedness of these principles. These socially embedded principles, although necessary, are though neither complete nor sufficient conditions to ensure sustainable access to financial services. They can however be used as a prototype structure when trying to formalise solidarity group lending practices, like stokvels in South Africa, as sustainable channels and instruments for making and improving access to credit to the poor. Based

53 V Chick, "The evolution of the banking system and the theory of monetary policy …", Economies et Societies, 3, 1986, pp. 33-46.

54 JR Hicks, "Monetary theory and policy…, pp. 39-44.

on the findings, this article therefore recommends that the existing social technology in the form of stokvels be developed according to these principles to give the poor access to low-cost credit in South Africa.