

FARM CREDIT, FARM CREDIT DEFAULT RATE, AND FARM PERFORMAMCE: THE INDONESIAN CASE

Muyanja Ssenyonga

A Ph. D. Candidate of Gadjah Mada University, from Uganda

INTISARI

Penelitian ini bertujuan untuk menganalisis dampak dari intervensi pemerintah dalam penyaluran kredit terhadap kinerja sektor pertanian. Dengan menggunakan kredit program di Indonesia sebagai studi kasus, analisis dampak kredit usahatani terhadap hasil pertanian dilakukan, dan menentukan beberapa faktor yang mempengaruhi tingkat tunggakannya. Analisis lebih lanjut dilakukan untuk mengevaluasi dampak penyuluhan terhadap kinerja kredit usahatani.

Hasil menunjukkan adanya hubungan yang positif antara tingkat kredit usahatani yang disalurkan dan hasil pertanian. Namun, biaya yang harus ditanggung dari keberhasilan tersebut berupa tunggakan yang tinggi, yang berdampak negatif terhadap hasil pertanian. Hubungan yang menggembirakan adalah adanya dampak yang negatif antara tingkat penyuluhan (agricultural extension service) dan tunggakan kredit usahatani.

Penyaluran kredit usahatani dilakukan melalui beberapa mekanisme yang berdampak pada distorsi pasar kredit, yang berakibat pada menurunnya kinerja sektor finansial secara keseluruhan. Walaupun demikian dilihat dari pentingnya produksi padi dalam perekonomian Indonesia, biaya yang harus ditanggung masyarakat berupa biaya tunggakan yang tinggi dan distorsi pasar input dan output, merupakan necessary evil yang harus diterima. Hasil juga menunjukkan bahwa meningkatkan tingkat penyuluhan merupakan suatu keharusan untuk perbaikan kinerja kredit program.

Kata Kunci: Kredit program; tunggakan; penyuluhan; distorsi ekonomi

INTRODUCTION

Directed credit policy, alternatively called targeted lending, involves the expansion of low interest rate credit to stipulated sectors, subsectors or individuals by state owned banks as well as private banks in compliance with the directives or instructions issued by either the monetary authority or government. This policy is manifested in a number of selective credit policies adopted in developing countries and is basically driven by the need to accomplish several objectives, among which include: 1) the encouragement of lower yielding investments, which nevertheless, are considered important in the drive to promote social welfare. The low interest rate on investments which have high social returns but low private returns is expected to ensure economic growth, for without government participation their availability is a hard bargain for the private sector. This has the underlying assumption that the government knows best what investments had to be taken and that such investments once undertaken can propel economic growth; 2) the setting of low long-term rates of interest to encourage firms in priority sectors undertake long-term investments at lower risk than would have been the case without government involvement; 3) ensuring credit allocation to enable the undertaking of those investments considered the best for economic development; 4) Making loan rates lower than deposit rates to

encourage low cost investment; 5) and as a way of reducing income disparity between the economic sectors by easing accessibility of cheap credit to sectors normally regarded as risky.

The achievement of the above objectives is often realized through various techniques of selective credit provision. Fry (1995:433) identifies six major categories through which selective credit extension is executed. These comprise of: 1) subsidized loan rates for priority sectors; 2) differential rediscount rates; 3) direct budgetary subsidies; 4) credit floors; 5) credit ceilings; and 6) specialized financial institutions.

Motivated by the dire need to increase the level of rice self-sufficiency through the provision of cheap credit that enabled the adoption of inputs in form fertilizers, seeds, pesticides, planting and milling machinery as well as for the payment of labor, directed credit was considered the best way to facilitate the accomplishment of such a task. Just four teen years after Independence 1959, the government embarked on the long treacherous, yet uncharted waters of directed credit provision. Changes in governments haven't affected this one spirit to this day. Many such programs have been conducted with differing levels of success over time, with the underlying theme being the attempt to improve on the flaws fraught in previous ones. In the course of the successive programs implementation much headway was made in a number of areas.

It is an inalienable fact that direct government programs have fostered the change in farming practices by farmers, from traditional ones to better ones suited to high yielding varieties HYVs output. Credit enabled the securing of good quality seeds, fertilizers, pesticides, working capital, facilitated irrigation and road infrastructure construction and maintenance. (Soeharjo, 1976 ; Gunawan 1982). The use of better inputs induced increases in land productivity. More labor could be hired, better resource mixes, and more investment in land. The reduction of the credit constraint, which had been a millstone around many a farmer's necks, unleashed the potential for higher factor productivity. The consequence was increased volumes of output.

With higher agricultural output farmers' incomes soared, enabling them to hire more labor, undertaking more investment in farm buildings, acquisition of agricultural machinery, and livestock. The food security problem in Indonesia was overcome despite temporarily, as in 1984 Indonesia attained food self-sufficiency status.

It is not disputable that thanks to the rice intensification programs, the level of savings increased, availing funds for investment in other sectors of the economy. Thus it could be argued that direct government intervention in credit provision by easing the credit constraint facing small farmers, opened new frontiers by making it possible for higher consumer surplus, the source for investment in other sectors of the economy.

The downside to the direct credit program policy in Indonesia is not any less phenomenal however. Such massive injections of credit left high costs in their wake. This is evinced by the high delinquency rate of the direct credit programs with Bimas showing an increase in default rate of 26 per cent in 1983-1984 period from 7.9 per cent of the 1973-1974 period, which was astounding by all accounts. Farm Credit showed the most staggering delinquency hitting 91 per cent in the 1988/1989 period from 18.6 per cent 1984/1985 as illuminated in tables 1 and 4. Such high default rates are attributable to a variety of factors such as lack of proper prior investigation into the needs of the credit recipients meaning that oftentimes credit

diverged from the form and quantity the farmer desired, low collateral capabilities of farmers, insufficient credit supervision, coupled with scanty incentives for repayment proved signs of bad omen for the performance of direct credit programs in Indonesia. Calls for a government hands-off policy have reached the crescendo ironically fired up by government discreet liberalization of the financial sector as well as the "stop-go" real sector reforms. Beginning with the 1978 devaluation, which was in the main geared towards the promotion of exports, the 1983, 1988 and 1990 financial sector reforms cleared most hurdles that obstructed competitive operations in the sector (Marshall, 1994). Interest rate on loans non-priority loans and deposits became the responsibility of the respective financial institutions, which immensely leveled the playing field; the scrapping of 32 out of 36 priority programs in 1990 meant that the degree to which financial institutions were forced to carry forced assets on their portfolios was reduced quite considerably.

Realizing that credit performance fell short of expectations the government injected resources in availing the services of field agricultural officers to accompany credit extension. The part played by scores of agricultural extension officers who crisscross mainly rural areas has never been greater. The main focus for changing the reluctant farmer into the most adoptive of new innovations is piled on the shoulders of these arduous men and women. The efforts of extension servicemen haven't been fruitless. For being the prime-movers of the farmers towards better farming practices as well as equipping him/her with skills to utilize appropriate technology, *sine quo non* for increase in total factor productivity. It is thus hardly an overstatement to refer to the role expected of agricultural extension workers as the prime movers of agricultural development and linchpins of national advancement.

It can be aptly put however, that the government still believes in the efficacy of directed credit programs despite some forays of financial reforms. It is apparent therefore that the issue of direct credit; which is credit lent by financial institutions to stipulated sectors, sub sectors and individuals, at prescribed interest rates, continues to play a key role in the farmer's decision making process. Additionally, directed farm credit that in the main is tailored towards rice production, continues to affect the performance of financial institutions especially Bank Rakyat Indonesia and the government treasury due to the high delinquency rate. Focusing on farm credit programme carried out by the Ministry of agriculture, it should be interesting to set the objectives of this research as: 1) an investigation of the impact of the farm credit program on agricultural output; 2) probe into the existence or otherwise of high default rate on farm credit along with probable causative factors; 3) determine the relationship between farm credit expansion and the level of farm credit non-repayment. The rest of the article is presented as follows. The second section explores the literature review and theoretical framework which is followed by section three that takes a snapshot at the dynamics of farm credit program in Indonesia as a case study. Section four handles methodology, while empirical findings and discussion are presented in section five. The penultimate section highlights the conclusion and policy implications.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The impetus for government intervention in credit markets

Decried though it may be government intervention in the economy is regarded by some as the provider of the missing link, with which development hardly take place. Diakosavvas (1997) hails the importance of government involvement in the

economy. Putting prices right is not enough to stimulate growth. It should be in simultaneity with non-price measures such as irrigation provision, infrastructure, and extension service. The instability of government expenditure adversely affects investment and quality of planning with calamitous consequences for output growth and development.

On a more focused note Stiglitz (1994) regards selective credit policies as the mechanism that instills security, order, and continuity in the financial system that is fraught with imperfections and high information costs. Stiglitz (1994) shows unequivocal support for selective credit policies, government intervention, and financial repression as long as the government implements them with its limitations in mind. Among the reasons advanced is the market failure argument. In conditions where the collection, processing and dissemination of information for allocating funds and monitoring them is not optimal, due to market failures, the government has to intervene to reduce the high cost of externalities on the economy at large.

The existence of the diversion of private interest from public interest means that for example the failure of one bank is interpreted by the public as a signal that other banks are about to follow thus sparking off bank runs that may lead to the total collapse of the entire banking system. Thus, the government intervenes as the guarantor of savers' deposits in banks, which reduces the probability of such runs happening. High cost of monitoring activities means that there is unwillingness by individuals to invest in such activities for fear that free riding will take place. Government intervention here improves welfare as it undertakes the provision of insurance, which reduces chances of diverse selection and moral hazard. It is to be expected that developing countries bedeviled by imperfect and incomplete financial markets need the services of the government not only as facilitators, but also as participants in determining and directing the supply and demand of the financial products.

Besides, governments by virtue of their enshrined obligations and responsibilities must be involved in financial institutions. It is thus an onus on the government to prevent the collapse of major financial institutions which, if allowed would have domino effect on the entire banking system. Through the provision of either overt or covert insurance or both, the government ensures that reduce risk taking. Thus according to Stiglitz, some financial liberalization measures by relinquishing their responsibility as guarantors of stability and order are similar to an insurance Companies that decide to abandon fire codes causing disastrous consequences on their clients.

According to Stiglitz, in order to enhance the effectiveness as well as appropriateness of government intervention in the credit market it should, among other measures; 1) be Equipped with compulsion and proscription, which enables it to force financial institutions to adhere to its regulations; and able to use incentives and restraints designed to reduce the moral hazard problem by forcing increases in capital requirements.

It is to be expected therefore that in a state of imperfect information, financial repression can improve the efficiency with which capital is allocated. (Stiglitz, 1994). This due to several factors, among which; 1) the lowering of interest rate on credit improves the average quality as well as quantity of the pool of loan applicants; 2) increases firm equity base since it lowers the cost of capital; and if used in conjunction with alternative allocative mechanism for instance export performance to accelerate economic growth and development; and 3) encourages direct credit programs to priority sectors associated with high spillovers.

Stiglitz contends that the maintenance of some level of financial repression, which by implication presupposes state intervention, guarantees low interest credit to key sectors in the economy. He goes ahead by suggesting that financial repression would ensure higher firm equity as it lowers the cost of capital. After all, according to Stiglitz, low interest credit induces better quality investment, as it increases the pool of applicants. Governments by virtue of their vested powers can use incentives and restraints to reduce moral hazard by forcing banks to participate in consumer's deposits insurance (use of account No.501 in Indonesia), increase capital adequacy requirements, collateral requirements, provision of constant supervision, and ensuring prudential behavior. The government can also encourage lending to sectors with high technological spillovers, which should boost economic growth. State intervention is deemed necessary in developing countries, according to Stiglitz in Lapavitsas (1997) to promote the generation of savings; improve the operation markets through regulation; creation of markets where these are nonexistent; directing investment to enhance growth and stability by limit rent-seeking activities, and providing conducive atmosphere for private investment by ensuring political stability. Additionally, governments improve the performance of markets and institutions as well as equalize private and social return by intervening in developing economies' financial sectors through facilitating access to cheap credit to weak but primary sectors such as agriculture. By allocating credit to sectors that would have found it difficult to obtain it on the open market, state intervention obviates financial restraint, which such sectors would have suffered as a result of credit rationing. Governments played a key role in the development of development banks and financial markets to fill credit gaps in Korea, Taiwan, Malaysia, and Hong Kong. Such mechanisms along with the creation of government bond markets provided funds for long-term investment and led to an increase in commercial lending, which stimulated growth and development.

Bechivenga and Smith (1991) contend in most developing countries owing to the existence of small, spatially distributed narrow taxable units reduces the benefits of direct taxation and indirect taxation (because of low purchases), therefore necessitates some degree of financial repression to ensure the realization of fiscal targets which can not be otherwise attained. Such a view is shared by Petersen and Rajan (1995) who argue for a concentrated market as necessary for credit provision to small fragile developing economies. Developing countries are characterized by shallow financial markets with the result that only few players can profitably engage in credit provision, thus concentrated credit market is considered advantageous. It is in concentrated credit markets that banks can reduce costs and risks of operating small volumes of credit and deposits by going into long standing relationships with borrowers. By so doing, banks increase the certainty of internalizing better returns in the long run (Petersen and Rajan, 1995).

In any case, high information asymmetry implies that were private lenders to be left unfettered, then severe credit rationing can hardly be avoided. This is because of the high level of transaction cost that whatever means lenders use to differentiate among applicants as well as control their behavior there is still residual uncertainty which engenders rationing behavior; prevalence of strong non-price contract terms and existence of sufficiently strong adverse selection and adverse incentive effects in the wake of changing interest rates that makes it nonviable to allocate credit under such terms; the fact that the supply of funds equilibrium taking into account the use of non-price instruments yields lower expected returns to the lender than when credit rationing is employed. In such a situation, banks may end up extending loans to

borrowers with low return projects, leaving out those with high return projects (Stiglitz and Weiss, 1992: 186-187). Governments, having no vested interest may reduce such credit misallocation and deprivation.

The biggest contribution of the government is in the area of bank credit provision to priority sectors, especially agriculture. Providing credit to such sectors as agriculture that face high fluctuations of both output levels and prices, the risk involved is rather too high for private lenders whose main interest is to obtain stable profits. The vagaries in agriculture make it unattractive to most private lenders with eyes focused on immediate profit. Thus the role of the government is quite remarkable in this area. This is in form of subsidized lending, which despite intense criticism has enabled the successful adoption of High yielding varieties in many a developing economy. It is because of such directed credit programs that farmers were willing to alter their traditional farming practices to modern ones in line with High Yielding Varieties. Credit was provided for buying, seeds (HYVs), fertilizers, pesticides, working capital, irrigation and road infrastructure (Seoharjo, 1978; Sendjaja, 1980; Simodiningrat, 1982). The contribution of such programs towards revolutionizing agriculture in the developing world is no longer in doubt (Pingali, 1997; Otsuka and Ruttan, 1977).

It is an indisputable fact that the government involvement in credit expansion to what are considered priority sectors is an established fact in many developing countries, Indonesia inclusive, at least during the past 30 years or so. The channels employed in extending such credit have taken various forms ranging from direct means such as the establishment of development finance institutions (DFIs), which are state bodies entrusted with the purpose of extending credit to priority sectors of the economy, to indirect means such as obliging commercial banks both state and private to either serve as conduits of credit initiated by the government through refinancing services or imposing compulsory percentages of total credit disbursements which has to go to the sectors identified by the government (Odedokun, 1996; Fry, 1995; Rachbini, 1999:20-24). Odedokun exposes five major types of interventions, which are 1) lending requirements imposed on banks; 2) refinance schemes; 3) loans at preferential interest rates; 4) credit guarantee schemes; 5) lending by development finance institutions.

Credit programs, as was often the case were part and parcel of government agricultural modernization programs in which areas favorable for the growing of rice received modern seed varieties, fertilizers, and infrastructure facilities. Areas that benefited from such programs experienced increases in productivity and income. As such credit programs could not be installed in all areas, their implementation created income inequality especially if the programs were not accompanied with land reform, re allocation of resources to non-price producing areas, and provision of education (Otsuka et.al., 1992; Nguyen and Chieng, 1997; Yang, 1997).

Government credit programs have had long-term effects on agricultural inputs procurement and marketing mechanisms which were made easier through the provision of infrastructure, social services, research and extension services, establishment of viable small holder schemes which indirectly improved the feasibility of any agricultural project put in place (Binwanger and Deininger, 1997:1962).

Hypotheses

1) Farm Credit Expansion has a positive Impact on Agricultural Output

- 2) *The Level of Agricultural Extension service Available Reduces Farm Credit Non-repayment*
- 3) *The 1997 Economic Crisis reduced the Supply of Farm Credit*

METHODOLOGY

Data

Data to used in the research covers level of farm credit (KUT) extended by the department of Agriculture to the 27¹ seven provinces in Indonesia, from fiscal year 1995/1996 to 1998/1999. Additionally data on the area covered by the KUT expansion programme in Hectares is used. The level of credit recovery on KUT disbursed by the department of Agriculture is used as means of estimating the percentage of extended credit that ends up non-performing. The percentage of non-performing farm credit is a proxy for the risk exposed to the department of agriculture as the channeling body. It likewise measures the extent to which government treasury is affected since it is the source of the funds used in extending farm credit. Data on agricultural extension service officers is also used in the analysis. All data that employed was obtained from the department of agriculture, Republic Indonesia. In recapitulation data used encompass; data on farm credit, farm credit coverage in hectares of land, farm credit recovery, and agricultural extension service officers.

The model specification

1. The farm credit area coverage equation.

$$KUTC OV = \beta_0 + \beta_1 KUTEXT + \beta_2 NPKUT + \epsilon$$

2. The Non-performing KUT equation

$$NPKUT = \beta_0 + \beta_1 EXTOFF + \beta_2 KUTC OV + \epsilon$$

In which case; *KUTC OV* is the area coverage in hectares for farm credit extended within a period of one fiscal year; *KUTEXT* is the amount of farm credit extended to each province; *NPKUT* is the amount of non-performing farm credit in each province for one fiscal year; and *EXTOFF* is the number of agricultural extension service officers available in each province within the fiscal year

Analysis procedure

The data available is for all variables and for all provinces covers four years. Moreover, data on agricultural extension service officers doesn't show any significant change form one year to the next at least during the period covered by the research. Due to the cross section nature of the data employed, an attempt to correct for heteroskedasticity was made before estimation was done. Two methods of estimation were employed. The weighted 2 stage least squares was used in the first estimation, followed by the three stage least squares.

EMPIRICAL FINDINGS AND DISCUSSION

¹ Timor Timor province was still part of Indonesia during three quarters of the data set

Basing on the results of the two models, Table 1. it is discernible that the 2SLS outperforms the 3SLS viewed from the magnitude of the estimated sum of squares for both equations. If for the first equation R^2 is 0.787, \bar{R}^2 is 0.778 and for the second equation the tables are 0.887, 0.882 respectively, the three stage least squares model depicts for the first equation R^2 of 0.509, \bar{R}^2 of 0.489, and R^2 of 0.882 and \bar{R}^2 of 0.877 for the second equation. However, in the main there are no stark differences in the estimates from both methods of estimation as viewed in Table 8. Nonetheless, the three stage least squares produces better coefficient estimates for the influence of farm credit extension on Rice area expansion (4.04) and non-performing loans (-3.164). The corresponding Tables for the Two stage least squares are 3.067 and -2.141 for the coefficients of the effect of farm credit expansion on Rice area expansion and influence of non-performing farm credit on rice area expansion respectively. Since the concern here is both the estimates and the general performance of the model, results of the First model will be considered for further discussion.

The results indicate that farm credit expansion positively influences the expansion of land coverage *padi* to the tune of 3.067, which means that a one per cent rise in the amount of farm credit extended stimulates an expansion of more than 3 per cent. The amount of farm credit outstanding on the other hand, negatively influences the expansion of the area under covered by the program (mainly paid production). The influence of the non-performing farm credit on area covered is to the tune of -2.141, which implies that a one per cent increase in the non-performing farm credit in one year reduces the area covered by the program in the following year to the tune of more than 2 per cent.

On the other hand the more extensive the area already covered by the farm credit program, the higher the probability that more farm credit will end up non performing. Non-performing farm credit rises to the tune of .98 per cent for every one per cent increase in the area covered (*padi* production). As for the relationship between non-performing farm credit and the number of agricultural extension service officers, it is found out that one per cent increase in the number of agricultural officers, reduces the level of non performing farm credit to the tune of slightly higher one percent. The effects of farm credit expansion, and non performing loans on area covered on one hand, and areal coverage on non performing farm credit are found to be significant, while the influence of extension officers on non performing credit is negative but not significant.

Table 1. Farm credit, extension staff, default rate, and agricultural output

MODEL1 2SLS				MODEL2 3SLS			
Dependent Variable <i>KUTCOV</i>		T-Statistic	P-Value	Dependent variable <i>KUTCOV</i>		T-Statistic	P-Value
Coefficient				Coefficient			
β_1	3.067***	3.721	0.000	β_1	4.04***	4.425	0.000
β_2	-2.141*	-2.512	-0.015	β_2	-3.16**	-3.334	0.002
β_3	-0.014	-0.228	-0.821	β_3	-0.001	-0.025	0.981
β_4	0.981***	102.034	0.000	β_4	0.979***	101.079	0.000

Equation 1				Equation1			
R^2	0.787			R^2	0.509		
R^2	0.778			R^2	0.489		
DW	1.725			DW	1.882		
Equation2				Equation2			
R^2	0.887			R^2	0.882		
R^2	0.882			R^2	0.877		
DW	1.677			DW	1.738		

*Significant at the 5 per cent level

**Significant at the 10 percent level

***Significant at the 1 per cent level

The finding that farm credit positively influences the area under cultivation is in line with theory and earlier empirical researches on the subject Priatnasenjaja (1988), Gunawan (1982), and Seoharjo (1976). It is expected that more credit enables the farmer to optimize his input mix, as he is able for example to improve on his land, or hire more land if it is not sufficient. On addition, with more credit money to pay extra labor is available, which enables the expansion of cultivable land. Besides, more credit expansion enables the farmer to acquire agricultural tools and machinery, which raises the both land, and labor productivity. This is not to mention the accessibility to better seeds more fertilizers, fungicides, and pesticides the farmer enjoys in the wake of credit expansion.

The negative influence of the level of non-performing farm credit on the area under production arises from the fact that non performing credit constitutes risk suffered by the lender, in this instance the department of agriculture representing the government. High rates of default (non-performing credit) reduce the possibility of extending more farm credit the following year. It could also be attributable to the fact that even the farmer himself burdened by high levels of unpaid credit becomes reluctant and fearful to demand for more credit or even receive new credit disbursement, preferring instead to reduce the size of acreage cultivated. In a matter of fact it can hardly be ruled out that as more credit is given out there is a possibility that new credit recipients may not after all be keen on using credit for agricultural purposes or even for productive purposes, their requests for credit being driven by the "bandwagon effect" on seeing that their neighbors had obtained. Such credit ends up being used for activities far beyond its initial purposes with the associated risks involved.

As for the positive influence of acreage of production covered and exposure to non-performing credit reasons are in a multitude. As more credit is extended to mainly the same area producing the same crop, padi in this matter, there is no way loss can be averted if natural disaster strikes. Moreover, more credit expansion could lead to problems of inefficient credit disbursement, monitoring, and collection problems over wider stretches of territory. It could also be due to the high fungibility of farm credit which implies that with more area to cover more credit is called for, a good percentage of which is put in non farm activities.

The influence of agricultural extension though insignificant, portrays the impact of technical knowledge transfer on farmer productivity. The consultation of the farmer with the extension officer paves the way for his improvement on farming practices. The farmer gets to know the relevance of planting in time, harvesting in time and using better agricultural tools available. The farmer is able to utilize the proceeds of his credit on the appropriate inputs, which he uses efficiently. He is also

able to market his output using the most profitable channel, all thanks to the advice given by extension officer. The farmer is clear of what credit implies and that it has to be repaid with the consequence that fungibility is reduced, credit is used for what it is intended to enhancing output considerably. Thus the presence of agricultural extension officers in the farmer's world reduces the misapplication of credit on areas other than those it is meant to serve, re-orientates the farmer's thinking from regarding credit as grant to enjoy; to credit as a loan to help him pay his inputs to facilitate output out of which repayment has to be done. Hence the more the number of extension officers the lower the default rate.

CONCLUSION AND POLICY IMPLICATIONS

The impact of farm credit extended under the auspices of the government has empowered many a farmer in the Indonesia, by the reducing serious credit constraint that hitherto hindered the adoption of new farming practices. It has made accessible High Yielding Variety seeds, pesticides, fungicides, and acquisition of agricultural machinery, which has sparked off amazing growth in labor and land productivity. Direct government credit has equipped farmers with the means to expand cultivable land thanks to the improvements in irrigation, and road infrastructure. The indispensability of farm credit is evidenced by the research results, with level of farm credit significantly influencing output. Nonetheless, the cost in terms of high default rates daunts the program, despite efforts made at curbing it through extension service provision. This is discernible from the research findings with the level of non-performing farm credit adversely affecting output. It also found out that the level of output paradoxically positively influences the level of farm credit arrears. The other notable mishap lies in the ever-fluctuating level of farm credit disbursed. The farmer who depends on farm credit for his output deserves consistent supply of credit from one season to the next. Once such continuity is guaranteed, it is fair gone conclusion on the adverse effect on his output let alone his willingness, to ask for credit next time around. The good news however, is that agricultural extension service negatively influences farm credit non-repayment, which vindicates efforts made by the government in that direction. Farm credit extension has been achieved through credit market distortions, which have bearing on the performance of the financial sector. Arguably, this is more so since credit that is channeled by the government would have been in the hands of financial institutions. More credit provision by the government at such low interest rates crowds out credit available for private sector investment. This is not to mention credit market segmentation that such a policy groomed. Thus, despite curbs on several means used to siphon the huge amounts out of the economy such as high reserve ratios, credit ceilings to the "non-targeted" sectors, credit floors for priority sectors, and low deposit and loan interest, the amount of farm credit extended by the government distorts the credit market. Nonetheless, directed credit policy is still pursued by the Indonesian, as is the case with other developing governments due to its income distribution role. One could even argue that directed credit expansion is still regarded as the darling of many "pundits" vying for the popular vote. It is the means left for the powerless small-scale farmers to stay in the "farming business". The technical knowledge component accompanying credit programs shows how its insufficiency or presence in the credit program portends disaster and success respectively. The role of agricultural extension service seems to be an imperative for the short-term improvement in the continuing directed credit programs, if better results are to

follow massive injections of funds. The key role that padi production plays in Indonesia makes all the eye-popping statistics of farm credit delinquency pale into insignificance. There is no denying the fact that thanks to farm credit provision, many an Indonesian family feels food secure. That is why it should be understandable that the difficulty of coming up with the "final fix" to the direct credit issue is easily said than done.

Judging from the many disclosures of leakage and other forms of misuse, one would suggest that it is high time governments called it quits to credit market meddling, leaving the task entirely on financial institutions' shoulders with requisite regulation to avert moral hazard and adverse selection remaining in the hands of the government. Such a suggestion however, seems a tall order if gross imperfections and incompleteness of the domestic credit market, the immense vested interests created over time in the course of decades of targeted credit expansion are taken account of. Possibly, the financial institutions should take the initiative by developing credit products that are deemed appropriate to small-scale farmers. Yet it is the financial institutions' inability to do exactly that, which made it an imperative for government intervention. However, the farmer being rational will not hang on government credit if there are better alternatives elsewhere under better conditions, and less red tape. After all farmers have time and again showed their resilience, and most likely this time around they will not renege against such measures as those that in the end will increase the level as well as quality of credit available to them. The overhauling of credit disbursement, monitoring and dissemination mechanisms should be on the cards if past mistakes are to be avoided. Nonetheless, calls for the long-term solution to the "untouchable" directed credit issue despite ever getting louder, and deservedly so; can at best arouse the suggestion for a better forum than the one available by the scope of this paper to delve into the intricacies involved.

The channeling of farm credit can't be done in isolation; it should be in a package with the technical element part and parcel of it. That implies that the bodies that extend farm credit have to liaise with bodies that have experts in farming practices, marketing skills, and micro budgeting and credit management. Extending credit should be done along with ample consideration of the inherent risk involved. This enables both farmer and lender to know each other's position from the very start. Not all bad loans are due to the farmer's misuse, rather due to the unavoidable natural disasters that adversely affect his produce. Moreover, the emphasis on area covered and thus quantity of credit disbursed means that the quality of the credit preparation, monitoring, and collection mechanisms are jeopardized. Quality as well as quantity of credit extended should be complementary guiding principles not mutually exclusive. This calls into question the usual practice of linking the amount of credit disbursed to productive agents to amounts received in the previous round. It is worth noting that the risk of credit extended is inseparable from the risk faced by the producer/ farmer. Extending credit to farmers producing the same crop, and therefore liable to similar hazards might instead aggravate the situation by for example raising the capacity to produce more at the same regulated price or lower in free-market situations. By producing more, all farmers enjoy lower purchasing power as a result of lower prices. Focusing on credit expansion while other factors that influence the farmer's output such as market prospects, infrastructure capacity, off-farm activities and the level of technical know-how mastered are ignored is merely scratching the surface of an intricate, intertwined cacophony of relationships.

The fact that there is evidence of a correlation, however tenuous, between credit performance and the incidence of poverty in particular province unveils yet

another intricacy to overcome before any measures to improve on farm credit effectiveness takes root. Unless, the farmer's basic needs are met, the proclivity of considering credit as another addition to the family coffer is very high. This calls for restructuring the credit in such a way that it not only farmers' produce that is taken care of in the package, but also the livelihood of his family. This sounds a tall order especially in these times of belt tightening. Unfortunately there are not many ways of increasing farmers' productivity without paying the cost for the means of achieving so. As is evident from the foregoing, increasing the quantity of credit without fundamentally overhauling the entire credit, analysis, provision, monitoring, and collecting machinery. Merely adding volumes of credit into old bottles just accelerates the pace of a major "explosion". Neither is it the name of the credit program that is at question here. Efforts at rationalizing the available credit programs into one program could do a lot in not only avoiding fungibility, but also ease of control by improving evaluation effectiveness, supervision, and monitoring.

In as much as the level of economic activities in the targeted area influences credit program performance, any disruption of such activities is bound to have disastrous effects on the performance of such credit program. Aceh and Maluku being cases in point. Political instability has meant that they are ranked among provinces with a high default rate despite having relatively sound extension service staff.

Times are gone when the government only caters for providing credit for produce leaving the marketing operations to farmers. Marketing the produce should be part and parcel of the credit program if high default rates are to be avoided.

The motivation of providing program credit should be re-engineered to consider the farmer's income prospects as the target rather than a mere by the way. With such orientation, doubtless, credit fungibility will be minimized.

The government should conduct some re-thinking of means of credit collection. Instead of emphasizing on the produce some incentives for prompt repayment should be put in place in form of easy refinancing next round for example or in form of reduced interest rate. Some innovations such as inducing farmers to save by linking disbursement to amount saved in banks will serve both as an indication of the seriousness of the farmer concerned and collateral for credit disbursed. Possibly it is also high time farmers are not considered similar in all respects, hence a case by case consideration should do a lot in sieving out quasi farmers who follow others in pursuit of other goals beyond those enshrined in credit programs. Could be credit program will be saved even in these swirling gales of globalization rocking nimble and vulnerable developing economies.

REFERENCE

- Barry P.J. 1984. Risk management in agriculture, First edition, IOWA State University Press
- Diakosavvas D., 1997, "Government expenditure on agriculture and agricultural Performance in developing countries: An empirical evaluation", FAO
- Feder, G., et al. 1987. "Does Agricultural Extension Pay? The Training and Visiting System in Northwest India." *American Journal of Agricultural Economics*, : 677-685
- Fry M.J., 1995. *Money, Interest, and Banking in Economic Development*, Second Edition, Johns Hopkins University Press GUI-ABIAD de Virginia, 1993. "

- Borrower transaction costs and credit rationing in rural financial markets: The Philippines case." *Journal of development economics* , 31: 208-220
- Gunawan S. 1982. *Varietal choice and input demand in rice production in Indonesia*, an unpublished dissertation
- Hartono S. 1992. *Modifications of small-farmer credit in the rice intensification program of Indonesia, 1990*, an unpublished dissertation
- Hermes N. and R. Lensik. 1996. *Financial development and economic development: Theory and experiences from developing countries* Routledge. ...
- Insukindro, 1990. *The short-and Long-term Determinants of Money and Bank Credit Markets in Indonesia*, unpublished Dissertation
- Kochar Anjini, 1997." Does lack of access to formal credit constrain agricultural production? Evidence from the land tenancy market in rural India." *American Journal of Agricultural economics* 79(3): 754-763
- Koutsoyannis A. 1977. *Theory of Econometrics*, Second Edition, MacMillan
- Lindgren Carl-Johan et al, 1996. *Bank Soundness and Macroeconomic Policy*, The International Monetary Fund
- MacIntyre, Andrew J. 1993. " The Politics of Finance in Indonesia: Command, Confusion, and Competition." In the Politics of Finance in Developing Countries. Edited by Stephen Haggard, Chung Lee and Sylvia Mafield. Ithaca: Cornell University Press
- Marshall K.G., 1994. "Competition and Growth: Changes in Indonesia's Banking Sector Since 1988", *Journal of Asian Business*, 10(3):11-30
- Martin. S.. 1996, " Risk management strategies in New Zealand Agriculture and Horticulture." *Review of Marketing and Agricultural Economics*, 64(1):31-44
- Masyhuri, 1988. *Economic Incentives and Comparative advantage in rice production in Indonesia*, An un-published Ph.D dissertation
- Montenegro Caudio E. and Maurice Schiff. 1997. " Aggregate Supply Response in Developing Countries: A Survey of Selected Issues." *Economic Development and*
- Odedokun M.O., 1996, " Alternative Econometric Approaches for Analyzing the Role of the financial sector in economic growth: Time-series evidence from LDCs." *Journal of Development Economics*, 50(1): 119-146
- _____ 1996, "International evidence on the effects of directed credit Programmes on efficiency of resource allocation in developing countries: The case of development bank lendings." *Journal of Development economics*, 48(2): 449-460
- Finance Department RI: Nota Keuangan*, A number of Editions
- Priatnasendjaja T., 1988. *Perspective analysis of small community capital Accumulation (PASCCA): A model for diagnosing local impacts of agricultural changes with application to West Java rice villages*, A Ph.D. Dissertation -unpublished
- Phillips Joseph M. "Farmer Education and Farmer Efficiency: A Meta Analysis", *Economic Development and Cultural Change*,79(1): 149-163
- Reille Xavier and D. Gallamann, 1998. " The Indonesian People's Credit Banks (BPRs) and the financial crisis", Paper presented at the Second Annual

- seminar on Development finance at the Goethe University of Frankfurt from 21 to 25 Sept. 1998.
- Sala-i-Martin, X., and N. Roubin, 1992. "Financial Repression and Economic Growth." *Journal of Development Economics*, 39(1):5-30.
- Seibel H.D. 1999. "How an Agricultural Development Bank Revolutionized Rural Finance: The case of Bank Rakyat Indonesia, FAO Rome
- _____ and Uben Parhusip, 1998. "Microfinance in Indonesia; An Assessment of Microfinance Institutions; Banking with the Poor", Rural Finance Program, *Department of Agricultural Economics*, The Ohio University, Columbus Ohio
- Soeharjo A., 1976. *Estimates of effects of the package of practices program on Capital formation in rice producing farms: A case study in two villages in West Java*, An unpublished Ph.D. Dissertation
- Stiglitz, Joseph E., (1994). "The Role of the State in Financial Markets." In *Proceedings of the World Bank Annual Conference on Development Economics 1993*. Edited by Michael Bruno and Boris Pleskovic. Washington D.C: World Bank, 19-52
- Pusat Penyuluhan, Departmen Pertanian ,1999, *Statistik Penyuluhan Pertanian Tahun 1998*
- Tambunan M., 1998. "Economic reforms and agricultural development in Indonesia" *ASEAN economic bulletin*, 51(1): 47-58
- Tao Yang D., 1997. "Education in Production." *American Journal of Economics*, 79:764-772
- Turvey Calum G., and Alfons Weersink ,1997. "Credit Risk and demand for Agricultural Loans" *Canadian Journal of Economics* 45 (1): 201-217
- _____ and G. N. Nayak, 1997. "Credit Risk Assessment and the Opportunity cost of Loan Misclassification." *Canadian Journal of Agricultural Economics* 45(2): 285-299
- Virman, Arvind, 1985. "Government Policy and the Development of Financialmarkets: The case of Korea." Washington, D.C. World Bank, Staff Working Paper No.747