Paper No.	Particulars
	SESSION – I
	Time: 10.30 – 12.00 *Regency Hall*
	THEME: **Monetary, Banking and Financial Policies–I**
	CHAIR: *Prof. Dr. Rudra P. Upadhyay Regmi*
	Tribhuvan University
4	**An Empirical Analysis of Default on Agriculture-Related Loans: Evidence from China**
	— *Lei Meng*
	East China University of Science and Technology, China
5	**Cost and Benefits of Deprived Sector Lending and Role of Financial Institutions**
	— *Sanjay Prasad Gorkhali*
	Integrated Development Associates, Nepal
6	**Innovative Economic Strategies Towards Financial Inclusive Growth**
	— *Nageswara Rao Dara*
	I-Star Development Group International, India
	SESSION REPORT

An Empirical Analysis of Default on Agriculture-Related Loans: Evidence from China

Zhichao Yin[*] and **Lei Meng**[**]

Abstract

This paper investigates agriculture-related loan default through analysing a large dataset from a leading state-owned bank in China. Using linear probability model and logit model we find that the default rate on agriculture-related loans was significantly higher than that on non-agriculture-related loans. We also find that base interest rates, loan maturity, type of guarantee, size of the firm, ownership structure, and managerial quality rating have significant impact on agriculture-related loan default. The findings inform the design of agriculture-related loan contracts and the credit risk management of borrowers from the agriculture-related sector. The results also provide insight into the impact of macroeconomic policies on agriculture-related lending.

Keywords: agriculture-related loan, default, loan contract, credit risk

ACKNOWLEDGEMENT

The authors are grateful to Owain ap Gwilym and Rasha Alsakka of Bangor University, Jose Manuel Varas of Moody's, Jun Liu of University of California at San Diego, Philip Dybvig of Washington University at St. Louis, Li Gan of Texas A&M University, Shengping Zhang of Pekin

[*] School of Finance, Southwestern University of Finance and Economics, Chengdu, China

[**] Department of Finance, School of Business, East China University of Science and Technology, Shanghai, China, Email: leimeng@ecust.edu.cn

University, the participants of 2011 China International Conference for Finance and Chinese Economist Society 2011 Annual Conference for their useful comments.

With rapid economic growth and industrialisation, the gap in terms of wealth, infrastructure and public services between the urban areas and rural areas in China is growing wider. Given the rural population and the implications of underdeveloped rural areas for social stability, the Chinese government has been giving attention as well as priority to the development of rural areas, food security and improving the income of the rural population (so called San Nong).[1] One of the most influential policies is to encourage financial institutions to expand their lending to agriculture-related sectors. As a result, agriculture-related loans are pivotal to rural development in China. The motivations of investigating the determinants of default on agriculture-related loans are the follow. First, the size of agriculture-related loans is gigantic in the Chinese fixed income market. By the end of September 2010, the outstanding amount of agriculture-related loans stood at RMB 11.13 trillion (USD 1.75 trillion), which accounted for 22.7% of all the outstanding loans in China.[2] These figures are even more impressive when bank lending has traditionally played a dominant role in the credit market in comparison to corporate bond issuance, i.e. in 2010 the amount of bank loans was RMB 50.92 trillion (USD 8.02 trillion) while that of corporate bond issuance was merely RMB 0.36 trillion (USD 0.06 trillion). Second, as the size of the agriculture-related loan market grows, attention has been attracted to the quality of this asset class. Due to the characteristics of the agricultural sector and the underdevelopment of rural areas in China, agriculture-related loans involve higher costs, longer period and higher risks compared to bank lending in other sectors. Third, as a result of the previous point, subsidies are injected into the market to encourage financial institution to engage in agriculture-related loans.[3] This brings an issue of efficiency, i.e. whether the credit risk on agriculture-related loans is fully understood and well managed by Chinese financial institutions is a concern of the policy makers and is critical to the sustainable development of this market. Fourth, the existing literature on loan default involves determinants of default, the effect of collateral on default etc. There is a dearth of literature that focuses on sector-specific credit quality of loans, in particular loans from Chinese banks. Finally, in an era of high volatility of agricultural products, this study of one of the biggest agricultural producers is also of general interest to the world community in terms of managing food supply and food security.[4]

This paper contributes to the literature by filling in the void of studies dedicated to bank lending in the agricultural sector. The findings will provide insight into the credit quality of agriculture-related loans which is critical to the business operation of financial institutions, and inform policy makers of the sustainability of funding to San Nong-related policies through the financial sector and of the implications of such loans for financial stability. The organisation of this paper is as follow: the second section reviews the literature related to loan default, the third section

presents the methodology and data, the fourth section interprets the results on the default of agriculture-related loans relative to other types of loan, the fifth section contains robustness tests for the previous section, the sixth section analyses the determinants of agriculture-related loan default, and the seventh section concludes.

Literature review

Campbell and Dietrich [1983] investigate the US bank loan data and find concurrent payment/revenue ratio, loan value ratio, unemployment rate, loan maturity and initial loan value ratio have significant influence on loan default rate. Berger and De Young [1997] use Granger causality test and find that when a bank's capital decreases the amount of bad loans increases, and there is a bilateral intertemporal relationship between the quality of loans and cost efficiency. In addition, cost efficiency is one of the most important factors for predicting bad loans and failing banks.

Elsas and Krahnen [1998] argue that the credit risk on corporations is greater than that on non-corporations, i.e. partnership and sole proprietors involve less moral hazard. Berger and De Young [2001, 2006] suggest that geographic distance increases the costs of information collection and monitoring such that loan default rate increases with the distance between the borrower and the lender. Jiménez and Saurina [2004] analyse more than three million individual loans in Spain between 1988 and 2000 and find that the default rate on collateralised loans was higher than those without. They also find that savings banks tend to extend loans with higher credit risk and closer banking relationship between banks and firms increases banks' risk taking.

Landier, Nair and Wulf [2005] find that information-based loan lending model can reduce the inefficiency caused by geographic distance, and lenders who use credit scoring models face lower default rate. Conversely, Rossi [1998] and Flannery and Samolyk [2006] find that automated lending model displayed economy of scale and lending at the breakeven point of credit rating models would lead to higher default rate. De Young, Glennon and Nigro [2008] find that longer distance and lower credit ratings lead to higher probability of default. Jiménez and Saurina [2009] find that default rates are highly correlated to economic cycles. In addition, the credit losses on manufacturing, construction, consumer and collateralised loans are generally higher.

Many studies focus on the impact of collaterals on default rate. Stigliz and Weiss [1981] and Chan, Greenbaum and Thakor [1987] argued that banks' requirement for collaterals when making loans reduces the adverse selection problem, which in turn leads to lower default rate. Aghion and Bolton [1992] and La Porta et al. [1998] according to creditability threats theory suggest that collaterals are effective tools to guarantee borrowers' good behaviour.

Smith and Warner [1979] suggest that moral hazard as the determinant of using collateral in loan lending, i.e. collateralised debt prevents the borrower from asset replacement and occupying funds from project financing. Chan and Kanatas [1985] consider the situation in which the borrower cannot act in a way to change the returns of the lender, i.e. in a perfectly competitive risk neutral credit market with no moral hazard. When the creditworthiness of the lender and the borrower is identical, there is no need for collateral. Besanko and Thakor [1987], Bolton and Scharfstein [1996], Manove, Padilla and Pagano [2001] argue that when firms use external assets as collateral banks can obtain repayment on default. This affects borrowers' motivation of tactic default and reduces adverse selection. The collateral can be a substitute for the determinant of the quality of the project to be financed. Jiménez and Saurina [2004] also find a negative relationship between the quality of collaterals and the credit risk of borrowers.

Other studies find a close relationship between the requirement of collateral and high credit risk in lending. Empirical research shows that collateralised loans face higher risk. To some extent, they are called high default probability loans (see also Orgler [1970] and Hester [1979]), in other words these loans have higher risk premium (see also Berger and Udell [1990], Booth [1992], Booth and Chua [2006] and Angbazo, Mein and Sanders [1998]). However, these studies are limited to the US loan market.

Igawa and Kanatas [1990] suggest that in a prior information asymmetric credit market collaterals will not only lead to the approval of borrowers' application for loans but also lead to moral hazard when borrowers use them. Freund et al. [1998] argue that the collateral-based lending model leads to credit crisis.

Manove and Padilla [1999, 2001] think that the more collaterals the worse the quality of loans (ex-post credit risk), and the higher the default rate. First, when banks receive guarantee for loans they will have less motivation to filter out potentially problematic borrowers and loans. Second, optimistic entrepreneurs usually underestimate their probability of bankruptcy and therefore are willing to provide any collateral that is required for obtaining the funding.

Methodology and data

The primary model of this paper is as follow:

$$\Pr(Default = 1) = \alpha Agriloan + \beta X + \mu \quad (1)$$

Where: Default is a binary variable which takes the value of 0 when the loan is normal and takes the value of 1 if the loan goes bad (see Data and variables for the definition of a bad loan or default). Agriloan is a dummy variable that take the value of 1 when the loan is agriculture-related and 0 otherwise. Due to the higher credit risk involving in agriculture-related lending, the

coefficient is expected to bear a positive sign. X contains the control variables, and u is a residual term. We use linear probability model (LPM) and logit model to estimate Eq(1). Considering that credit quality is a discrete variable, we also use multinomial logit model and ordered logit model to estimate Eq(1).[5]

To further investigate the determinants of agriculture-related loan default, we use the following model to estimate a sub-sample of agriculture-related loans only:

$$\Pr(Default = 1) = \alpha Contract + \beta Firm + \gamma Year + \mu \quad (2)$$

Where: Contract contains variables related to loan contract specific information, Firm contains variables related to firm-specific information, Year represents the year dummy variables.

The dataset used in this paper is from a leading state-owned bank in China, which contains corporate loan data from 2002 to 2009. To avoid sample selection problem, we exclude the loans that were made during this period but would mature after 2009. In the dataset, the measure of default is the five categories of loan quality, i.e. normal, concern, subprime, suspicious and loss. According to industrial practice, the latter three categories are usually classified as bad loans. Therefore, we introduce a binary variable which takes the value of 1 if the loan is subprime, suspicious or loss, and 0 otherwise. To check the sensitivity of the results to the choice of default, we use the method from Ping and Yang [2009], i.e. we reclassifying bad loans to include the 'concern' category as well.

Agriculture-related loans are defined according to three criteria (see also Appendix 1-3). The first criterion is set by the People's Bank of China, the second criterion is the international standard classification of loan investment, while the third criterion is the Chinese domestic classification of loan investment. Due to the broad coverage of the criterion of People's Bank of China, it is widely used in the Chinese banking industry. We adopt this criterion to classify agriculture-related loans. The other two criteria are used for checking the sensitivity of the results to the choice of agriculture-related loan classification.

The loan contract information variables include maturity, amount, repayment method, type of guarantee and interest rates. Maturity includes short-term, medium-term and long-term. We introduce two dummies on the maturity of loans, i.e. the first one takes the value of 1 if the loan is medium-term and 0 otherwise, another takes the value of 1 if the loan is long-term and 0 otherwise. We use the log of the loan amount as a quantitative variable to measure the size of the loan. The interest rates on loans are calibrated by two variables, i.e. the log of the base interest rate and the log of the range of loan-specific interest rate fluctuation. The repayment methods are bullet payment at maturity, periodic interest payment plus principal at maturity, customised periodic

repayment, and standard periodic payment. Type of guarantee includes unsecured, guaranteed, collateralised, pledged and discounted notes.

To examine the effect of firm-specific characteristics on the quality of loans, we control for the ownership structure, i.e. state-owned enterprises, collectively-owned enterprises, stock cooperative enterprises, associated enterprises, limited liability companies, corporation, private enterprises, Hong Kong, Macau and Taiwanese enterprises, foreign enterprises, and other enterprises (including for example sole proprietor and partnership). Managerial quality rating includes four categories, i.e. excellent, average, restricted and knockout.

We control for the size of the firm by classifying firms into mega-, large-, medium-, and small-sized. To control the impact of macroeconomic factors and time trend, we introduce year dummies and district dummies.

Prior to the economic analyses, we conduct a descriptive analysis of the characteristics of loan default in the dataset. According to Exhibit 1, the default rate of non agriculture-related loan is 6.38%, while that of agriculture-related loans stands much higher at 11.6%. To further analyse the default on agriculture-related and non agriculture-related loans, we stratify these two types of loans by their credit quality category (see Exhibit 2). While the proportion of non agriculture-related loans with normal status is higher than that of agriculture-related loans (81.6% vs. 75.84%), the proportions of non agriculture-related loans with lower credit quality status are lower than those of agriculture-related loans, i.e. for concerned status (12.02% vs. 12.56%), for subprime status (2.33% vs. 2.52%), for suspicious status (2.72% vs. 4.99%) and for loss status (1.33% vs. 4.1%).

Default on agriculture-related loans

The results presented in Exhibit 3 are based on People's Bank of China's definition of agriculture-related loans. Exhibit 3 shows that by Eq(1) in LPM with cluster-adjusted standard error there is a very significant positive relationship between being agriculture-related and default, i.e. agriculture-related loans are more likely to result in default. This is consistent with the concern from financial institutions regarding the risk in lending to agriculture-related business.

Regarding firm-specific characteristics, the medium- and long-term loans are more likely to default than short-term loans. This is consistent with the theories and previous empirical studies, e.g. Campbell and Dietrich [1983]. In addition, this effect is much stronger when logit model is used for estimation. Base interest rate has a positive relationship with default in logit estimation, i.e. when loans are granted during high interest rates period they are more likely to end up in default. In LPM, loan-specific interest rate fluctuation has a positive relationship with loan default, i.e. big loan-specific interest rate adjustments are associated with reduced ability to repay.

However, this effect is statistically weak and is not found in logit estimation. Logit model shows a positive relationship between the amount of loan and default is found, i.e. the bigger the size of the loan the more likely the default. However, this relationship is statistically weak and not found in logit estimation. One would expect bullet payment more risky than periodic repayment since for the former all the cash flows occur at maturity. In our sample, repayment methods do not have significant impact on loan default. Type of guarantee has significant influence on default, i.e. unsecured loans have on average lower default rate than those that have guarantee and collateral. This supports Smith and Warner's [1979] theory and is consistent with Jiménez and Saurina's [2009] empirical findings. Logit model shows that loans backed by discount notes have much smaller chances of default.

Managerial quality has significant impact on loan default, i.e. in comparison to firms rated excellent, average and restricted, those with knockout rating are more likely to default. This finding is intuitive, i.e. low quality management could make inferior decisions that could lead to the failure of the firm. The effect of firm size on loan default is remarkable, i.e. while mega-sized firms contribute to more default, large- to medium- firms are less likely to default. Regarding ownership structure of firm, state-owned enterprises and collectively-owned enterprises are more likely to default. In logit estimation, stock cooperative, limited liability and private firms are less likely to default.

The year dummies show that the default of loans increased from 2005 to 2007 then dropped modestly in 2008. In general, loans granted in 2007 and 2008 are much more likely to result in default than those granted in other years. This phenomenon may naturally be linked to the global financial crisis triggered by subprime mortgage-back securities, however in this paper we do not investigate the causality between the two. The main idea of the year dummies is to absorb macroeconomic factors that are not included in our control variables.

Alternative definitions of agriculture-related loans and default

The results in Exhibit 4 are based on the definition of agriculture-related loans by the international standard classification of loan investment and by the Chinese domestic classification of loan investment. When the Chinese domestic classification of loan investment is used, there is a positive relationship between the loan being agriculture-related and default. This positive relationship is not statistically significant when the international standard classification of loan investment is applied. This may suggest that agriculture-related sectors may have country-specific characteristics and a universal international standard may not be applicable to each country. Compared to People's Bank of China's classification, the alternative definitions lead to insignificant relationship between interest rates and loan default. Repayment method, type of guarantee, size of firm, ownership structure, management ratings and time have very similar effect

on loan default regardless of how agriculture-related loans are defined. In general, agriculture-related loans are more likely to result in default than non agriculture-related loans.

We use Ping and Yang [2009], i.e. redefining default to include loans with concerned status, to check the sensitivity of the results to the definition of loan default. Exhibit 5 shows that the agriculture-related loans consistently have higher default rate than non agriculture-related loans. Loan specific interest rate fluctuation has a much stronger positive effect on default than the previous definition of default. In addition, loans with any repayment method other than standard periodic payment would be more likely to result in default. Remarkably, the inception year of loans barely has effect on default when default is redefined.

Determinants of default on agriculture-related loans

To further investigate the determinants of default on agriculture-related loans, i.e. those related to the loan contract information and firm-specific characteristics, we run Eq(2) using the agriculture-related loan subsample.

Exhibit 6 shows the final results of step-wise regression.[6] Mid-term agriculture-related loans are more likely to result in default just like other types of loan in this maturity band. However, unlike other types of loan, long-term agriculture-related loans do not show significantly higher credit risk than their short-term counterpart. This could be due to the fact that the agriculture-related subsample does not encompass so many long-term loans because financial institutions engaged in agriculture-related lending do not wish to have prolonged exposure to a single entity. Therefore, in general, our analysis suggests that default increases with the maturity of the loan. There is no significant relationship between the amount of loan and default. This probably suggests that the weak positive effect of the loan amount found previously (see Exhibit 3 and Exhibit 4) when all types of loan are pooled together is due to non agriculture-related loans. For agriculture-related loans firm-specific characteristics, e.g. the size of the firm, may play more important role in determining credit risk. Like other types of loan, the higher the base interest rate when the agriculture-related loan is granted, the more likely this loan will end up in default. Consistent with other types of loan, the loan-specific interest rate fluctuation does not have significant impact on agriculture-related loan default. This is attributive to the vulnerability of the agriculture sector in China,[7] i.e. the resilience of agriculture-related loans to risk is low and macroeconomic shocks can precipitate the default of these loans.

Regarding loan contract specific information, repayment methods are excluded during the step-wise procedure due to their insignificance in explaining agriculture-related loan default. Type of guarantee has similar effect on agriculture-related loans default as on other types of loan, i.e. guaranteed and collateralised loans are more likely to result in default. This suggests that the moral hazard issued when guarantee and collateral are introduced may contribute to the credit risk of

agriculture-related loans. However, since those backed by discounted notes have significantly reduced chances of default, the creditability of guarantors and the quality of collateral may also be deterministic for agriculture-related loan default.

With respect to firm-specific information, the size of firm, in comparison to small firms mega firms have significantly lower default rate, while large firms have higher default rate, medium firms do not have significantly different pattern in default. The behaviour of mega and large firms are the opposite of those granted non-agriculture-related loans. Managerial quality rating has significant effect on default, i.e. borrowers rated as 'excellent' have the lowest default rate, followed by 'average' borrowers and 'restricted' borrowers, and 'knockout' borrowers are the most likely to default. This is consistent with other types of loan. The negative relationship between being state-owned enterprises, collectively-owned enterprises, corporation, and foreign enterprises and default, is particular to agriculture-related loans. However, a thorough comparison of these ownership structures in the Chinese context would be way beyond the scope of this paper. The year dummies show a very divergent picture of agriculture-related loans compared to other loans, i.e. while in general loan default has an upward trend between 2005 and 2008, agriculture-related loans in particular display a downward trend between 2003 and 2008.

Conclusion

This paper investigates the default on agriculture-related loans in China. We find that agriculture-related loans are more likely to result in default than non agriculture-related loans after controlling for other factors. The only exception is when the international standard classification of loan investment is used. This may suggest that agriculture-related sectors may have country-specific characteristics and a universal international standard definition may not be applicable to each country. The alternative definition of default does not change the conclusion that agriculture-related loans are more likely to default than non agriculture-related loans. However, such redefinition of default would generally affect the influence of contract specific characteristics on default of all types of loans.

In the analysis of the determinants of agriculture-related loans, we find that default increases with the maturity. However, unlike other types of loan, long-term agriculture-related loans do not show significantly higher credit risk than their short-term counterpart. This could be due to the fact that the agriculture-related subsample does not encompass so many long-term loans because financial institutions engaged in agriculture-related lending do not wish to have prolonged exposure to a single entity. The higher the base interest rate when the agriculture-related loan is granted, the more likely this loan will end up in default. The loan-specific interest rate fluctuation does not have significant impact on agriculture-related loan default. These two findings may be attributive to the vulnerability of the agriculture sector in China,[7] i.e. the resilience of agriculture-related

loans to risk is low and macroeconomic shocks can precipitate the default of these loans. Guaranteed and collateralised agriculture-related loans are more likely to result in default. This suggests that the moral hazard issued when guarantee and collateral are introduced may contribute to the credit risk of agriculture-related loans. Firm-specific characteristics such as the size of firm, managerial quality of the borrower and the ownership structure also have significant influence on the default of agriculture-related loans. Remarkably, the agriculture-related loans in our sample show a downward trend in default between 2003 and 2008.

The findings confirm the concern from financial institutions that agriculture-related loans are generally more risky than non agriculture-related loans. Policy makers should pay more attention to the impact of macroeconomic policies, such as the base interest rates, on the systematic risk in the agriculture-related loan market. For financial institutions, borrower-specific risk characteristics ought to play an important role in lending decision while the design of loan contracts is also essential. The systematic study of the determinants of agriculture-related loan default fills the void of literature on the credit risk of loans from a sector that is critical to the fundamental wellbeing of the world population.

Endnotes:

1.This refers to the long-term policy of the Chinese government called ‘San Nong (三农)’. San Nong is the abbreviation of increasing agricultural production, increasing farmers’ income and developing rural area.

2. See ‘Top ten news on agricultural finance in China’, Financial Times, 6 January 2011.

3. See ‘30% growth in agriculture-related loans and the hidden danger in the subsidised model for growth’, The Economic Observer, 17 October 2011.

4. According to UN Food and Agricultural Organisation, China is the biggest producer of wheat, rice etc.

5. We draw the same conclusion from these two models, i.e. agriculture-related loans are more likely to result in default. Results can be produced on demand.

6. Logit model produces very similar results, which are not reported due to the length of the paper.

7. This refers to the losses due to the adverse weather, natural disasters, and the volatility of the prices of agricultural products.

REFERENCES

Aghion P., P. Bolton. “An Incomplete Contracts Approach to Financial Contracting.” Review of Economic Studies, 59 (1992), 473-494.

Angbazo, L.A., J. Mei, A. Saunders. “Credit Spreads in the Market for Highly Leveraged Transaction Loans.” Journal of Banking and Finance, 22 (1998), 1249-1282.

Berger, A.N., G.F. Udell. 1995. “Relationship Lending and Lines of Credit in Small Firm Finance.” Journal of Business, 68 (1995), 351-82.

Berger, A.N., R. DeYoung. “Problem Loans and Cost Efficiency in Commercial Banks.” Journal of Banking & Finance, 21 (1997), 849-870.

Berger, A.N., R. DeYoung. “The Effects of Geographic Expansion on Bank Efficiency.” Journal of Financial Services Research, 19 (2001), 163–184.

Berger, A.N., R. DeYoung. “Technological Progress and the Geographic Expansion of the Banking Industry.” Journal of Money, Credit and Banking, 38 (2006), 1483–1513.

Besanko, D., A.V. Thakor. “Collateral and Rationing: Sorting Equilibria in Monopolistic and Competitive Credit Markets.” International Economic Review, 28 (1987), 671-690.

Besanko, D., A.V. Thakor. 1987. Competitive Equilibria in the Credit Market under Asymmetric Information. Journal of Economic Theory, 42: 167–182.

Bester, H. “Screening vs. Rationing in Credit Markets with Imperfect Information.” American Economic Review, 75 (1985), 850–855.

Bolton, P., D. Scharfstein. “Optimal Debt Structure and the Number of Creditors.” Journal of Political Economy, 104 (1996), 1-25.

Booth, J.R., L. Chua. “Loan Collateral Decisions and Corporate Borrowing Costs.” Journal of Money, Credit, and Banking, 38 (2006), 67-90.

Campbell, T. S., J. K. Dietrich. The Determinants of Default on Insured Conventional Residential Mortgage Loans. Journal of Finance, 38 (1983), 1569-1581.

Chan, Y.S., G. Kanatas. “Asymmetric Valuations and the Role of Collateral in Loan Agreements.” Journal of Money, Credit and Banking, 17 (1985), 84-95.

Chan, Y.S., S.I. Greenbaum, A.V. Thakor. “Information Reusability, Competition and Bank Asset Quality.” Journal of Banking and Finance, 10 (1986), 255–276.

DeYoung, R., D. Glennon, P. Nigro. “Borrower–lender Distance, Credit Scoring, and Loan

Performance: Evidence from Informational-opaque Small Business Borrowers." Journal of Financial Intermediation, 17 (2008), 113–143.

Elsas, R., J.P. Krahnen. "Is Relationship Lending Special? Evidence from Credit-file Data in Germany." Journal of Banking and Finance, 22 (1998), 1283–1316.

Flannery, M., K. Samolyk. "Payday Lending: Assessing the Importance of Scale for Store Performance." Working paper, Federal Deposit Insurance Corporation, 2006.

Freund, J., T. Curry, P. Hirch and T Kelley. 1998. Commercial Real Estate and the Banking Crises of the 1980s and early 1990s. In: Hanc, G. (Ed.), History of the Eighties–Lessons for the Future. FDIC.

Hester, D.D. "Customer Relationships and Terms of Loans." Journal of Money, Credit, and Banking, 11 (1979), 349-357.

Igawa, K., G. Kanatas. "Asymmetric Information, Collateral, and Moral Hazard." Journal of Financial and Quantitative Analysis, 25(1900), 469-490.

Jiménez, G., J. Mencía. 2009. Modelling the Distribution of Credit losses with Observable and Latent Factors. Journal of Empirical Finance, 16 (2009), 235-253.

Jiménez, G., J. Saurina. "Collateral, Type of Lender and Relationship Banking as Determinants of Credit Risk." Journal of Banking & Finance, 28 (2004), 2191–2212.

La Porta, R., F. López-de-Silanes, F., A. Shleifer, R.W. Vishny. "Law and Finance." Journal of Political Economy, 106 (1998), 1113-1155.

Landier, A., V.B. Nair, J. Wulf. "Geographic Dispersion and Corporate Decision-making." Unpublished manuscript, 2006.

Liberti, J.M.. "How Does Organizational form Matter? Communication, Distance, and Soft Information." Unpublished manuscript, 2005.

Liu, B. "An Empirical Study of the Lending Behaviour of Banks." Doctoral Thesis, Beijing University, 2006.

Manove, M., A.J. Padilla. "Banking (conservatively) with optimists." Rand Journal of Economics, 30 (1999), 324–350.

Manove, M., A.J. Padilla, M. Pagano. "Collateral vs. Project Screening: A Model of Lazy Banks." Journal of Economics, 32 (2001), 726-744.

Orgler, Y.E. “A Credit Scoring Model for Commercial Loans.” Journal of Money, Credit, and Banking, 2 (1970), 435-445.

Ping, X.Q, M.Y. Yang. “Analysis of Information Asymmetry in the Credit Market: Empirical evidence from the Chinese Commercial Banking Sector” 3 (2009)

Rossi, C.V. “Mortgage Banking Cost Structure: Resolving an enigma.” Journal of Economics and Bus, 50 (1998), 219–234.

Scott, J.A. “Small Business and the Value of Community Financial Institutions.” Journal of Financial Services Research, 25 (2004), 207–230.

Smith, C.W., J. Warner. “On the Financial Contracting: An Analysis of Bond Covenants.” Journal of Financial Economics, 7 (1979), 117-161.

Stiglitz, J.E., A. Weiss. “Credit Rationing in Markets with Imperfect Information.” American Economic Review, 71 (1981), 393-410.

Yin, Z.C., L. Gan. “Information asymmetry, heterogeneity of firms and credit risk.” Working paper, Southwest University of Finance and Economics, Texas A&M University, 2011.

EXHIBIT 1. The characteristics of default on agriculture-related loans

	Non agriculture-related loans			Agriculture-related loans		
	Count	%	Cumulative %	Count	%	Cumulative %
Normal	95,777	93.62	93.62	11,561	88.4	88.4
Default	6,527	6.38	100	1,517	11.60	100
Total	102,304	100		13,078	100	

EXHIBIT 2. The quality of agriculture-related loans

	Non agriculture-related loans			Agriculture-related loans		
	Count	%	Cumulative %	Count	%	Cumulative %
Normal	83,475	81.60	81.60	9,918	75.84	75.84
Concerned	12,302	12.02	93.62	1,643	12.56	88.40
Subprime	2,384	2.33	95.95	329	2.52	90.92
Suspicious	2,778	2.72	98.67	652	4.99	95.90
Loss	1,365	1.33	100	536	4.10	100
Total	102,304	100		13,078	100	

EXHIBIT 3. Agriculture-related loans and credit risk

	(1) LPM	Standard error	(2) Logit	Standard error
Agriculture-related	0.024***	0.004	0.305***	0.057
Mid-term	0.076***	0.011	0.802***	0.113
Long-term	0.103*	0.053	1.501**	0.641
Base interest rate	0.003	0.008	0.770***	0.290
Interest rate fluctuation	0.064*	0.039	1.170	0.794
Amount	0.002	0.002	0.060*	0.031
Bullet payment – principal and interest	0.023	0.027	-0.131	0.523
Periodic interest payment, principal at maturity	0.042	0.027	0.333	0.516
Customised periodic payment	0.0415	0.030	0.143	0.532
Guaranteed	0.028***	0.010	-0.077	0.177
Collateralised	0.041***	0.009	0.095	0.162
Pledged	0.020*	0.011	-0.067	0.221
Discounted notes	-0.017	0.011	-4.536***	0.345
Excellent	-0.198***	0.018	-1.724***	0.133
Average	-0.183***	0.017	-0.923***	0.108
Restricted	-0.084***	0.020	-0.266**	0.105
Mega	0.085***	0.015	-0.327	1.231
Large	-0.021*	0.012	-0.713***	0.233
Medium	-0.025***	0.006	-0.349***	0.094
State-owned	0.024**	0.012	0.291*	0.163
Collectively owned	0.062***	0.017	0.573***	0.179
Stock cooperative	-0.010	0.013	-0.686***	0.232
Associated	0.006	0.021	0.027	0.324
Limited liability	-0.002	0.011	-0.318**	0.148
Corporation	0.010	0.010	0.146	0.142

Private	-0.004	0.010	-0.228*	0.130
Foreign	0.009	0.013	-0.186	0.170
Year03	0.007	0.006	0.164**	0.073
Year04	-0.003	0.007	-0.150	0.102
Year05	0.022***	0.007	0.472***	0.115
Year06	0.028***	0.007	0.571***	0.122
Year07	0.049***	0.008	1.629***	0.143
Year08	0.040***	0.009	1.570***	0.178
Constant	-0.113*	0.061	-5.758***	1.438
Observations	115,270		113,580	
R-squared	0.281			

Agriculture-related is a dummy that takes the value of 1 when the loan is agriculture-related and 0 otherwise; mid-term and long-term are dummies for loans with mid-term and long-term maturities respectively; interest rate fluctuation is the range of loan specific interest rate changes; amount is the log of the amount of the loan; bullet payment, periodic interest payment, principal at maturity and customised periodic payment are dummies for loans with these three methods of repayment; guaranteed, collateralised, pledged and discount notes are dummies for the types of collateral; excellent, average and restricted are dummies for borrowers with such managerial ratings; mega, large and medium are dummies for the size of the borrowers; state-owned, collectively-owned, stock cooperative, associated, limited liability, corporation, private, and foreign are dummies for the ownership structure of the borrowers. Cluster-adjusted standard errors are presented in parentheses.

EXHIBIT 4. Agriculture-related loans and credit risk – alternative definition of agriculture-related loan

	Domestic classification of economic sectors 1	International standard classification of sectors 2
Agriculture-related	0.020**	0.009
	(0.010)	(0.006)
Mid-term	0.076***	0.076***
	(0.011)	(0.011)
Long-term	0.112**	0.112**
	(0.053)	(0.054)
Base interest rate	0.004	0.004
	(0.008)	(0.008)
Interest rate fluctuation	0.060	0.059
	(0.037)	(0.037)
Amount	0.003*	0.003*
	(0.001)	(0.001)
Repayment method	Yes	Yes
Type of guarantee	Yes	Yes
Size	Yes	Yes
Ownership	Yes	Yes
Management	Yes	Yes
Year03	0.006	0.006
	(0.006)	(0.006)
Year04	-0.005	-0.005
	(0.007)	(0.007)
Year05	0.019**	0.019**
	(0.007)	(0.007)
Year06	0.026***	0.026***
	(0.007)	(0.007)
Year07	0.050***	0.050***
	(0.008)	(0.008)

Year08	0.044***	0.044***
	(0.009)	(0.009)
Constant	-0.201**	-0.199**
	(0.082)	(0.082)
Observations	115,319	115,319
R-squared	0.281	0.281

Agriculture-related is a dummy that takes the value of 1 when the loan is agriculture-related and 0 otherwise; mid-term and long-term are dummies for loans with mid-term and long-term maturities respectively; interest rate fluctuation is the range of loan specific interest rate changes; amount is the log of the amount of the loan; repayment method, type of guarantee, size, ownership and management are identical dummy variables as in Exhibit 3. Cluster-adjusted standard errors are presented in parentheses.

EXHIBIT 5. Agriculture-related loans and credit risk – alternative definition of default

	LPM	Standard error
Agriculture-related	0.017**	0.007
Mid-term	0.054***	0.015
Long-term	0.177***	0.067
Base interest rate	0.032*	0.018
Interest rate fluctuation	0.296***	0.067
Amount	0.008**	0.003
Bullet payment – principal and interest	0.095***	0.036
Periodic interest payment, principal at maturity	0.134***	0.036
Customised periodic payment	0.129***	0.042
Guaranteed	0.159***	0.022
Collateralised	0.205***	0.019
Pledged	0.071***	0.021
Discounted notes	-0.040*	0.021
Excellent	-0.266***	0.027
Average	-0.170***	0.025
Restricted	-0.076***	0.029
Mega	0.101***	0.030
Large	0.026	0.023
Medium	-0.004	0.013
State-owned	0.012	0.024
Collectively owned	0.022	0.026
Stock cooperative	-0.027	0.027
Associated	-0.011	0.044
Limited liability	-0.035	0.024
Corporation	-0.034	0.023
Private	-0.073***	0.022
Foreign	-0.058	0.035

Year03	0.016**	0.008
Year04	0.004	0.010
Year05	-0.006	0.011
Year06	-0.003	0.011
Year07	0.019	0.013
Year08	0.011	0.016
Constant	-0.806***	0.205
Observations	115,319	
R-squared	0.349	

Agriculture-related is a dummy that takes the value of 1 when the loan is agriculture-related and 0 otherwise; mid-term and long-term are dummies for loans with mid-term and long-term maturities respectively; interest rate fluctuation is the range of loan specific interest rate changes; amount is the log of the amount of the loan; bullet payment, periodic interest payment, principal at maturity and customised periodic payment are dummies for loans with these three methods of repayment; guaranteed, collateralised, pledged and discount notes are dummies for the types of collateral; excellent, average and restricted are dummies for borrowers with such managerial ratings; mega, large and medium are dummies for the size of the borrowers; state-owned, collectively-owned, stock cooperative, associated, limited liability, corporation, private, and foreign are dummies for the ownership structure of the borrowers. Cluster-adjusted standard errors are presented in parentheses.

EXHIBIT 6. Determinants of default on agriculture-related loans

	LPM	Standard error
Mid-term	0.118***	(0.020)
Long-term	0.150	(0.098)
Amount	-0.002	(0.002)
Base interest rate	0.041***	(0.015)
Interest rate fluctuation	0.023	(0.084)
Guaranteed	0.154***	(0.021)
Collateralised	0.171***	(0.019)
Pledged	0.025	(0.023)
Discounted notes	-0.114***	(0.019)
Mega	-0.090*	(0.047)
Large	0.066***	(0.015)
Medium	-0.003	(0.008)
Excellent	-0.477***	(0.014)
Average	-0.348***	(0.015)
Restricted	-0.132***	(0.020)
State-owned	-0.126***	(0.025)
Collectively owned	-0.178***	(0.029)
Stock cooperative	-0.185***	(0.027)
Associated	-0.085	(0.053)
Limited liability	-0.193***	(0.023)
Corporation	-0.193***	(0.023)
Private	-0.239***	(0.022)
Foreign	-0.242***	(0.030)
Year03	-0.092***	(0.017)
Year04	-0.175***	(0.015)
Year05	-0.172***	(0.014)
Year06	-0.188***	(0.014)

Year07	-0.168***	(0.014)
Year08	-0.205***	(0.128)
Constant	0.663***	(0.240)
Observations	12,978	
R-squared	0.343	

Mid-term and long-term are dummies for loans with mid-term and long-term maturities respectively; interest rate fluctuation is the range of loan specific interest rate changes; amount is the log of the amount of the loan; bullet payment, periodic interest payment, principal at maturity and customised periodic payment are dummies for loans with these three methods of repayment; guaranteed, collateralised, pledged and discount notes are dummies for the types of collateral; excellent, average and restricted are dummies for borrowers with such managerial ratings; mega, large and medium are dummies for the size of the borrowers; state-owned, collectively-owned, stock cooperative, associated, limited liability, corporation, private, and foreign are dummies for the ownership structure of the borrowers. Cluster-adjusted standard errors are presented in parentheses.

APPENDIX 1. Definition of agriculture-related loans – People's Bank of China Classification

Loan type code	Loan type
1111	Agriculture
1211	Forestry
1311	Livestock farming
1411	Fishing
1511	Service to agriculture, forestry, livestock farming and fishing
1611	Agricultural infrastructure
1621	Agricultural product processing
1631	Agricultural product export
1632	Circulation of other agricultural material
1641	Agricultural science and technology
1651	Rural area infrastructure
1661	Manufacturing of agricultural tools and equipments
1711	Other agriculture-related
1811	Particular non agriculture-related
2111	Agriculture - individual
2121	Forestry – individual
2131	Livestock farming - individual
2141	Fishing - individual
2151	Service to agriculture, forestry, livestock farming and fishing - individual
2161	Other individual agricultural activities
2211	Rural student loans
2221	Other rural consumer loans
9999	Other

APPENDIX 2. Definition of agriculture-related loans – China domestic classification

Loan type code	Loan type
A101	Agriculture
A102	Forestry
A103	Livestock farming
A104	Fishing
A105	Service to agriculture, forestry, livestock farming and fishing

APPENDIX 3. Definition of agriculture-related loans – International classification

Loan type code	Loan type
A011	Grains and other crops planting
A012	Vegetables and horticultural products planting
A013	Fruits, nuts, beverage and fragrance products planting
A014	Herbal medicine crops planting
A021	Trees planting and cultivation
A022	Timber and bamboo logging
A023	Forestry products collection
A031	Livestock breeding
A032	Pig breeding
A033	Poultry breeding
A034	Hunting
A039	Other livestock farming
A041	Sea fishing
A042	Inland fishing
A051	Services to agricultural sector
A052	Services to forestry sector
A053	Services to livestock farming industry
A054	Services to fishing industry

Costs and Benefits of Deprived Sector Lending and Role of Financial Institutions

Dr. Sanjay Prasad Gorkhali[*] with Assitance from Babina Shrestha[**]

Abstract

Despite its planned efforts towards poverty reduction, about a quarter of people in Nepal are still living below the absolute poverty line. With lack of access to financial services, most of these people are not able to break away from vicious circle of poverty. National and international experiences have shown that enabling people to have access to financial services has a positive correlation with their economic advancement. Accordingly, access to financial services among the poor households is expected to make significant contribution in enhancing their economic welfare. For enabling the poor population to have access to financial services, Nepal Rastra Bank has made it mandatory for financial institutions to set certain percentage of their total loan portfolio for the deprived sector under deprived sector lending (DSL) policy. Despite remarkable growth in the financial market in Nepal over the past two decades, including number of financial institutions, the demand for financial services from the deprived sector is yet to be met at satisfactory level. Due to high transaction costs and risk involved there has been a general perception that it is not viable for the large scale financial institutions i.e. commercial banks (CBs) to downscale themselves to reach the target sector. However, currently, there is an increasing trend among these banks to engage themselves in the sector through micro-finance institutions as intermediaries. Considering the existing domestic financial market and learning from the experiences of other developing countries, some CBs are trying to venture directly into micro lending. However, the financial and economic desirability of such venture is yet to be tested empirically. In this line, the present paper assesses costs and benefits of the deprived sector policy in economic advancement of rural areas in general, and poverty alleviation.

JEL classification: D61, E58, G21, P46

Key words: Poverty reduction, financial services, loan portfolio, deprived sector, transaction costs, financial institutions, micro finance institutions.

[*] Dr. Gorkhali is the Principal Associate at Integrated Development Associates (IDA), Post Box 21979, Patan Dhoka, Lalitpur, Nepal, Tel 5540890, Email – info@idanepal.com.

[**] Ms. Shrestha is the Program Associate at IDA, Integrated Development Associates (IDA), Post Box 21979, Patan Dhoka, Lalitpur, Nepal, Tel 5540890, Email – info@idanepal.com.

ACKNOWLEDGEMENTS

We are highly indebted to Dr. Rabindra Shakya, Senior Economist for his thoughtful comments for making the paper more meaningful. Similarly, we are grateful to Mr. T. R. Gautam, Chief Credit Officer, Nepal SBI Bank; Mr. Sashin Joshi, CEO, Nepal Industrial & Commercial Bank; Mr. Upendra Karki, Deputy GM, Agricultural Development Bank; Mr. H.P Kulkarni, Deputy General Manager, Everest Bank; Dr. Harihar Dev Pant, Executive Director, Nirdhan Utthan Bank; Mr. Kanhaiya B. Pradhan, CEO and his team at Sawablamban Laghubitta Bikash Bank; Mr. Anil Shah, CEO, Mega Bank; Mr. Ajay Shrestha, CEO, Bank of Kathmandu, and Mr. Shanker Man Shrestha, Rural Microfinance Development Centre (RMDC) for their time and thoughtful views which they have provided on the issue. Similarly, thanks goes to Mr. Arhan Sthapit for his comments on the paper. Finally, we would also like to thank IDA team members for their encouragement and support in completing this paper.

I. INTRODUCTION

Shobha Danuwar of Udayapur, Triyuga-11 in Eastern Nepal, after the death of her husband, was left with her four young daughters and the responsibility of managing the entire household without any source of income. Four years ago, despite having no formal education and any formal training to make Dalmoth, a light snack, she decided to borrow Rs 170 for preparing it. The venture - started with minimal investment coupled with her hard work - has enabled her to accumulate assets worth Rs. 200 thousand and provide employment to another four women. With increasing market for her products, she now claims saving Rs 1,300 a day through which she is confident of securing bright future for her daughters.[1]

There are a large number of people like *Shobha*, who are not being able to harness their ability to enhance their livelihood in absence of easy access to financial services. It is believed that the poor and marginalized communities are not able to exploit their income and growth potential by gaining an access to formal sources of credit, as they often lack formal requirements including collateral (World Bank, 2008). Such a situation pushes them to informal finance sector or to financial exclusion limiting their potential to build up productive assets and enhance their productivity and potential for sustainable livelihoods (Green et al., 2006) [2].

Ferrari et al. (2006) reports that, in Nepal, more than half of the total population did not have access to financial services. The situation might have changed due to remarkable growth in the number of the micro finance institutions (MFIs) and the fund for micro finance in recent years.[3] However, the impact of such growth needs to be assessed, as the household borrowings from informal sources still account for two thirds of the loan (CBS, 2011a). It may be argued that a large number of people still do not have access to formal sources either due to their geographical location or rigidity in procedures for obtaining loans from such sources. Though the first argument can be valid principally, because of the geophysical situation of the country, second argument may not be convincing, as the government, through its central monetary authority Nepal Rastra Bank (NRB), has been implementing different policies and programmes for enabling financial inclusion.

In line with the argument that government needs to intervene in building an inclusive financial system as market failures caused by market imperfections, asymmetric information and high fixed cost of small-scale lending limit the access of the poor to formal finance (Stiglitz, 2009; World

[1] Story adapted from Gorkhapatra 8 March 2012.

[2] Citing Stiglitz and World Bank, Green et. al. (2006) further writes that market failure is fundamental cause of poverty and financial market failures limits access of poor to formal finance.

[3] Refer to Ferrari et al. (2006) for detail analysis about the current situation of access to financial services in Nepal.

Bank, 2008). NRB has been implementing policies that create conducive environment for financial inclusion. Despite ambiguity on channel, it has been seen that the development in the financial market and access to finance has positive impact on economic growth as well as reduction in income inequality and poverty (World Bank, 2008).[4] Hence, as a drive against poverty through improving access to formal financial system, in addition to increase in number of financial institutions in the remote areas, NRB has been issuing directives to allocate the fund for investment in the sector. Under the 'deprived sector lending' (DSL) policy, the banking and financial institutions (BFIs) are directed to allocate certain percentage of their total loan portfolio to the deprived sector.[5]

It has been more than two decades since DSL policy was initiated. Through this policy, there has been a remarkable growth in the fund available for the deprived sector. Though other directed credit has been phased out, NRB has not only maintained the DSL policy but has already decided to increase the percentage of mandatory provision for DSL in coming three years, i.e., up to 2015: it is basically because of the expected contribution of the DSL policy in attaining the financial inclusion goal. Theoretically, increase in available funds will support the attainment of financial inclusion; but the burning question is whether the availability of fund alone is the sole condition required to achieve the goals of financial inclusion and poverty reduction. According to the CBS (2011b), the number of people living below the poverty line has declined by about 30 percentage point.[6] Can the achievements in financial inclusion be linked with such achievement in poverty reduction? As the poverty reduction is one of the main targets of financial inclusion, it may be possible to identify the linkages between the two through empirical studies. However, it would cast doubts on such linkages if the current state of financial access was to be considered despite the increase in the number of institutions and funds for deprived sector. Hence, the lack of rigorous empirical studies makes the impacts of such efforts from the government ambiguous.[7] Against this background, the present paper argues the need of such empirical efforts focusing particularly on the assessment of economic desirability of the DSL policy.

II. RATIONALE

After the initiation of economic liberalization policy in the early 1990s, there has been a remarkable growth in the financial market in Nepal. The growth has been achieved both in the number of financial institutions as well as transaction volume. Along with the increase in the transaction among bank and financial institutions (BFIs)[8], there has been a growth in the volume of funds allocated for DSL. Despite increase in the MFIs and volume of fund available for the deprived sector, two thirds of the households still borrow loans from informal sector that includes informal money lenders, local merchants and relatives. Similarly, the percentage of households borrowing loans has increased from 61 percent in 1995/1996 to 65 percent in 2010/11; it has

---

[4] Diagne and Zeller (2001) do not find positive impact of improving access to credit on reducing poverty level. Though there are empirical evidences revealing financial development and economic growth (Ardic et al., 2011), the relation between micro finance and poverty reduction is mixed (Weiss et. al., 2003).

[5] The other key policy towards this end is mandatory policies regarding opening up of branches of the financial institutions in rural/remote areas for opening up branch in urban area.

[6] According to CBS (2011b), there has been a decline in poverty line from 41.8 percent in 1995/96 to 25.2 percent in 2010/11.

[7] Rajbanshi (2009) lists the summary of studies showing that different results on nexus between micro finance and poverty reduction.

[8] With Banks and Financial Institutions (BFI) ordinance, 2004 and later BFI Act in 2006, BFIs are classified as A, B, C and D as per the minimum paid-up capital requirement prescribed by NRB. Similarly, the overall functions are mentioned for each category of BFIs (Paudel, 2005). Micro finance institutions (MFIs) include Micro Finance Development Bank (MFDB), financial intermediaries non government organization (FINGOS) and Saving and Credit Cooperatives (SACCOS).

posted only a small rise. Hence, the question arises whether the DSL has made impact on the goal of financial inclusion and poverty reduction. If such positive linkages can be empirically proved, then there will be room for being optimist about the NRB's policy on increasing mandatory provision for DSL in achieving further reductions in poverty level. Such benefits alone may outweigh the costs involved from such interventions. However, if no such linkages can be proved, the policy may create a larger negative economic impact.

Theoretically, though not desirable from the stand point of efficiency in resource allocation from the perspective of BFIs, DSL is implemented from the socio-economic equity perspective. Evidences have shown that only availing the resources is not enough, equally important is measuring the access and effectiveness of such resources (World Bank, 2008). Accordingly, DSL needs to be empirically justified on equity perspective to avoid any unfavourable economic costs to the nation; or it will add up the cost borne through diverting the resources from its efficient allocation. Such a situation would then justify the argument from the World Bank (2008) that for reduction in poverty and income inequality, direct provision of credit to the poor may not be an important channel but emphasis should be made towards fostering capital allocation through competitive and open markets. Hence, by analysing the possible costs and benefits brought about by DSL, the paper emphasizes on the need of a thorough economic analysis to assess the desirability of the resource allocation through DSL.

III. OBJECTIVES

The main objective of the paper is to highlight the importance of detailed empirical economic analysis of DSL for assessing its economic desirability. Based on the analysis of possible costs and benefits, the paper is expected to contribute in drawing counterfactual situation while assessing the desirability of the intervention. It is envisaged that the effort would enable the policymakers to compare the costs and benefits of the DSL for adopting policies that are conducive to attain goals of poverty reduction through financial inclusion.

IV. METHODOLOGY AND LIMITATIONS

The analysis is based on review of published literature and qualitative interview with the stakeholders on the supply side i.e. representatives of financial institutions. The paper initially analyses the history and present situation of DSL on the basis of its market embedded in demand and supply interplays. This is followed by discussions on the possible costs and benefits brought about by the DSL to its key stakeholders.

The main limitation of the paper arises from the non availability of related data and quality and credibility of data when available. Further, as the main objective of the paper is to highlight the need of detailed empirical economic analysis of DSL for assessing its economic desirability, the paper is limited to the analysis of possible costs and benefits. The analysis takes the DSL as the source of fund for the micro finance though other possible uses of fund are also spelled out in the policy (NRB 2011a) from NRB.

V. DEPRIVED SECTOR LENDING: WHAT IS IT?

With the objective of enabling the deprived sector people to have access to credit from formal sources, NRB has been issuing directives to the BFIs in the country to allocate certain percentage of their outstanding loan and advances to the deprived sector. NRB (2010a, p.401) describes low income and especially socially backward women, tribal people, Dalit, blind, hearing-impaired and physically incapacitated persons, marginalized and small farmers, craft-men, labourers and landless squatters family as "deprived " (ibid). Accordingly, NRB defines "deprived sector

lending" as micro-credits to be extended for the operation of self-employment oriented micro-enterprises for the upliftment of economic and social status of deprived sector up to the limit specified (ibid).[9]

Apart from the allocated amount to the specified target beneficiaries, the NRB also specifies different provisions for BFIs in provisioning DSL, availability of interest-free loans up to certain limit from the government to financial institutions following the conditions, etc.[10] NRB also restricts financial institutions to deposit the amount provided for the purpose of deprived sector lending in other banks and financial institutions to earn interest. Furthermore, NRB charges penalty on the BFIs that do not comply with the required DSL provisioning. In case of non-compliance, the penalty applied to the financial institution will be the highest interest rate that it charges on its commercial lending; the penalty is charged on the gap amount.

VI. EVOLUTION OF DSL

NRB initiated the policy towards reducing poverty through directed micro-lending from commercial banks (CBs) since 1974 with the initiation of mandatory requirement as Priority Sector Credit Program (PSCP) (Pradhan, 2005:114). Initially, the PSCP was implemented under the Small Sector Credit Program (small sector included agriculture, cottage industry and service industries) (ibid). Since its inception, the PSCP has been amended several times and in the process, DSL, initially termed as Deprived Sector Credit Program (DSCP) was started in 1990. In the beginning, the total of 12 percent in priority sector was segregated into two segments 9 percent for PSCP and 3 percent for DSCP (ibid).

Earlier, under the DSL, it was mandatory for the CBs with more than 3 years of experience to lend 3 percent while newly established CBs could lend only 0.25% of their total loan portfolio to the sector. In the initial phase, the CBs were ready to pay fine for not complying with the requirement rather than investing in the sector; the CBs attributed it more particularly to bigger risk-proportions and higher per-unit loan-handling costs involved. However with the amendments in the policy there has been decrease in number of BFIs opting for payment of penalty.[11] Initially started only with CBs, DSL was also made mandatory among development banks and finance companies since 2008.

In line with amending the DSL requirements, NRB (2011a) has raised the percentage in DSL provisioning for commercial banks, development banks and finance companies to 3.5 percent, 3.0 percent and 2.5 percent of their total loan-outstanding, respectively. The policy has also indicated the increase in such provisioning at an annual rate of 0.5 percentage point during the next three years.[12]

VII. CURRENT SITUATION OF DSL

7.1 Mobilization of DSL

As directed by the policy, the BFIs can choose either to lend the required amount to the end clients themselves directly, or disburse it through loan or equity of MFIs. Accordingly, at present the BFIs are mobilizing the allocated the DSL amount through three different channels; i) directly reaching out to target beneficiaries, ii) channelling it through MFIs, and iii) channelling it through

---

[9] Refer to Table 1 in Annex for investment categories under DSL.

[10] Refer to NRB (2011a) p. 17-18 for details.

[11] Refer to THT (2011).

[12] Refer to Table 2 in Annex for increase in the DSL provisioning percentage.

wholesale lending institutions to MFIs.[13]

7.2 Supply of DSL

The volume of amount DSL has increased sharply along with the growth of BFIs in the country. Since 1990, the year when DSL was started, the number of commercial banks has been increased from 5 in 1990 to 30 in 2011 by registering a 6-times growth. Similarly, the number of development banks has risen from 2 in 1990 to 87 in 2011. The finance companies that were non-existent till 1990 have reached 79 in number in 2011.[14]

Along with the growth in the number of BFIs and their transaction volume for loan, there has been remarkable increase in the amount of DSL also. Among the BFIs, the CBs have higher share in the DSL.[15]

As per the data available, the amount from allocated DSL multiplied by more than 5.73 times from Rs. 3.27 billion in 2001 to Rs. 18.76 billion in 2011. Based upon the expected average growth rate of 20%[16] in the loan and advances by the BFIs from 2012 to 2015 and the increase in percentage of mandatory provision, the total amount allocated under the DSL of BFIs in the year 2015 is expected to reach Rs. 66.51 billion.[17]

7.3 Demand of DSL

NRB (2010b) estimates that 2.4 million households require micro finance services and only 35 percent have access to the formal credit. Considering that these households are on the bottom quintile, as per the CBS (2011a), average amount of loan borrowed from a household in the poorest quintile is about Rs. 43,578.[18] Hence, the total micro-finance loan required would be about Rs. 105 billion assuming that 2.4 million households require loans (NRB, 2010b). Accordingly, considering the fact that DSL has a major stake in the sources of fund for microfinance NRB has increased the percentage of DSL provision from the BFI for next three years.

7.4 Current Market Situation

As the BFIs, particularly the CBs have been reluctant to go to the deprived areas due to costs and risks involved, much of the DSL amount has been channelled through MFIs. As per Nirdhan Utthan Bank (2010), the BFIs in 2009 have mobilized almost 32 percent of their loan directly to the target beneficiaries and 56 percent through the MFIs. They have invested the remaining amount in shares of these banks as well as in the Youth and Self Employment Fund (YSEF), Foreign Employment and others.

The existence of gap in supply in meeting the rural credit requirement reveals that there is a greater need of fund for the deprived sector. Up to now, there are three formal sources of fund in the micro-finance – i) donors' grant/loan channelled through government or directly to intermediaries, ii) DSL channelled from the financial institutions, and iii) mobilization of savings within the MFIs

---

[13] See the flowchart in Figure 1 in Annex.

[14] Refer to Figure 3 and Table 3 in Annex from growth in number of financial institutions.

[15] Refer to Figure 4 in Annex.

[16] Based on available data on growth of BFIs over last 10 years.

[17] Refer to Table 4 in Annex for a glimpse of increase in amount of fund available for DSL.

[18] Referred as 'per household with positive amount' which is derived by dividing total amount of loans by total number of borrower households (CBS 2011a).

themselves. As the first source is beyond the control of the government and third source has provided only limited supply, DSL has proved to be the most promising source for meeting the gap.

Estimating that the present requirement of micro-finance is Rs. 105 billion, there is a huge shortage if DSL is to be considered as the only source to meet such a demand. The analysis of demand of the rural credit and supply of DSL reveals that the gap could be met by 63% through DSL by 2015 assuming that the demand remains same.[19] The situation does not get better even if the mobilization of savings from the MFIs is considered. Considering the data of 2009, among the total loan mobilized from MFIs, MFDBs could only mobilize 25 percent from savings, FINGOs could mobilize only 40 percent and SACCOs could mobilize 81 percent (Nirdhan Utthan Bank, 2010). Further DSL can be mobilized in different sectors apart from micro-finance.[20] Assuming that the requirement of the micro-finance remains constant by 2015, there will be shortage of more than one third of total required amount, if only DSL would be available as the single source for micro-finance lending.

The analysis above shows that, despite increase in the percentage of mandatory provisioning, only mobilization of DSL would not be enough to meet the estimated need of micro-finance. However, achievements as revealed by the CBS (2011a), raises questions on the effectiveness of the fund mobilisation to date. Despite growth of financial sector including fund from the DSL, a large number of population is yet to have access to formal sources of funds. Hence, DSL can be taken as a positive intervention towards meeting the unmet demand for credit in achieving financial inclusion. Evidence shows that only availability of fund is not enough; equally important is the target beneficiaries' access to the funds, and impact of the access on their livelihood. In view of the present market situation of the micro-finance – with cases of duplication in financing, as MFIs are concentrated mainly in market areas, there is a need to assess whether the fund available from DSL is being used as targeted. Such an assessment is made through identification of costs and benefits brought about by the DSL to its key stakeholders.

VIII. COSTS AND BENEFITS OF DSL

DSL has emerged as a viable policy in enabling the target beneficiaries to have access to credit through which they would be able to harness their capacity to enhance their livelihood. This may be taken as a better intervention than targeted transfer to the target beneficiaries (Ravallion 2003) as DSL fund is allocated for the deprived sector, which could have been overlooked from the BFIs. Besides, as the DSL can be invested through MFIs, it is a direct support for smooth functioning of these organizations whose role is to foster the financial market that is conducive to the poor and marginalized communities. However, the policies targeting the poor are often implemented without detailed analysis of its desirability, and the outcome of such policies negatively affects the poor themselves. Accordingly, considering the present market situation of DSL, it is essential to assess the desirability of DSL for finding out whether the resource allocated is supportive to achieve the objectives, i.e., enhancing the livelihood of the poor and marginalized communities. This is not only important from the perspective of justifying equity in usage of resources which has been diverted from its efficient usage, but also to be cautious of any negative impact of the policy on the financial market, as well as the national economy as a whole which ultimately 'hit the poor the hardest'. The desirability of DSL can be measured on the basis of costs and benefits brought about by the policy to the economy. Accordingly, as per the objective of the paper, the possible costs and benefits of the policy to the key stakeholders, i.e., target beneficiaries, MFIs, BFIs and general public (depositors and producers) are analyzed in this section.

---

[19] Refer to Figure 2 in Annex.

[20] Refer to Table 1 in Annex.

8.1 Benefits

8.1.1 Target Beneficiaries

First and foremost, the main benefit of the DSL - theoretically - should go to the 'deprived' people.[21] Since two thirds of the households from the category are yet to have access to the formal source of finance, the NRB's decision to increase the percentage of mandatory provisioning may be beneficial for increasing the access.[22] Though the DSL can be taken as one of the factors contributing towards reducing number of people living below the poverty line by about 30 percentage point decline in one and half decade CBS (2011b), its contribution is yet to be empirically tested, theoretically, it would support in reducing poverty level which currently stands at about one quarter of total population.

According to CBS (2011c), in general it takes more than 30 minutes for 60 percent of the households in the country to reach their nearest bank, only in rural areas it takes more than two hours. It reveals that DSL can play a pivotal role to improve the situation, as it motivates the financial institutions, particularly, the MFIs, to expand their services to these areas. The FIs would also support in improving the situation of the target beneficiaries, particularly in having access not only to credit but also to safe deposits of their savings. Rajbanshi (2010) reports that in terms of access to different banking services, Nepal ranks lowest among the South Asian Countries including Bangladesh, India, Pakistan and Sri Lanka. Hence, increase in the amount through DSL would support in development of the financial market for deprived community to improve their livelihood.

8.1.2 Micro Finance Institutions

The indirect beneficiaries of DSL are the MFIs. As many BFIs are reluctant to invest directly in the deprived sector, they are lending it indirectly through the MFIs, and they are having additional fund for investment. Since the amount allocated under the DSL is generally lent at a lower interest than market interest rate of 5-7 percent (Shrestha, 2009), MFIs have a better margin as they lend it for around 20 percent interest. Further, as the MFIs are not being able to mobilize a substantial amount of funds from the depositors, the loan demand from their clients are met through lending from the BFIs.

On one hand, as of July 2009, out of the total DSL (Rs 14.80 billion) provided by the BFIs, half of the loan amount were channelized to MFDBs (Rs 7.47 billion) and around 6 percent (Rs. 0.92 billion) to Cooperatives and FINGOs (Nirdhan Utthan Bank, 2010). On the other, the NRB data show that saving deposits in comparison to loan provided by MFDBs is only 24 percent in average. Similarly, the saving in FINGOs stands at 40 percent and in SACCOs at 80 percent in average.

In the past one and a half decade, there has been an eight-fold increase in the number of MFIs from 4 MFDBs and 6 SACCOs in 1995 to 21 MFDBs, 15 SACCOs and 45 FINGOs in 2011. At the same time, the number of BFIs has also increased by 6 times and with increase in their loan portfolio, there has been a noticeable increase in amount allocated for DSL. Unlike in the starting period of DSL, many of the BFIs are investing in the deprived sector through the MFIs. The possibility of investment through the MFIs has also decreased the number of BFIs that opted for

[21] However there are reports of 'mission drift' among the MFIs which raised whether DSL is actually used for enhancing to financial services among the target beneficiaries. Maskay (2011) with a case study of Paschimanchal Grameen Bikash Bank analyses existence of 'mission drift' that MFI getting away from the primary goal of improving welfare of poor.

[22] Ferrari et al. (2006) reported that about half of the Nepal's households (48 percent) do not have access to any formal sources, out of which about 28 percent people relied on informal sources and 20 percent were financially excluded receiving neither from formal nor from informal sources.

paying penalty for not complying with the DSL requirement.[23] Hence, if the policy and the current situation were to continue, MFIs would have DSL as a major source for their lending. Though some BFIs are trying to increase their loan portfolio put directly in the deprived sector, still a substantial amount from these BFIs is being channeled only through the MFIs.

8.1.3 Bank and Finance Institutions

Recently, the DSL policy has also been viewed as a benefit for the BFIs. Many BFIs are still reluctant to invest in the deprived sector due to the transaction costs and the risk involved. However, with the increasing number of BFIs and limited financial market, some banks are heading for the direct investment in this sector. Due to the presence of DSL, they are not required to take complete risk for investing in this sector as in any case they have to allocate certain percentage of their total loan portfolio for this sector. Hence, despite the transaction costs and risks involved, DSL provision has enabled them to take the double benefits – i.e., i) supporting the policy of financial inclusion as directed by NRB and ii) testing the viability of expanding their loans to the sector. Accordingly, a number of BFIs are increasingly promoting their portfolio in this sector. Hence, the DSL can also be considered as a benefit for the financial institutions.

8.2 Costs

8.2.1 Increased cost of fund

Can the DSL be considered as the reason behind recent increase in cost of fund?[24] Though DSL covers only 2.5 to 3.5 percent of total loan portfolio, it will definitely affect the total cost of fund if it is provided at a lower interest rate. Shrestha (2009) states that depending on the urgency to meet the DSL requirement, CBs provide wholesale loans to MFIs at an interest rate ranging from 3 percent to 6 percent.[25] As the BFIs in general are reluctant to invest in the deprived sector they have to depend on MFIs for investing in this sector. Hence, the MFIs enjoy a bargaining position for the interest rate. As these lending rates are far below the market interest rate, DSL affects the cost of fund to certain extent. This will affect the interest rate of either deposit or loans and advances. While low interest rates in deposit de-motivate savings limiting available funds for investment, a higher interest rate in lending will de-motivate productive activities which will slow down the economic growth rate of the country. Therefore, the increase cost of fund due to DSL will affect the depositors and the producers as well. Though the funds available through DSL are expected to be utilized in the productive sector, the return from the deprived sector investments may be far lower than returns from private investors in the market. Ultimately, the cost would have to be borne through trade off in the growth of national economy.

8.2.2 Increased risk in the market

Target Beneficiaries

The easily available loan when not used prudently can cause a counter effect to the target beneficiaries. As the loans have to be paid back, using them merely for a consumptive purpose that does not contribute to income generation or productive purposes is not viable, it leads to an adverse situation. When easy access to credit is available, due to their vulnerable situation, it can

---

[23] Refer to THT (2011).

[24] Refer to Chalise (2012) for a report on increase in the cost of fund.

[25] Pandey (2010) states that revision of interest rate from 3 to 5 percent to 6 to 9 percent has also affected sustainability of the MFDBs.

lead the poor people to over-borrowed situation (World Bank, 2008). In some cases such situation is even to be borne by '*predatory behavior of lenders*' trying to exploit the '*gullibility and ignorance of the borrowers'* (ibid). Inability to service the debt due to over-borrowed situation would severely affect their wellbeing (ibid).

Due to lack of relevant data, supply of DSL leading to such a situation cannot be confirmed. However, data from CBS (2011a) reveals that among poorest quintile only 17.7 percent out of total loan was borrowed for business and farm uses. More than 80 percent of the total loans were used either for personal use including 41.2 percent for household consumption and 41.1 percent for other personal use. Household consumption include loan taken to buy food, fuel, personal goods, medicine and other non-durable goods and other personal use includes loans taken to purchase durable goods, purchase/improvement of dwelling, marriage/family events/festivals and others. Moreover, the CBS (2011a) reveals that richer households borrow loans for operating business and farm in comparison to poorer households whose purpose of loan taking is for household consumption. Accordingly, though the loans through DSL are supposed to be mobilized for productive purposes, diversion of the fund towards consumptive purposes cannot be denied.[26] In this regard, Shakya (2005, p.293) suggests to ensure that loan facilities provided to poor are not utilized for consumption purposes which otherwise will lead to larger negative impact. Accordingly, as the target beneficiaries of the DSL are of the bottom quintile, the provision of DSL can lead to high cost for the borrowers when they fail to service the debt.

Duplication in Investment

Along with the increase in the number of BFIs, the fund allocated under DSL is also increasing along with the percentage of provision. Similarly, the number of MFIs acting as an intermediary for DSL has also increased in past one and a half decade.[27] However, the market, the financial institutions are currently serving has not expanded at the same rate. This leads either to excess in the fund available for the DSL against the fund actually invested or to duplication in financing. The number of households taking loans from the bank increasing only by 4 percent and two thirds of households taking loan from the informal sources remaining almost the same in one and half decade reveals that there has not been much change despite the remarkable development in financial market and availability of DSL. Further, data from the NRB reveals that MFIs had an unused fund equivalent to the amount they received through DSL. Only in 2008/2009, the volume of funds amounted to Rs. 4.15 billion. Ferrari et al. (2006) reports high liquidity among the MFIs and distortion in capital adequacy.

Similarly, the MFIs reportedly are concentrating their business only in convenient areas as they are reluctant to expand their services to remote areas where poor and deprived people reside. Such a practice has resulted in the overlapping and duplication in financing (Shrestha, 2009).[28] Such a situation escalates the risk in misuse of DSL among the borrowers that will lead to their inability to service the debt as discussed in the section above. Such behavior among the borrowers will affect the financial soundness of MFIs and ultimately the repayment of DSL. In this regard, Shrestha (2009) reports that top 20 MFIs in Nepal are facing problems of overlapping clients as they all are more concentrated in densely populated areas. He mentions that such situation has started affecting

[26] Though the number of people depending on informal money lenders has dropped sharply, more than half of the household still depends upon friends and relatives for loans. The probability of use of loans taken from such sources for consumptive purposes is even higher.

[27] However, Pandey (2010) reports that MFDBs are in credit crunch as the fund allocated under DSL is also applicable for the other purposes such as micro hydro and hospitals. Moreover, he demands tax exemption for MFDBs for their sustainability.

[28] Also refer to Abhiyan (2012).

outreach, disbursement and repayment of all concerned MFIs. Moreover, according to him, such a situation has resulted from the expansion of lending activities without proper screening; it results into repayment default from the MFIs when clients get out of capacity, get over-indebted and get their financial discipline eroded.

Sustainability of MFIs

As more than 50 percent of the DSL is channelized through MFIs, the future of the fund is highly dependent upon the financial sustainability of the MFIs. At present, the operational and financial sustainability in terms of operating performance, staff productivity, portfolio quality and relation of financial sustainability with other variables are not strong (Sharma, 2009). Similarly, Shrestha (2009) does not confirm financial sustainability of the MFIs. Rajbanshi (2010) also highlights weak institutional capacities among the MFIs. As the data show, the investment from MFIs are highly dependent (with MFDBs being the highest) upon other sources for investment including DSL rather than saving mobilization (NRB 2011b), their sustainability also depends upon the existence of the DSL, to a greater extent. Further, the financial sustainability of MFIs would also be affected, if more and more BFIs would want to directly invest in the sector. In this regard, Shakya (2005) suggests including them in saving mobilization function for their long term sustainability.

IX. CONCLUSIONS

Theoretically, considering the existing poverty level and access to financial services in the country, DSL policy has enabled the possibility of availing access to credit to the target beneficiaries. In the counterfactual situation, due to transaction costs and risks involved, the sector would have been marginalized in the process of financial market development. Such a situation could not only hinder the potential economic advancement of target beneficiaries, but also lead to huge national cost rising out of potential economic disparity. Hence, though the requirement of DSL is considered hindrance in their growth by some CBs, it may be desirable, at least theoretically, from equity perspective in achieving the goal of financial inclusion.

However, the paper tries to argue that availing the fund for the deprived sector may be a necessary condition but not only a sole condition for economic advancement of the deprived/marginalized people. Along with the availability, it should be accessible for them as well. Besides, access, use of loan should also be effectively monitored. At present, commercial banks though monitoring the usage of the fund through MFIs, as required by NRB, are simply doing on the reports by MFIs and occasional visits to the sites. However, such monitoring is important for them not only for repayment of their loan but also for the achievement of the objective of the policy. Similarly, as some of the commercial banks are testing viability of their direct investment in the sector, it is necessary for the MFIs also to find out possible ways, for them to slowly decrease their dependency on DSL. This is also necessary considering their financial sustainability if the DSL is phased out. Only on the basis of analysis of these issues, it would be prudential for the economy as a whole to continue its dependency upon the DSL as an intervention towards enabling financial inclusion to all. There would be large cost to the stakeholders and the national economy as a whole if the DSL is proved ineffective or counterproductive.

Though the benefits from DSL to BFIs and MFIs may be merely a transfer payment, the potential benefit to the target beneficiaries may outweigh the cost involved i.e. economic cost due to increase in cost of fund, provided that the target beneficiaries and financial institutions act as expected. However, considering the present situation, the economic desirability of DSL needs to be assessed because of the existing risks including the ones arising out of possible over borrowing situation among the target beneficiaries created by duplication. The situation gets much critical due

to the finding of CBS (2011a) that 80% of the loan used by household in poorest quintile is for personal uses, considering that use of fund purely for the consumptive purpose might be higher among the poorest quintile. Can DSL be made responsible for such a situation? Besides, how much would be the cost if MFIs instead of reaching to the target beneficiaries still 'parking' their fund in the safer option despite the restriction from NRB? In addition, how much would be the cost, if the DSL is phased out while the dependency of the MFIs on it is getting stronger. Furthermore, how much cost is borne to the national economy due to possible increase in the cost of fund as it may demotivate saving habit leading to decrease in productive activities? Such questions require a thorough empirical study on the economic impacts of DSL that will reveal economic desirability of DSL. The recent global financial crisis and the incident in the sector in Andhra Pradesh, India states that timely analysis of the market can control the grave situation which otherwise can impair the whole economic system, counter affecting the poor and marginalized community to greater extent.[29]

Based on whatever limited information is available and considering present situation of access to finance, a strong case exists ultimately for the continuation of DSL and for its expansion, bearing in mind that DSL would have to be phased out in future. For this a policy that charts out in future improvement of DSL would be very much beneficial to the nation. Besides, though DSL can be supportive in activities performed by MFIs, the lack of effective and proactive monitoring and supervision constitutes significant hurdle for coming up the future course of action. Hence, the institution of proactive monitoring and supervision mechanism is more likely to affect the cost and benefit of having DSL in place. In this regard, a rigorous empirical study is recommendable to identify cost and benefits streams of having DSL in place. It is hightime that such studies assessing the economic desirability of the policy, based on credible data in terms of their validity and reliability be carried out for in strengthening policies that are conducive for attaining goal of poverty reduction through financial inclusion.

BIBLIOGRAPHY

Abhiyan. 2012. "Bippana Barga lai Sadhe Barha Arab" (22.5 Billion for Deprived Class). Abhiyan, 23.02.12.

Ardic, Oya Pinar., Maximilien Heimann and Nataliya Mylenko, 2011."Access to Financial Services and the Financial Inclusion Agenda around the World, A Cross-Country Analysis with a New Data Set". Policy Research Working Paper 5537. The World Bank. Available at: http://www.cgap.org/gm/document-1.9.49435/Access_to_Financial_Services_and_the_Financial_Inclusion_Agenda_Around_the_World.pdfblic

CBS, Central Bureau of Statistics. 2011a. "Nepal Living Standard Survey 2010/11, Statistical Report – Volume Two". Central Bureau of Statistics, National Planning Commission Secretariat, Government of Nepal, Kathmandu.

CBS, Central Bureau of Statisitcs. 2011b. "Nepalma Garibi (Poverty in Nepal), Central Bureau of Statistics". National Planning Commission Secretariat, Government of Nepal, Kathmandu.

CBS, Central Bureau of Statistics. 2011c. "Nepal Living Standard Survey 2010/11, Statistical Report – Volume One". Central Bureau of Statistics, National Planning Commission Secretariat, Government of Nepal, Kathmandu.

[29] Merrouche and Nier (2010) analyses global financial crisis from 1999 to 2007 and Priyadarshee and Ghalib (2011) analyses incident in Andhra Pradesh, India.

Chalise, Kuvera. 2012. "Deposit Rates Dow, but loans to Cost Same" The Himalayan Times. 13.3.2012.

Diagne, Aliou and Manfred Zeller. 2001. "Access to Credit and Its Impact on Welfare in Malawi ". Research Report 116, International Food Policy Research Institute, Washington, D.C. Available at: http://www.ifpri.org/sites/default/files/publications/rr116.pdf

Ferrari, Auroa, Guillemette Jaffrin and Sabin Raj Shrestha. 2006. "Access to Financial Services in Nepal ". Conference Edition, Finance and Private Sector Development Unit, South Asia Region, World Bank. Available at: http://siteresources.worldbank.org/NEPALEXTN/Resources/publications/415830-1174327112210/complete.pdf

Gorkhapatra. 2012. "Ekal Mahila Shobhako Safaltako Katha" (Success story of a single woman Shobha). Gorkhapatra. 8 March 2012. Page 12.

Green, Christopher J., Kirkpatrick, Colin H. and Victor Murinde. 2006. "Finance for Small Enterprise Growth and Poverty Reduction In Developing Countries ". *Journal of International Development*, 18, p. 1017–1030. Available at: http://info.worldbank.org/etools/docs/library/239950/Murinde_Reading_GKM-JID-article.pdf

Maskay, Nephil Matangi. 2011. "Identifying influencing factors of mission drift in microfinance institutions: A case study of Paschimanchal Grameen Bikas Bank". NRB Working PaperNepal Rastra Bank Serial Number: NRB/WP/8. Available at: http://www.red.nrb.org.np/publications/working_papers/NRB_Working_Paper--NRB-WP-8--Nov_2011%3B%20Identifying_Influencing_Factors_of_Mission_drift_in_Microfinance_Institutions:_A_case_study_of_Paschimanchal_Grameen_Bikas%20Bank,_Nepal--Nephil_Matangi_Maskay,_PhD.pdf

Merrouche, Ouarda and Erlend Nier. 2010. "What Caused the Global Financial Crisis? Evidence on the Drivers of Financial Imbalances 1999–2007". IMF Working Paper, WP/10/265, Available at - http://www.iadb.org/intal/intalcdi/PE/2010/07546.pdf

Nirdhan Utthan Bank. 2010. "Supply/Availability of Wholesale Funds for MFIs in Nepal: Challenges and Problems". Paper presented at Micro Finance Summit Nepal 2010. Available at: http://microfinancesummitnepal.org/?pg=rp

NRB, Nepal Rastra Bank. 2010a. "Directives No. 17/067 - Provisions Relating to Lending to Deprived Sector" In: Unified Directives. Issued by Nepal Rastra Bank to the Licensed Banks and Financial Institutions, 2010, Nepal Rastra Bank, Kathmandu.

NRB, Nepal Rastra Bank. 2010b. "Impact of Deprived Sector Credit Policy on Micro Financing". Paper presented at Micro Finance Summit Nepal 2010. Available at: http://microfinancesummitnepal.org/?pg=rp

NRB, Nepal Rastra Bank. 2011a. "Monetary Policy For Fiscal Year 2011/12". Nepal Rastra Bank. Available at: http://www.nrb.org.np/ofg/monetary_policy/Monetary_Policy_(in_English)--2011-12_Report-NEW.pdf

NRB, Nepal Rastra Bank. 2011b. "Banking and Financial Statistics, No. 56, Mid-January 2011". Nepal Rastra Bank. Available at: http://bfr.nrb.org.np/statistics/bank_fina_statistics/Banking_and_Financial_Statistics--No_56%20Jan%202011.pdf

Pandey, Dharma Raj. 2010. "Issues & problems on microfinance in Nepalese context Facing by microfinance Banks". Paper presented at Micro Finance Summit Nepal 2010. Available at: http://microfinancesummitnepal.org/?pg=rp

Pradhan, Krishna Kumar. 2005. "Development Finance" In: *Nepal Rastra Bank in 50 Years*. Nepal Rastra Bank. Kathmandu. p.113 – 136.

Paudel, Narayan Prasad. 2005. "Financial System and Economic Development " In: *Nepal Rastra Bank in 50 Years*. Nepal Rastra Bank. Kathmandu. p.176 – 201.

Priyadarshee, Anurag and Asad K. Ghalib. 2011. "The Andhra Pradesh Microfinance Crisis in India: Manifestation, Causal Analysis, and Regulatory Response". Brook World Poverty Institute Working Paper No. 157. Available at:

Rajbanshi, Ram Dayal. 2009. "Microfinance industry report: Nepal" Singapore: Banking with the Poor(BWTP) Network. SAMN, South Asian Microfinance Network (2010) Prospect of Investment in South Asian Microfinance. Available at: http://www.microfinancegateway.org/p/site/m/template.rc/1.9.49242/

Ravallion, Martin. 2003. "Targeted transfers in poor countries : revisiting the tradeoffs and policy options," Policy Research Working Paper Series 3048, The World Bank. Available at: http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/06/06/000094946_03052804040640/Rendered/PDF/multi0page.pdf

Shakya, Rabindra Kumar. 2005. "Development of Micro Finance Industry In Nepal – Trends and Prospects " . In: Mirmire. Nepal Rastra Bank , Vol 34 No.236 p 287 – 236.

Sharma, Pushpa Raj. 2009. "Financial Sustainability of Selected MFIs of Nepal", *The Journal of Nepalese Business Studies* V (1). Dec 2008. p24-36.

Shrestha, Shanker Man. 2009. "State of Micro Finance in Nepal". Prepared for Insitute of Micro Finance. Available at http://www.inm.org.bd/saarc/document/Nepal.pdf

Stiglitz, Joseph. 2009. "Regulation and Failure". In. D. Moss and J. Cisternino, eds., New Perspective on Regulation. Cambridge, MA; The Tobin Project 2009. Available at: http://www.tobinproject.org/sites/tobinproject.org/files/assets/New_Perspectives_Ch1_Stiglitz.pdf

THT, The Himalyan Times. 2011. "Deprived sector lending narrows to 4.39 pc. "The Himalayan Times.27.12.11. Accessed at: http://www.thehimalayantimes.com/fullTodays.php?headline=Deprived+sector+lending+narrows+to+4.39+pc&NewsID=314230

Weiss, John, Heather Montgomery and Elvira Kurmanalieva. 2003. "Micro Finance and Poverty Reduction in Asia: What is the Evidence? " ADB Institute Research Paper Series, No. 53. Available At: http://www.adbi.org/files/2003.rps53.microfinance.poverty.pdf

World Bank. 2008. "Finance For All, Policies Pitfalls in Expanding Access". A World Bank Policy Research Paper, 2008, World Bank, Available At http://siteresources.worldbank.org/INTFINFORALL/Resources/4099583-1194373512632/FFA_book.pdf

FIGURE 1: Flow of DSL

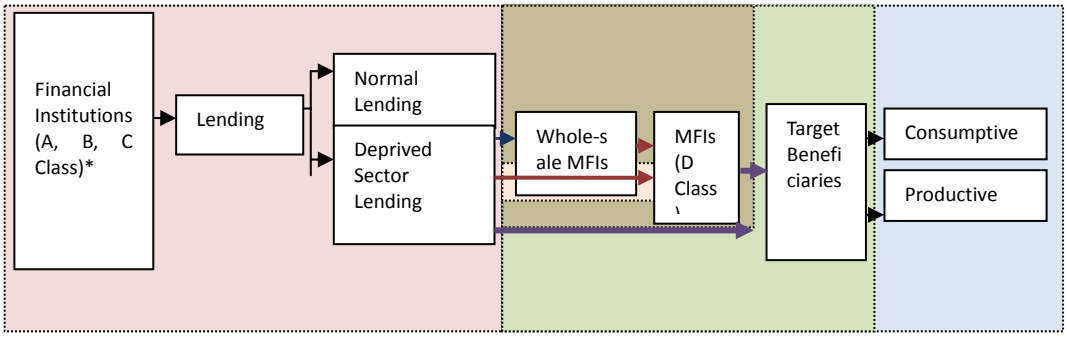
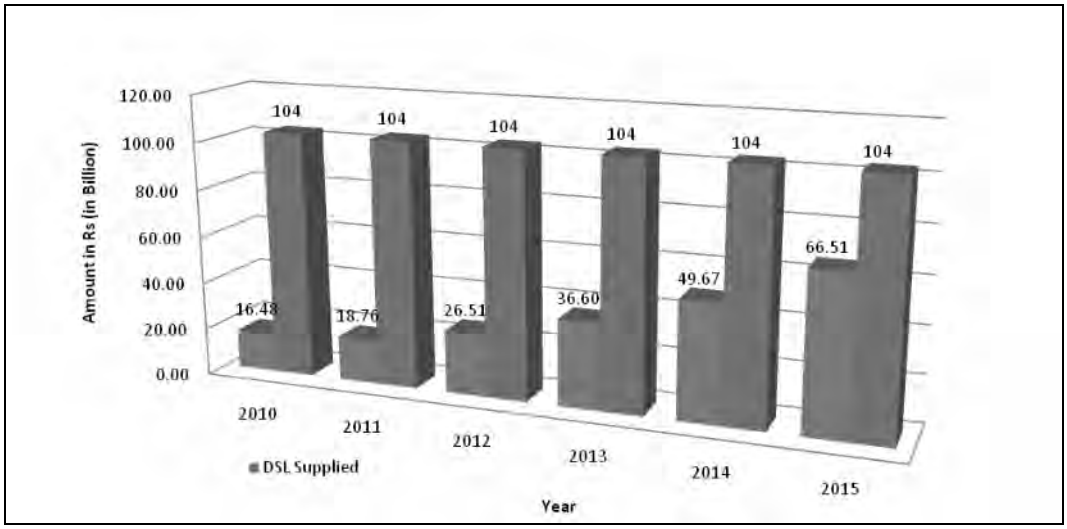
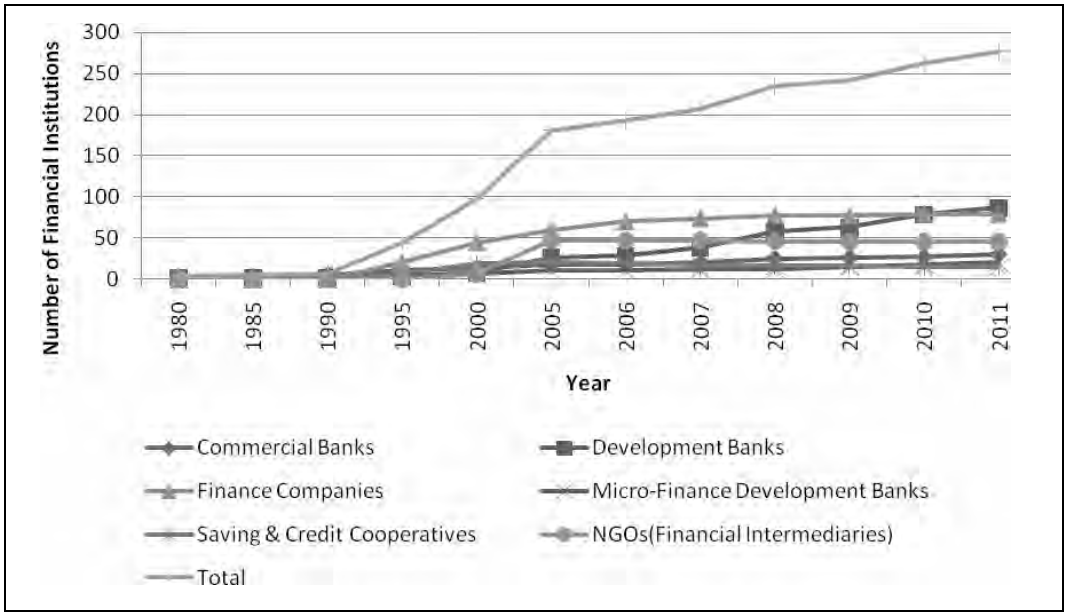


FIGURE 2: Demand of Rural Credit Vis a Vis Supply of DSL



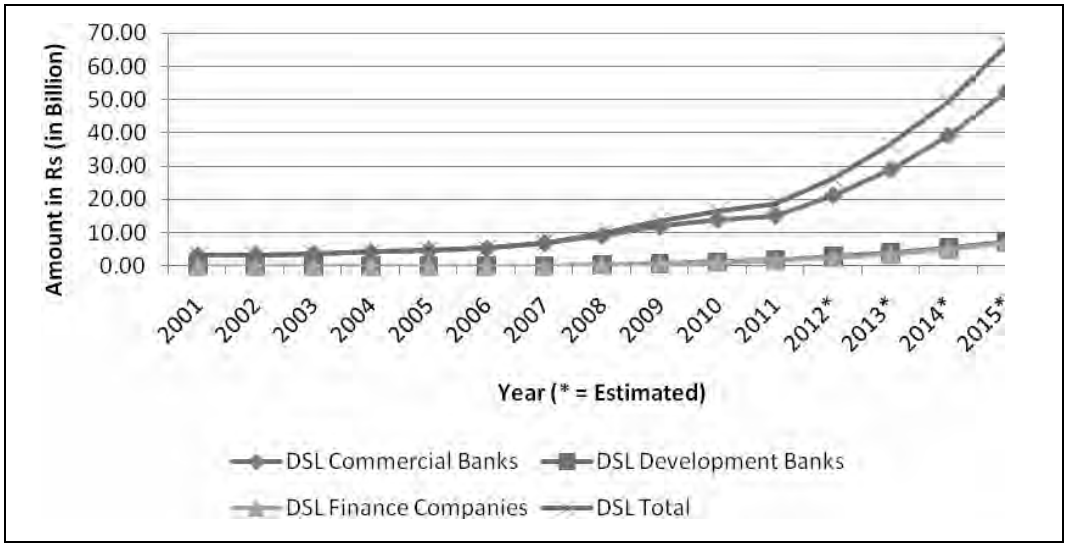
Source: Own estimation based on data from NRB 2010b and NRB 2011b

FIGURE 3: Increase in No of Financial Institutions



Source: Based on data from NRB 2011b

FIGURE 4: DSL from different Financial Institutions



Source: Based on data from NRB 2011b

TABLE 1: Current DSL at a Glance

Ceiling on Loan	Target	Collateral
Rs. 90,000	group/individual	group/individual guarantee with or without (in case of D Class institutions) collateral
Rs. 200,000	micro-enterprise	must not exceed one-third of total credit to be provided to the deprived sector
Rs. 200,000	youths from deprived families for studying secondary and higher secondary level technical and vocational education has been continued	without collateral (arrangement will be made to cover guarantee of such credit)
Rs. 300,000	micro enterprises operated by women	NRB will provide refinance for such credit at general refinance rate
Rs. 10,000,000	hydropower project of up to 500 kw capacity with at least 50 percent investment participation by community user committee or private sector	
Rs. 10,000,000	consumer committee or cooperative for community irrigation in rural area and credit for buying tractor, thresher and other agricultural equipments	
Rs. 10,000,000	rural community hospitals meeting specified standards	
Rs. 150,000	farmers to establish cold storage in collective ownership for preserving food grains	
Rs. 250,000	business such as animal husbandry, fishery, and bee-keeping	

Source: NRB 2011a

TABLE 2: Increase in percentage of provisioning among different financial institutions for Deprived Sector Lending (2008 -2015)

Bank Class	2008	2009	2010	2011	2012	2013	2014	2015
A- Commercial Banks	3%	3%	3%	3%	3.50%	4%	4.50%	5.00%
B- Development Banks	1.50%	2%	2%	2.50%	3.00%	3.50%	4%	4.50%
C- Finance Companies	1.00%	1.50%	1.50%	2%	2.50%	3.00%	3.50%	4%

Source: NRB, 2010b and NRB 2011a

TABLE 3: Growth of Financial Institutions

Type of Financial Institutions	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011
Commercial Banks	2	3	5	10	13	17	18	20	25	26	27	30
Development Banks	2	2	2	3	7	26	28	38	58	63	79	87
Finance Companies				21	45	60	70	74	78	77	79	79
Micro-Finance Development Banks				4	7	11	11	12	12	15	18	21
Saving & Credit Cooperatives				6	19	20	19	17	16	16	15	15
NGOs(Financial Intermediaries)					7	47	47	47	46	45	45	45
Total	4	5	7	44	98	181	193	208	235	242	263	277

From 1980 to 2010 are the data upto mid July, for 2011 mid January

Source: NRB 2011b

PAPER NO. 6

Innovative Economic Strategies towards Financial Inclusive Growth in Emerging Economics: A Case of Indian Banking Sector

D. Nageswara Rao*

Abstract

This Policy research aims to promote significance discussions on policy options in the preparation of innovative economic strategies towards financial inclusive growth in emerging economies. This policy research briefly provides some innovative economic strategies reinforce of each other perspectives on financial inclusive growth.

The first objective is to analyze the policy issues and challenges, constrains encountered by the emerging economies in the perspective financial inclusive growth. The second one is to suggest the police conceptual and institutional framework of innovative economic policy towards financial inclusive growth. Therefore, it helps countries, police makers, stakeholders, and multinational development organizations(such as world bank, ADB, AFDB,UNDP, UNO, IFC), private global banks and governments take advantage of and expand their policy space for their effective room to exercise for formulating innovative economic strategies towards financial inclusive growth with focus on women entrepreneurs.. Such measure is useful to compare the levels of financial inclusion across economies and across states can be used to monitor the progress of policy initiatives for financial inclusion in a country within a particular time period. Innovative Economic strategies are defined by a variety financial inclusive growth towards development of appropriate financial products, access to finance, access to resources, technology and markets to all segments of the population. Furthermore, indicated that recommendations are suggested that to developing country governments, multinational organizations, global banks and private development banks, companies to operate effectively towards financial inclusive growth.

I. INTRODUCTION

Rising prices of food and energy are at the top of the list. Food costs account for well over a third of household budgets for the region's poor, meaning that the health, education and productivity of these already vulnerable individuals will be affected disproportionately by any erosion in food and nutrition security. Energy is a primary input for the region's massive manufacturing activities; more expensive energy will raise costs and, potentially, make this vital sector less dynamic.

Unemployment remains an additional concern, especially among young people. There is a need to strengthen climate change mitigation and adaptation. And those economies whose exports to

* PhD Research Scholar, Department of Economic, Andhra University

developed countries are expected to experience a slowdown in 2011 need to generate alternative sources of demand, including within their own countries.

The key immediate challenge is to address rising food prices that are threatening to seriously undermine the process of poverty reduction. ESCAP projections reported in the Survey 2011 suggest that as many as 42 million more people could remain in poverty in 2011 as a result, in addition to 19 million already affected in 2010. The challenge has to be addressed through a combination of policies at the national, regional and international levels including tariffs and tax policies, regulation of hoarding and speculative activity in food commodities, disciplining the conversion of food into biofuels, using buffer stocks in a countercyclical manner, and protecting vulnerable households through targeted subsidies. In the medium term, it is critical to increase food supply by paying greater attention to agriculture and rural development and to foster a new green revolution based on sustainable agriculture.

II. WHY INCLUSIVE GROWTH IS IMPORTANT TO EMERGING ECONOMIES

There is a growing consensus among emerging economies that an inclusive growth agenda would not only mitigate the adverse impact of the economic crisis on individuals and families, but would shorten the economic down turn at large, strengthen recovery and put the global economy on a more sustainable growth path in the longer term.

What is inclusive growth?

Inclusive growth is an approach to economic development that is anti-protectionist, fuelled by market-driven growth and facilitated by government. It is non-reactive. It does not just respond to immediate macro-economic concerns. It is a long-term strategy, extending across sectors and strata and focuses on productive employment rather than just income redistribution. Ultimately, inclusive growth empowers individuals so that they are better able to reap the benefits of globalisation and to withstand future economic shocks. It is therefore critical to poverty reduction as well as to sustainable economic growth.

Emerging Economics Commitment to inclusive growth

From the outset, as Emerging Economies Leaders established goals of free and open trade, they recognised the need to: "...develop more effectively the human and natural resources of the Asia-Pacific region so as to attain sustainable growth and equitable development of Emerging Economies, while reducing economic disparities among them and improving the economic and social well-being of our people."

This year, as Emerging Economies Trade Ministers expressed notable determination to "ensure that the benefits of globalisation are more evenly spread" in positioning the region for economic recovery and sustainable growth.

III. NEED OF THE INNOVATIVE ECONOMIC MODELS

Innovation is increasingly being seen as the currency of the 21st century. Innovative solutions will impact not only competitive advantages in business and markets, but will provide answers to the most significant challenges facing the world we live in. Governments across the globe are making a concerted effort to design focused strategies for driving innovation. Economic growth in developing countries is desirable and necessary, but it is the distribution of that growth that matters for poverty reduction, rather than the pursuit of growth for its own

sake (Elizabeth Stuart 2011)[1]. Developing country policymakers have recognized that complex and multidimensional factors contribute to financial exclusion and therefore require a comprehensive variety of providers, products, and technologies that work within and are a reflection of the socio-economic, political, cultural, and geographic conditions in their countries (UNDP, 2009)[2].

World Bank Institute (2011)[3] stated that "Innovation policy is becoming more mainstreamed and moving to the center-stage of the global development**".** Policies for inclusive growth are an important component of most government strategies for sustainable growth. Innovation policy plays a critical role in the economic agenda. Innovation is the key driver of economic development, a way to generate pro-poor growth, to get more output from limited

Diane-Gabrielle Tremblay (2004) said that "Innovation economists believe that what primarily drives economic growth in today's knowledge-based economy is not capital accumulation, as claimed by neoclassicalism asserts, but innovative capacity spurred by appropriable knowledge and technological externalities. Economics growth in innovation economics is the end-product of knowledge (tacit vs. codified); regimes and policies allowing for entrepreneurship". There are successful examples of reforms that spurred the expansion of mobile banking, point-of-sale technology and smart cards, and more effective use of state banks to increase financial access already abound. Providing effective regional platforms for the sharing of best practices and technical capacity-building can accelerate the flow of finance to millions of potential micro-enterprises **Julius (Caesar Parrenas,2011).**

IV. POLICY APPROACH AND MISSION

The approach to policy outlined here flows from a new understanding of the innovative economic strategies towards Financial Inclusive Growth and its importance. At the outset of this policy, it is necessary to define the inclusive growth as understood in this policy, and to explain why it is more accurate. The policy will give the insights for governments and private sectors in its all matters concerning development of the financial inclusive growth. It will realise the aspirations for the innovative economics models for inclusive growth economy expressed in the Emerging Economies.

The vision of this policy is to establish the position of the financial inclusive growth as the grassroots expression for access to finance, resources, technology, and market for all, and it's acknowledged as the full and legitimate partner of the financial inclusive growth in the economic system India.

The mission of this policy is:

- To focus the attention of policy-makers, officials and the private sector on the need to achieve the maximum participation of citizens, both urban and rural, in the economic opportunities offered by a dynamic and diversified for inclusive growth; and
- To provide insights for creating an enabling policy and regulatory environment in which the inclusive growth can flourish and the negative aspects of informality are minimized.

The policy objectives that the policy aims to achieve are:

1. To enable the financial inclusive growth to grow in size and in the diversity and quality of the goods and services it produces, in accordance with the needs of the people.

2. To make possible for access to finance, resources, technology and market to embrace a growing proportion of the population as producers, and to yield to them increasing cash incomes; and
3. To allow the financial growth to supply a growing proportion of the marketed consumption and investment needs of the low- and middle-income population, leading to a progressive 'nationalisation' of the grass roots economy

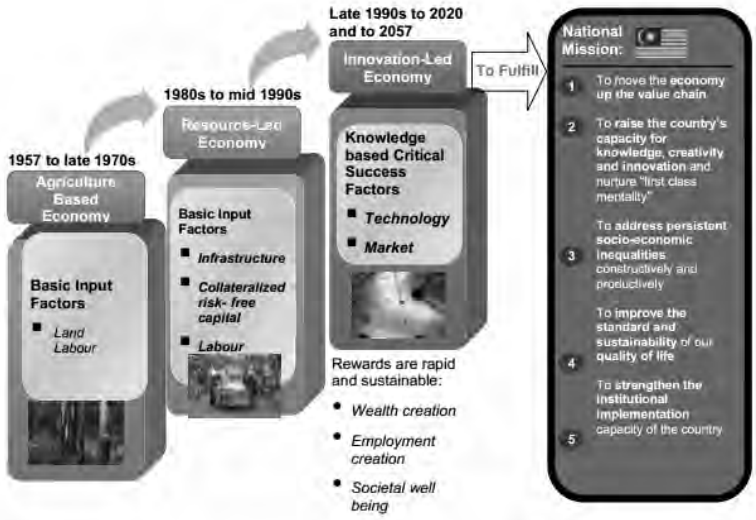
V. CURRENT THREATS AND OBSTACLES TO ECONOMIC RECOVERY

The chronic poverty in South Asia is intimately linked to social exclusion and discrimination along the lines of caste, tribe, gender, religion and language. Though the factors which deny decent livelihoods are identifiable, social power structures constructed through thousands of years are difficult to transform as they are legitimized by religion and are strongly defended by the privileged classes. As a result, inclusive growth has eluded the South Asian societies. Though the region is rich in resources, it occupies a low place in terms of Human Development Index and other key indicators which determine the quality of life. South Asian economies seeking the assistance of world financial institutions like World Bank and IMF are subjected to their conditionality's, like withdrawal of subsidies and other welfare measures which hitherto formed the obligation of the State. Challenges like extremism are rooted in poverty inequalities and other tradition guided structures which evolved over centuries.

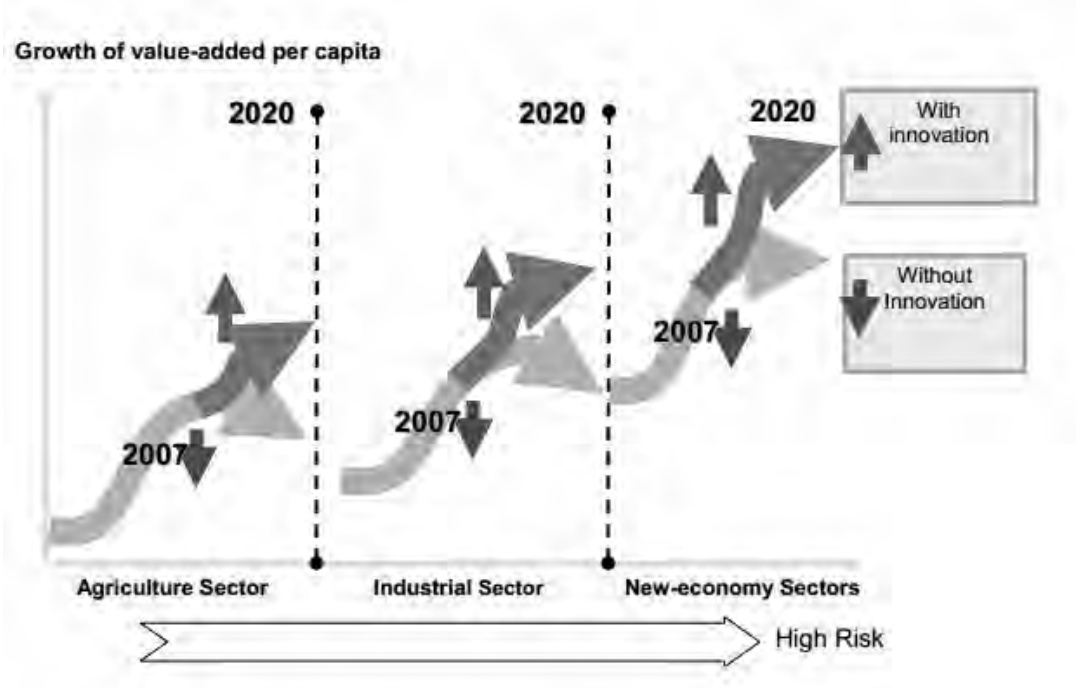
Threats to the economic recovery: the economic recovery is only unevenly distributed between developed and emerging economies. it also unbalanced between with the economies of SAARC region. in the latter, the rise oil and food prices has created inflationary pressures and strains on low wages. moderate growth rates have so far been insufficient to lower unemployment level. in the wake of the protests, tourism has dropped harming economic recovery

VI. SETTING THE CASE OF CHANGE

As we entered our next 50 years of independent and the next leap of Malaysian Economy, we have had to pause and examine if our strategies and activities were still relevant. Developing countries like Malaysia in the past 50 years had experienced a substantial economic transformation, moving from a resource-based economy (Land and Labour) to a production and services-oriented economy where Infrastructure, Labour and Capital (collateral base) are the key element.



There is a need to shift the resources based economy and production based economy to sustainable economic where knowledge and "know-how" become the main drivers for economic growth. It is no longer enough to be assemblers or expert practitioners of old methods, as we will surely be overtaken by those with cheaper labour. This has led to the migration into Innovation base economy. Thus the factor of production in traditional economy is NOT RELEVANT in the Innovation Economy.

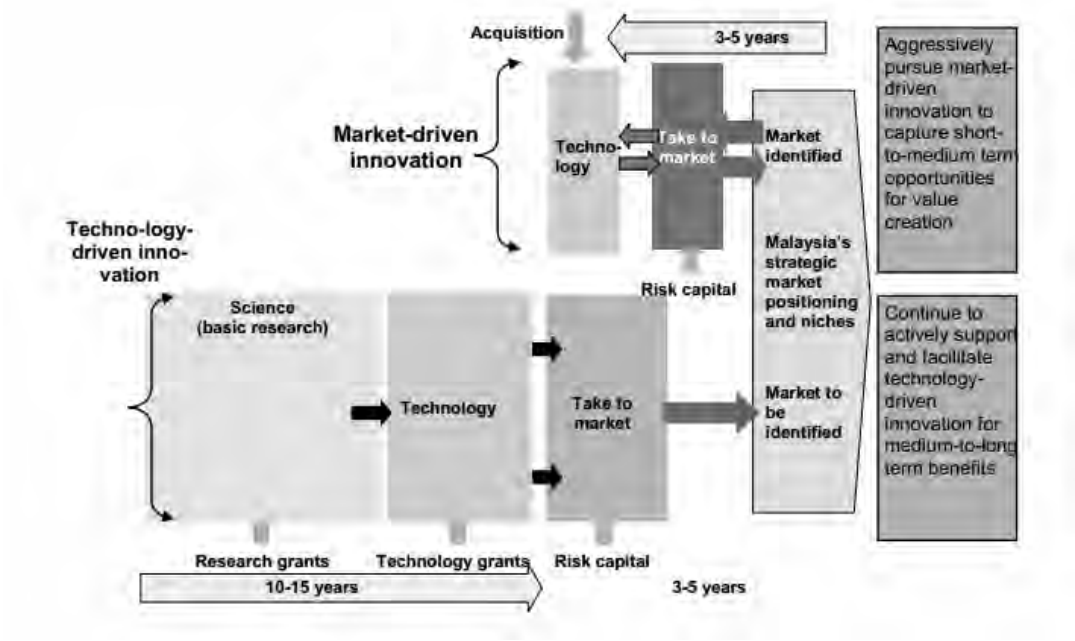


The growth of value added per capita will increase in the various sectors (agriculture, industrial and New Economy) with innovation initiatives as compare without innovation. The science and technology developed during this period is very much pivoted by the supply demand factor rather than on market demand. The characteristics of the New Economy can be better seen by looking at the characteristics of the Old Economy or better known as the Resource/Asset Led Economy and the New Economy or better described as the Innovation Economy. The characteristics of the Resource/Asset Led Economy are as follows: Land and raw materials primarily for commodities

VII. MALAYSIA INNOVATION MODEL

Malaysia has experienced robust growth since independence with average GDP growth of 6%. Our growth has been based on national resources like petroleum; and commodities like rubber, palm oil and manufacturing. Our success has been mainly driven by traditional drivers of growth, which are land, and raw materials…cost-competitive labour… and capital.

The Balance Approach of Market and Technology Driven Innovation Adopted by Malaysia



But the world is changing Malaysia runs the risk of being "stuck in the middle" between the industrial nations and emerging giants of India and China. With traditional factors of an investment-led economy being challenged by cheaper labour and commodity based industries like palm oil threatened by other economies and FDI being diverted to other Asian countries.

- Malaysia needs to supplement the investment led economy with innovationdriven with growth in core and new sectors, managing technology, market access, and risk-based capital as in Korea and Taiwan.

- Innovation-led growth is driven by two models: technology driven innovation model and the Market-driven innovation model.
- In a technology driven innovation model, scientists are funded for R&D, and technology will be developed organically thus eventually commercializing their ideas for the global market.
- In a market-driven innovation model, the market is determined before hand by knowledge entrepreneurs who will acquire the best science and technology. This will provide rapid commercialization to meet the needs of the market.

The world is rapidly changing. Our successes in capitalizing our resources have bode well for our country, but the changes in the market landscape, threatens our future. How can we change ourselves to meet the challenges of the future and migrate ourselves into the innovation-led economy?

The National Innovation Council Meeting on 30th November 2007 had accepted the recommendations based on a comprehensive study on the National Innovation Agenda.

VIII. INNOVATIVE ECONOMIC SOLUTIONS

1. Models for inclusive growth: Strategies for inclusive growth may be viewed as compromising two broad thrusts:

- **Facilitating economic restructuring** : (or structural adjustment) to make economies more resilient and adaptable to competitive pressures; and
- **Strengthening social resilience:** to provide security for the vulnerable while rewarding effort.

2. Anticipated outcomes: Inclusive growth strategies will include investment and infrastructure that reach out to more people; education that enables more people to enter productive employment; and will ensure that these people can both gain a stable income and become members of the consumer class.

These outcomes would in turn fuel recovery and create a virtuous cycle of increased employment and higher living standards. At the same time, stronger safety nets will reduce the need for precautionary savings and help to boost domestic demand in surplus economies, thereby addressing macroeconomic imbalances. Neaime expressed his disappointment at the report's conclusions, stating that they do not sufficiently consider the new political context across the region.

Same solutions: IMF report advocates for the same solutions as were being implemented before the uprisings. He argued that this is a mistake, since many of those solutions had hurt the Emerging Economies and thus had a role in fomenting the current discontent.

3. **Fiscal Responses**: the fiscal responses in the report to address the pressing social issues facing Emerging Economies were insufficient. He described them as "short-sighted" only addressing the symptoms instead of the structural causes behind the current problems. He argued that overall Emerging Economies countries had made progress toward fiscal balance and low inflation-two of the IMFs customary concerns. Suggested redirect the immense fiscal capacity exporting countries to promote a more inclusive redistribution both across the region and within individual exporting nations.

4. **A new development model**: According to the Emerging Economies stands at a crossroads. It must shift away from what he described as the standard neoliberal agenda-which he holds accountable for the current unrest and move towards the implementation of a new approach that "would be more holistic and integrate all social aspects

5. **Inadequate solutions:** Achy described the report as advocating three main goals: job creation, reallocation of subsidies, and the promotion of access to finance for small- and medium-size enterprises. These goals, he argued, are not new. The absence of long-term development vision in the Emerging Economies, the prevalence of corruption and weak governance have harmed employment even more than demographic growth, a lack of education and training tied to employment needs, and labor market rigidity.

6. **The crucial role of institutions:** the importance of institutions in the implementation of a more inclusive model of development. "'Inclusiveness' is not just inclusiveness of the outcome but also inclusiveness during the policy design," he stated, suggesting that a wide variety of groups and interests should be consulted. "Just as home-grown protests lead to political transformation, a home-grown movement can lead to economic transformation," Achy concluded.

IX. THE RECOMMENDATION

1. Over-arching Recommendation: As a matter of priority, to shift from a resource-led economy to an innovation-led economy with significant global presence, driven largely by domestic private enterprise.

Economic Model: The shift to be incorporated with urgency in the nation's macroeconomic framework, be adopted Aggressively pursue market-driven innovation to capture short-to-medium term opportunities to create jobs and wealth; And to continue to actively support and facilitate technology-driven innovation for medium-to-long term benefits.

Realign resources to facilitate implementation of an appropriately balanced approach to innovation, i.e., market-driven and technology-driven innovation; Adopt this realignment in the 9MP mid-term review, and reflect the new approach in the '09 budget proposals

The government continues to lead research in basic science (supply-side), while private sector drives market-driven innovation (demand-side). Role of government will now emphasize risk mitigation for private sector's drive for market-driven innovation;

a) Government to drive basic science & research (supply-side)

b) Government and private sector to actively collaborate to drive in A purposeful way technology-driven innovation with Government mitigating risks

c) Private sector to drive market-driven innovation, with facilitation and support through risk mitigation from the Government (demand-side).

d) The other relevant agencies to work out the implementation framework including the portfolio of incentives needed for risk mitigation, to be implemented and coordinated through the National Coordination Task Force on Innovation chaired by the Chief Secretary (with expanded terms of reference and to include private

participation) Government to adopt a dual approach: Technology acquisition, and organic development of technology from science; specifically:

2. Technology

Technology acquisition:

1) Facilitate acquisition of technology by private sector (both locally and globally) through mitigation of funding risks (e.g., provision of a portfolio of incentives & grants); Also, establish a global institutional mechanism to make available technology intelligence to domestic stakeholders

2) Technology development from basic science: Government to continue to drive organic technology development from science, with a focus on raising the yield of taking science to technology; in particular by encouraging merit-based allocation of funding among public research institutions for S&T research; Priorities on basic research to be set based on national technology needs and the need to maintain national technology security

3) IP and Patents: Modernize and make more efficient the process of IP/patent registration, including outsourcing where needed for efficiency, and increase the newly established technology grants and other incentives to facilitate conversion of IP to technology.

3. Market

Success in market-driven and technology-driven innovation to create income growth and jobs will require the private sector to actively lead in identifying market opportunities, and taking innovative products and services to market; government to facilitate this effort by mitigating market risk; specifically:

(a) Facilitate "take to market" activities (especially global) by providing a portfolio of incentives (e.g., fiscal, equity participation) to support production, logistics, trading and distribution, sales, and branding, and where needed to assist through acquisition

(b) Expand existing services already being provided to the private sector to facilitate access to global markets, including collaboration with foreign companies and experts, and ready access to extensive and up-to-date market intelligence

4. SMES / ENTREPRENEURS

SMEs are a substantial part of the economy but are mainly in the services industry, where technology use is basic. The innovation economy demands a new breed of SMEs that can help drive market-driven & technology-driven innovation to create jobs and wealth. Unlike traditional SMEs, these new Innovation SMEs (I-SMEs) need to manage risks associated with market-driven and technology-driven innovation, namely technology risk, funding risk and market risk. Hence Government support is urgently needed to mitigate these high risks in order to achieve a critical mass of this new breed of I-SMEs, especially in ICT, biotech and other growth areas

Provide fiscal incentives (including lower individual income tax) to reduce their tax burden and encourage greater participation in high risk ventures Launch a Fast-Track Programme for I-SMEs to shorten time-to-market by providing:

- Ready access to CAPITAL risk, including for technology acquisition
- Priority access to Government's procurement for competitive Malaysian innovation products – Buy Malaysia First (as per Recommendation 6)
- Patents registration

5. Human Capital

Human Capital, in particular entrepreneurship, is the driving force of the Innovation-led economy; its use pervades both the market-driven and technology-driven innovation approaches. Serious gaps exist in critical skills and expertise reflecting rising demand for quality human capital and a shortage of quality supply, exacerbated by increasing talent outflow. The Government has a critical role in addressing the wide range of skills shortage, which can be mitigated in the short-term through a friendly regulatory regime and smart use of incentives, to attract global talent and aggressively upgrade human capital through training and mentoring:

Realign resources to support efforts to:

(i) include entrepreneurship including cross-cultural, multi-disciplinary, interactive communication) into the education curriculum, and

(ii) develop further key technical disciplines specifically researchers, scientists, prototype engineers and designers,, as proposed in the recent National Higher Education Action Plan; in addition, expand the Plan's focus

(iii) develop key financial and management disciplines (specifically innovation risk managers, production managers and brand managers) to add depth to entrepreneurship

6. Institution

The success of the market- and technology-driven approaches to innovation are critically shaped by effective institutions (e.g. administrative infrastructure, rule of law) that facilitate effective relations and interactions among stakeholders. Recommendations have been proposed to mitigate the key risk elements of the innovation-led economy, including SMEs and Human Capital. To complement these, cross-ministry/agency consultation is needed to align policies and priorities reform measures as an on-going process supported by effective monitoring.

X. CONCLUSION

Provide in particular a portfolio of incentives (including fiscal) and other measures to create a conducive environment to attract global talent to fill critical gaps, and transfer skills and knowledge (train and mentor). Specifically, retirees with relevant skills should also be targeted in this Initiative. Conduct new programs targeted at entrepreneurship, innovation risk management, and mind-set change with university/industry, starting with Harvard and (as offered by them) to all stakeholders, and extending program offerings through collaboration with specialist global institutions.

SESSION REPORT

Name of Session Chair	Prof. Dr. Rudra Prasad Upadhyay		
Session Title	Monetary, Banking and Financial Policies-I		
Session Location	Regency Hall, Yak and Yeti, KTM	**Session Time**	10:30-12:00;Day1, 20,April

SN	Title and Summary
1	**Title**: **An Empirical Analysis of Default on Agricultural Related Loans: Evidence from China**
	Summary This paper tries to investigate the default on agricultural related loans using secondary data sources from a leading state owned bank in China. It has employed descriptive analysis as well as the linear probability model, multinominallogit model and ordered logit model. Using the corporate loan data of one of the state owned bank, the paper concludes that agricultural related loans are more likely to default than non-agricultural related loans after controlling for other factors. In addition, regarding the determinants of the loans, the possibility of agricultural related loan default is high for the guaranteed and collateralized loans, short-term loans, loans with longer maturity and higher base interest rate of the loan. Firm specific characteristics such as the size of the firm, managerial quality of the borrower and the ownership structure also have significant influence on the default of the agriculture loans. Thus, the investigator argues that policy makers should pay more attention to the macroeconomic policies such as the base interest rate, on the systematic risk in the agricultural related loan market.
	Issues Raised: • The people's reaction towards the agricultural related loan policy in china. • The impacts on the agricultural market mechanism after credit supply by financial institutions. • The policy of the Chinese government toward agricultural market mechanism. • The central bank of china's policy towards agriculture. • The central bank's policy to uplift the agricultural in china. • The subsidy in Chinese agricultural sector. • Policies to address the problem of high default rate of agricultural relatedloans.
2	**Title: Cost and Benefits of Deprived Sector Lending and Role of Financial Institutions**
	Summary The paper discusses about the importance and need of detailed empirical economic analysis of deprived sector lending (DSL) policy in Nepal by taking into account the costs and benefits of the policy to different economic entities. Using secondary data sources and qualitative interview with key stakeholders, it has mainly concluded that the rigorous empirical study is in urgent need to assess the economic desirability as well as the costs and benefits of the policy based on the reliable data. Additionally, the paper also highlights the

	benefits of the DSL policy for deprived people, microfinance institutions and financial institutions which may outweigh the costs of the policy in terms of increased costs of fund, increased market risks and duplication of investment. Viewing the financial inclusion as a grave issue, the paper has recommended the continuation and expansion of the DSL policy along with the need of effective and proactive monitoring and supervision mechanism of the DSL policy.
	Issues Raised: • Justification of the future of DSL policy as a good policy. • Geographical distribution of the DSL in Nepal. • Measurement of costs and benefits of the DSL policy. • Possible ways of addressing DSL related issues by the government. • Ensuring effective monitoring and supervision of DSL policy.

Session Moderator: Birendra Bahadur Budha

Signature and date