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The Impact of Credit on Productivity and Growth of Rural Nonfarm Enterprises

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The Impact of Credit on Productivity and Growth of Rural Nonfarm Enterprises

Ma. Lucila A. Lapar

DISCUSSION PAPER SERIES NO. 94-14

The *PIDS Discussion Paper Series* constitutes studies that are preliminary and subject to further revisions. They are being circulated in a limited number of copies only for purposes of soliciting comments and suggestions for further refinements. The studies under the *Series* are unedited and unreviewed.

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August 1994

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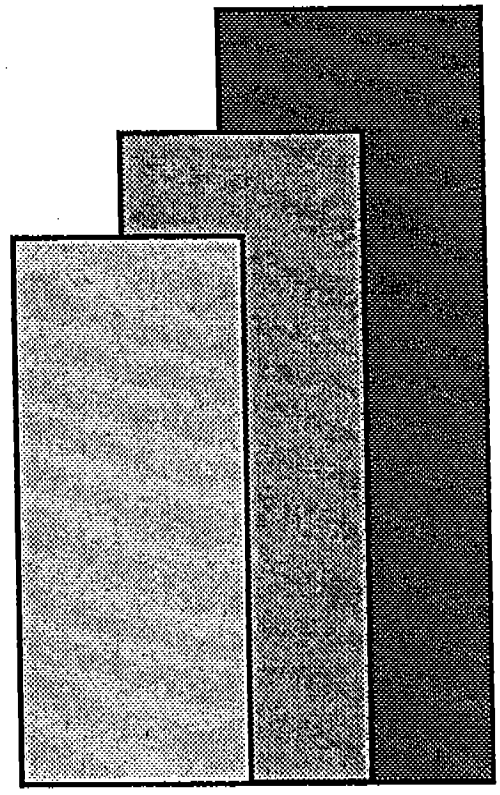
Ma. Lucila A. Lapar

DISCUSSION PAPER SERIES NO. 94-14



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THE IMPACT OF CREDIT ON PRODUCTIVITY AND GROWTH OF RURAL NONFARM ENTERPRISES

Ma. Lucila A. Lapar

The paper is part of the Dynamics of Rural Development (DRD) Project of the Philippine Institute for Development Studies.

Abstract

This study looked at the status of RNEs in the Visayas area. Descriptive statistics indicate that majority of the RNEs are really micro- and cottage-sized enterprises (following the official definition used by the NSO) generally managed by the owner/operator only. Very few can be considered small-scale. Major activities undertaken are manufacturing, trading, and services, accounting for 31, 41, and 28 percent of the total RNEs surveyed.

Most of the RNEs have grown since they first started their operations, although the growth experienced was not substantial. This indicates the lack of dynamism in the sector. These enterprises are also hampered by working capital and liquidity constraints. Among the biggest difficulties encountered by RNEs, lack of capital, both at the start and currently, was indicated by majority of the respondents.

This study also estimated the impact of credit on productivity and growth of RNEs. An endogenous switching regressions model was used to account for the likely heterogeneity of the sample. It endogenizes credit status in the estimation of the output supply function to be able to distinguish the pure credit effects from the spurious effects brought about by the latent productivity attributes enjoyed by credit recipients over non-recipients. The estimated switching regressions model was able to show that credit recipients indeed obtain differential returns from credit arising from their latent productivity attributes. Thus, on the average, credit recipients are inherently more productive than non-recipients.

Independent of the credit effects from latent productivity attributes, the pure credit effect is quite substantial. This result implies that, factoring out the effects arising from the unobservables, output would still increase when an entrepreneur operates with credit. Factors contributing positively to output include family workers, hired workers, total assets, working capital, and no. of years operating.

Executive Summary

This study looked at the status of RNEs in the Visayas area. An analysis of the descriptive statistics of the primary data obtained from the survey show that majority of the RNEs are really micro- and cottage-sized enterprises (following the official definition used by the NSO) generally managed by the owner/operator only. Very few can be considered small-scale. Major activities undertaken are manufacturing, trading, and services, accounting for 31, 41, and 28 percent of the total RNEs surveyed.

Most of the RNEs have grown since they first started their operations, although the growth experienced was not substantial. This indicates the lack of dynamism in the sector. These enterprises are also hampered by working capital and liquidity constraints. Among the biggest difficulties encountered by RNEs, lack of capital, both at the start and currently, was indicated by majority of the respondents. While the government has introduced several credit programs targetted to service the needs of this sector, it appears that such programs have not made an impact on the RNEs. The formal credit market accounts for just a small portion of the financial resources availed by the RNEs. Much of the financial needs of these enterprises are being served by the informal credit market. Even then, there are indications that not all the credit demands of the sector is fully served by informal sources

The downtrend in the economic conditions of the country has contributed much to the lackluster performance of RNEs. There are indications that growth has been hampered by the lack of market demand for the goods and services produced by the sector brought about by the lower purchasing power of consumers. Around 15 percent of RNEs indicated low consumer demand as the biggest difficulty they currently face in their operations. This is particularly significant in the rural areas where people have relatively lower incomes compared to those in the urban areas. Yet, the most surprising aspect of the performance of this sector is their resiliency. The RNEs have continued operating despite all the odds against them. Their being small may have enabled them to make adjustments easily without incurring substantial losses in the process. Thus, smallness may be an advantage after all given the unstable economic conditions currently prevailing.

This study also estimated the impact of credit on productivity and growth of RNEs. An endogenous switching regressions model was used to account for the likely heterogeneity of the sample. It endogenizes credit status in the estimation of the output supply function to be able to distinguish the pure credit effects from the spurious effects brought about by the latent productivity attributes enjoyed by credit recipients over non-recipients.

The estimated switching regressions model was able to show that credit recipients indeed obtain differential returns from

credit arising from their latent productivity attributes. Thus, on the average, credit recipients are inherently more productive than non-recipients. This result implies that providing credit to these inherently more productive entrepreneurs will result in bigger increases in gross output relative to output when credit is provided randomly. On the other hand, following this kind of strategy will result in a differentiation in growth potential because, while the productive ones become more productive and grow bigger, those less productive ones are left out in the running. A complementary strategy aimed at developing skills that will enhance the productivity of those with less productivity attributes will partially answer this issue. Thus, in addition to making credit accessible to all, programs designed to train entrepreneurs in management, as well as to develop their technical skills (particularly if the activity undertaken requires technical skills like manufacturing and some service activities) need to be initiated.

Independent of the credit effects from latent productivity attributes, the pure credit effect is quite substantial. This result implies that, factoring out the effects arising from the unobservables, output would still increase when an entrepreneur operates with credit. Thus, programs designed to make credit accessible to RNEs would greatly enhance the productivity of these enterprises such that the gross output of the sector will increase.

Factors contributing positively to output include family workers, hired workers, total assets, working capital, and no. of years operating. The positive marginal effect of working capital implies that for a liquidity constrained entrepreneur, an easing of the working capital constraint through credit will allow them to move to a position where the combination of resources or inputs used is optimal. For a manufacturer, this means that more funds will allow the use of more inputs in combinations that are more efficient relative to that when working capital is constrained. For traders, additional funds would allow an increase in their inventories of goods for resale as well as the ability to offer more varieties of goods contained in their stocks thereby expanding their market opportunities. The same is true for those engaged in services. Thus, providing credit to finance the working capital needs of RNEs will result in increases in the gross output of the RNE sector.

While the results of the study show the importance of credit in enhancing the productivity and growth potential of RNEs, the role of market opportunities should not be taken for granted. RNEs that have better access to market opportunities are more likely to be more productive than those with less. A more conducive environment for RNE growth is therefore essential in promoting RNEs. This implies the dispersion of infrastructure to the rural areas where RNEs operate. Not only will this help decongest the urban areas, it will also provide better opportunities for those in the rural areas in terms of better access to markets and facilities.

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The Impact of Credit on Productivity and Growth of Rural Nonfarm Enterprises

Ma. Lucila A. Lapar*

I. Introduction

Policies on financial markets in the '70s and '80s shifted towards credit market liberalization. Such policies were aimed at increasing access to credit markets, particularly for small borrowers who are the ones generally rationed out of the credit market under a highly regulated system (Gonzales-Vega 1984). With imperfect information, however, liberalization still does not guarantee improved access by small borrowers (Stiglitz and Weiss 1981). Adverse selection and incentive effects result in rationing, and more often than not, it is the small borrowers who do not have adequate collateral who are driven out of the credit market (Lapar 1988). Such borrowers subsequently go to the informal credit market where borrowing is less collateral-oriented and more personalistic (Floro and Yotopoulos 1991). Informal sources fill in the gap in the demand for credit by small borrowers. Yet such sources still leave unmet a major proportion of the financial needs of small borrowers. This results in working capital and/or liquidity constraints that affect the behavior of these small borrowers.

Improved access to funds by small borrowers imply the relaxation of the working capital or liquidity constraint. Theoretically, when liquidity or working capital constraints are not binding, then economic agents behave optimally, i.e., for producers, output supply and net income would be higher than those obtained in the counterfactual state, under ceteris paribus conditions (Feder et al. 1990, Lerttamrab 1976). On the other hand, if the maintained hypothesis of binding credit constraint is not true at all and producers are not liquidity constrained, then improved access to credit need not have a systematic impact on productivity and income.

Research Associate, Philippine Institute for Development Studies. The technical support of the PIDS EDP Staff and the research assistance of Ms. Edeena Pike are gratefully acknowledged. The author wishes to thank Dr. Dax Maligalig for her technical advice on statistical tests and SAS programming.

Measuring the impact of credit and productivity can help answer questions relevant to credit policies for small borrowers as well as development strategies linked with such policies. Does credit have a positive impact on productivity? For which type of borrower would credit have a higher positive effect? Does access to credit promote a differentiation in growth potential, absent an egalitarian structure of resource and skills endowment?

This paper focuses on the rural nonfarm enterprise (RNE) sector. A rural nonfarm enterprise is defined as a household or a firm engaged in the provision of consumer goods and services for local markets including some manufactured goods; the processing and transport of agricultural commodities and the provision, transport, and production of agricultural inputs; the rendering of services such as personal services; and the manufacture of a limited range of goods for export to other regions or abroad, such as textiles, garments, handicrafts, woodcraft, and metal goods, among others (Binswanger 1983, Ranis et al. 1990). The impact of credit on productivity and growth of RNEs will be empirically evaluated using using an endogenous switching regressions model. Findings will provide inputs to policies for promoting the development of RNEs.

The paper is organized as follows: section 2 presents an overview of government policies affecting RNEs, section 3 presents a descriptive analysis of the data obtained from the survey of RNEs, section 4 discusses the empirical model that will be used in measuring the impact of credit, section 5 discusses the results obtained from the econometric estimates, and section 6 presents the conclusions and policy implications of the results.

II. The Rural Nonfarm Enterprise Sector in the Philippines

Rural nonfarm enterprises and their role in development have been gaining attention lately. The emergence of the educated unemployed, the increase in unemployment in urban areas, and the structural imbalance between rural and urban areas are now leading to a new interest in rural nonfarm activities (CIDA 1989). It is widely believed that rural nonfarm enterprises have a major role to play in an alternative development strategy with more desirable employment and distributive characteristics than concentrated industrialization and modern agriculture could give. This is particularly significant in developing economies where unemployment is very high, and where urban-rural migration occurs as a response to disparities in income-earning opportunities and standards of living. This section discusses the status of RNEs in the Philippines and the relevant government policies and programs that have been instituted to develop the sector.

A. Status and Performance of RNEs

Available statistical data in the Philippines does not contain a specific category for rural nonfarm enterprises. The second-best approach to view the sector in relation to the overall economy is to look at the performance of the small and medium enterprise sector under which classification the RNEs can belong. The latest available census of establishments conducted by the National Statistics Office (NSO) in 1988 shows that there were 10,506 small and 790 medium firms, accounting for about 15 percent of all manufacturing establishments in the country. The relative shares of small and medium firms in the manufacturing sector is by far larger than that of large enterprises which accounted for only a little over one percent of the manufacturing sector. On the other hand, micro and cottage enterprises account for majority of the manufacturing establishments (84 percent).

Majority of small enterprises are engaged in food and garments industries, although food processors outnumber garment manufacturers. Other activities in which small enterprises engage in are metal fabrication and wood and wood products manufacture.

Small enterprises are still predominantly located in Metropolitan Manila. Outside of the National Capital Region, only three regions have a significant number of small enterprises. This highly skewed distribution of small enterprises in terms of location implies the need for greater efforts at encouraging them to operate in the countryside. Better infrastructure and incentives to operate outside of metropolitan areas need to be implemented so as to make the

rural areas more attractive for small enterprises. There are indications, however, that small enterprises are less inclined to cluster in metropolitan areas than medium enterprises are (UP-ISSI 1988).

In terms of employment, small enterprises account for about 28 percent of total employment in the organized manufacturing sector. They also have lower capital-labor ratios compared to bigger firms. This means that small enterprises are capable of creating employment with less capital investment. In fact, studies show that the smaller the firm, the lower the capital-labor ratio (UP-ISSI 1988).

Small enterprises also account for a significant share of total income generated in the country.

B. Government Policies for RNEs

In the Philippines, government efforts to promote and develop the rural nonfarm enteprise sector are directly linked with government policies and programs for the small and medium enterprise sector (SMEs). The Philippine government's commitment to develop the small-scale industries was explicitly stated in the 'Magna Carta for Social Justice and Economic Democracy' formulated in 1969; however, very little visible assistance have been provided since then (Itao 1985). In the '70s, financing schemes were initiated to cater to the financing needs of the sector. Both the University of the Philippines-Institute for Small-Scale Industries (UP-ISSI) and the Social Security System (SSS) have started providing long-term financing for small industries through the Supervised Credit Programme. Similar financing schemes by both the private sector and the government followed. The Development Bank of the Philippines (DBP) became the primary agency in financing small- and medium-scale industries in the rural areas, with terms and conditions among the most liberal and attractive of the financing schemes for small industries.

Under the 1986 Constitution, the government is given the mandate to "promote industrialization and full employment based on sound agricultural development and agrarian reform, through industries that make full and efficient use of human and natural resources, and which are competitive in both domestic and foreign markets." Furthermore, "all sectors of the economy and all regions of the country shall be given optimum opportunity to develop." In consonance with the law, the government has made it a policy to rationalize, promote, and strengthen small and medium enterprises in the country. It has designated the Department of Trade and Industry to be the principal government agency to implement its economic development policy through a strategy that revolves around regional and small enterprise development, as well as domestic

trade promotion and price stabilization, industrial development and investment promotion, and strengthening of the export sector. It has initiated fiscal incentives and financial assistance programs that are designed to provide benefits to SMEs.

Fiscal incentives program

Two programs providing fiscal incentives to SMEs are the Kalakalan 20 and the Omnibus Investment Program.

The signing into law of R.A. 6810, also known as the Kalakalan 20 law, on December 14, 1989 is a significant development in the promotion of rural nonfarm enterprises. The law, also known as the law on countryside barangay business enterprises (CBBEs), is patterned after the Italian 'Law of 20' which accelerated Italy's industrial development. To achieve the stated objective of 'releasing(sic) the energies of our people to achieve rapid development of our rural areas' it encourages the establishment of productive business enterprises in the countryside through the simplification of registration procedures, tax exemptions, and other incentives. Aside from promoting new business creation, Kalakalan 20 also encourages the formalization of the informal enterprises belonging to the so-called 'underground economy.' Under the Kalakalan 20 law, any business entity, association, or cooperative engaged primarily in the production, processing, or manufacturing of products or commodities is considered as a CBBE and eligible for incentives. These enterprises should have no more than 20 employees and have assets of no more than ₱ 500,000 before financing. Moreover, the enterprise should be located in the countryside, e.g., all cities and municipalities except the four cities and 13 municipalities of Metro Manila and other highly urbanized cities.

Enterprises registered under the Kalakalan 20 law get to avail of benefits and privileges such as exemptions from all taxes and fees (except real property and capital gains taxes, import duties and taxes, value-added taxes on imported articles, other taxes on imported articles, and taxes on income not from the enterprise), exemptions of enterprise income from computation of owners/members individual income tax, and exemption from any government rules and regulations pertaining to assets, income, and activities directly connected with the business of the enterprise. As of February 10, 1993, 5,747 enterprises have registered (BSMBD-DTI 1993).

The Omnibus Investment Program of the Board of Investments grants benefits and incentives to entrepreneurs who choose to invest in preferred areas of investments indicated in the Investments Priorities Plan (IPP). Fiscal

incentives include income tax holidays for 4-6 years, tax and duty-free importation of capital equipment, tax credit on domestic capital equipment, additional deduction from taxable income for labor expense, and exemption from contractor's tax. Additional benefits include unrestricted use of consigned equipment and access to bonded manufacturing warehouse system.

Financial assistance programs

The 'Magna Carta for Small Enterprises' (R.A. 6977) which was signed into law on January 24, 1991, provides for the mandatory allocation of credit resources to small enterprises. As such, all lending institutions, whether public or private are required to set aside a portion of their total loan portfolio based on their consolidated statement of condition/balance sheet as of the end of the previous quarter, and make it available for small enterprise credit. The law requires the allocation of at least five percent by the end of 1991, 10 percent by the end of 1992 through 1995, five percent by the end of 1996, and may go down to zero by end of 1997. A corporate body called the Small Business Guarantee and Finance Corporation (SBGFC) is also established to provide, promote, develop, and widen in both scope and in service reach various alternative modes of financing for small enterprises, as well as to provide guarantees on loans obtained by qualified small enterprises. The alternative modes of financing provided by SBGFC to small enterprises include direct and indirect project lending, venture capital, financial leasing, secondary mortgage and/or rediscounting of loan papers to small business, and secondary/regional stock markets, among others. These programs are exclusively for small, cottage, and micro enterprises and do not include crop production.

For the period 1992 to 1993, SBGFC has guaranteed a total of 29 loans amounting to ₱ 32.134 million. This translates to an average of ₱ 1.108 million per loan. (See Table II-1). Majority of those who were approved for guarantees are engaged in manufacturing (52 percent). Those engaged in services account for about one-third of total guarantees given (31 percent). The rest (17 percent) are engaged in various activities.

In 1991, a number of credit/relending programs provided financial assistance to small enterprises. These include the Industrial Guarantee and Loan Fund (IGLF), IGLF Special Financing Program for Microenterprises (IGLF-SFPME), Agro-Industrial Technology Transfer Program (AITTP), Export Industry Modernization Program II (EIMP II), Guarantee Fund for Small and Medium Enterprises (GFSME), Philippine Export and Foreign Loan Guarantee Corporation (PHILGUARANTEE), Tulong sa Tao-Self Employment Loan Assistance (TST-SELA) Program, NGO

Table II-1: Approved SBGFC loans for 1992/1993, by type of activity

Type	No. of firms	Total loans granted	Ave. loans granted	Loan facility			
				(1) ST	(2) MT	(3) CL	(4) TL
Manufacturing	15	15,030,000	1,002,000	4	5	2	4
Footwear	2	2,300,000	1,150,000	1	1		
Handicrafts	2	860,000	430,000	1			1
Hollow blocks	1	100,000	100,000	1			
Garments subcontracting	2	710,000	355,000		2		
Educational playthings	1	3,400,000	3,400,000			1	
Laundry Soap	1	50,000	50,000		1		
Bakery	1	50,000	50,000		1		
Polyester Fiber Fill	1	910,000	910,000				LC/ TR
Cutlery	1	50,000	50,000				1
Staple wires, tapes	1	2,000,000	2,000,000			1	
Fire Extinguisher	1	4,000,000	4,000,000				1
Wooden kitchenwares	1	600,000	600,000	1			
Services	9	12,504,000	138,933	1	0	2	6
Publishing/Printing	3	4,300,000	1,433,333			1	2
Transport operation	2	350,000	350,000	1			1
Rice Milling	1	3,500,000	3,500,000			1	
Irrigation facilities	3	4,354,000	1,451,333				3
Others	5	4,660,000	932,000	0	2	2	1
General contracting	1	400,000	400,000			1	
Resort operation	2	500,000	250,000		1		1
Coal Mining	1	200,000	200,000			1	
Ice Plant	1	3,500,000	3,500,000		1		
TOTAL	29	32,134,000	1,108,0686	5	7	6	11

Note: (1) Short term loan; (2) Medium term loan; (3) Credit line; (4) Term loan

Source: Small Business Guarantee and Finance Corporation, 1993

Microcredit Project (NGO MCP), Small Market Vendors Loan (SMVL), Pangkabuhayan ng Bayan (PNB) Program, Self Employment Loan Fund (SELF), International Trade Financing (FXT) Program, Kabalikat sa Pagpaunlad ng Industriya (KASAPI), Members' Assistance to the Development of Entrepreneurs (MADE), ASEAN-Japan Development Fund-Overseas Economic Cooperation Fund (AJDF-OECF), Micro Enterprise Development Program (MEDP), Small and Medium Industries Lending Program (SMILP), Tulong Pangkabuhayan ng DTI (TUNGKOD) and the Livelihood Assistance for Victims Affected by Eruptions of Mt. Pinatubo (LAVA). These financing programs, of which two (AJDF-OECF and LAVA) became operational only in 1991, posted a total of ₱ 6.7 billion in loans to 60, 087 micro, cottage, small, and medium enterprises and 1,027 non-government organizations (NGOs). This performance registers a growth rate of 81 and 22.2 percent, respectively, over the loans approved and enterprises/NGOs assisted in 1990 (NEDA 1991).

New financing programs were also introduced in 1991, among which are the Cottage Enterprise Finance Project of the Development Bank of the Philippines (DBP) and the Second NGO Microcredit Project of DTI. The former aims to develop the country's cottage enterprise through the creation of Mutual Guarantee Associations, while the latter will provide better access to credit to microenterprises.

Other relevant assistance programs

The Small and Medium Enterprise Development Council, created under the 'Magna Carta for Small Enterprises' is responsible for facilitating and coordinating national efforts to promote the viability or small enteprises. Its secretariat, the Bureau of Small and Medium Business Development (BSMBD), provides technical assistance programs including management and skills training programs, lectures/dialogues and workshops, researches, and information dissemination. In 1991, a total of 3,452 skills and managerial training programs for 84,290 existing and potential workers, entrepreneurs, and supervisors were conducted. The participants were engaged in food processing, metalworking, and furniture, gifts, toys, and housewares manufacturing. Also, a total of 613 technical requests and inquiries from field offices and small and medium entrepreneurs were serviced in 1991.

The DTI also sought the assistance of the German government for its Countryside Enterprises Development Program, aimed at training entrepreneurs nationwide through the use of the model called Creation of Enterprises, Formation of Entrepreneurs (CEFE). The program started in 1992.

The UP-ISSI also conducted a total of 55 local and foreign entrepreneurship and management development programs in 1991. It has also conducted seven seminars in entrepreneurship in various regions of the country (NEDA 1991).

III. A Profile of Rural Nonfarm Enterprises

A survey of rural nonfarm enterprises was undertaken in 1991 as part of the Dynamics of Rural Development Project of the PIDS-U.S. Agency for International Development (USAID). The survey was intended to provide a representative sample of rural nonfarm enterprises operating in the provinces of Bohol, Iloilo, Negros Occ., and Cebu. The sample obtained was used to generate primary data for analyzing the impact of credit on RNE behavior. This section presents a profile of rural nonfarm enterprises from the sample area. Descriptive statistics of the data from the survey are presented and analyzed. The discussion includes the analysis of similarities and differences among RNEs in terms of activities undertaken, entrepreneur characteristics, enterprise characteristics, and credit status and experience of the owners/operators.

A. Types of Enterprise Activities

The various activities undertaken by rural nonfarm enterprises in the survey area are grouped into three major types, namely: manufacturing, trading and services. Manufacturing activities include the manufacture of bamboo craft, woodcraft, shellcraft, ceramics, pottery, garments, bakery products, as well as weaving, pillowmaking, and blacksmithy. Trading mainly includes retail trade of various commodities. Services, on the other hand, include such enterprises operating as 'carinderia', coffee shops and refreshment shops, as well as automotive and battery charging shops.

Trading accounts for almost half (41 percent) of the activities of the total number of rural nonfarm enterprises in the sample. Manufacturing accounts for approximately one-third (31 percent), while services more than one-fourth (28 percent). (See Table III-1).

Among the four provinces surveyed, Cebu has the most number of enterprises engaged in manufacturing followed by Iloilo and Negros Occ. Bohol has the least number of enterprises engaged in manufacturing activities. In trading, Negros Occ. has the highest number of enterprises, followed closely by Cebu, Iloilo and then Bohol. Cebu also ranks first in having the most number of service enterprises, followed closely by Negros Occ, then Iloilo and Bohol. It should be noted that among the four provinces, Cebu accounts for the highest number of manufacturing and service enterprises.

Table III-1: Distribution of RNEs by types of activity, by province

Type of activity	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Manufacturing	7	1.75	45	11.25	10	2.50	63	15.75	125	31.25
Trading	20	5.00	30	7.50	59	14.75	55	13.75	164	41.00
Services	23	5.75	25	6.25	31	7.75	32	5.75	111	27.75
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00

Source of Data: DRD - Survey of Rural Nonfarm Enterprises, 1992

In terms of activities within the province, Bohol is predominantly services, followed closely by trading. Manufacturing activities are very minimal in Bohol. Iloilo is predominantly manufacturing, followed by trading and then services. Negros Occ., on the other hand, is mostly trading, followed by services. Manufacturing activities make up only a small percentage of the total number of nonfarm enterprises in the rural areas of Negros Occ. Although subcontracting in garments and handicraft manufacturing has been prevalent in the province (based on interviews with the provincial office of the Department of Trade and Industry), enterprises engaged in such activities are concentrated in Bacolod City, the provincial capital. In the case of Cebu, manufacturing activities are undertaken by the most number of enterprises, followed by trading. Only a small number of enterprises engage in service activities in the province.

Statistical analysis of the similarities and differences in the activities among provinces indicate that there are statistically significant differences in the activities between the following provinces: Bohol and Iloilo, Negros Occ. and Cebu, Iloilo and Negros Occ., and Cebu and Bohol. (See Table III-1a). The results imply that, on the average, Bohol and Iloilo, say, differ significantly in the types of activities undertaken. Thus, the observation that Bohol is predominantly services while Iloilo is predominantly manufacturing is borne out by the results of the statistical tests. On the other hand, the activities undertaken in Negros Occ. and Bohol do not significantly differ, implying that the observation that both provinces have a predominance of trading and service activities in the rural areas statistically holds.

B. Entrepreneur Characteristics

Age of entrepreneur

The average age of entrepreneurs engaged in manufacturing is 45 years, while it is 46 for trading and 47 for services. Majority of the entrepreneurs have ages ranging from 20 to below 60 years (approximately 86 percent, see Table III-2). Entrepreneurs who are 60 years old and above account for only 13 percent while those below 20 years old less than one percent. Among the provinces, Bohol has the highest relative share (almost one-fourth) of total number of entrepreneurs in the province who are 60 years old and above compared to the other three provinces. (See Table III-2a). On the other hand, there are no entrepreneurs below 20 years old in both Iloilo and Cebu. The average age of entrepreneurs is 47 years in Bohol, 48 in Iloilo, and 45 in both Negros Occ. and Cebu. Statistical tests of the difference in mean age of entrepreneurs, however, indicate no significant difference.

Table III-1a: Test for difference in types of activities between provinces

	Turkey's test	Scheffe's test
Bohol-Negros Occ.		
Bohol-Iloilo	* *	* *
Bohol-Cebu	* *	* *
Negros Occ.-Bohol		
Negros Occ.-Iloilo	* *	* *
Negros Occ.-Cebu	* *	* *
Iloilo-Bohol	* *	* *
Iloilo-Negros Occ.	* *	* *
Iloilo-Cebu		
Cebu-Bohol	* *	* *
Cebu-Negros Occ.	* *	* *
Cebu-Iloilo		

Comparisons significant at the five percent level are indicared by "***"
Critical values : Turkey's = 3.649 Scheffe's = 2.627

Source of Data : DRD - Survey of Rural Nonfarm Enterprises, 1992

Table III-2: Distribution of RNEs by age of owner/operator, by type of activity

Household size of owner/ operator	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Below 20	1	0.25	0	0.00	2	0.51	3	0.76
20 to below 40	35	8.86	54	13.67	27	6.84	116	29.37
40 to below 60	73	18.48	88	22.28	64	16.20	225	56.96
60 & up	14	3.54	21	5.32	16	4.05	51	12.91
Total	123	31.14	163	41.27	109	27.59	395	100.00
No answer	2		1		2		5	
Mean age	45.4 (11.8)		45.9 (12.4)		47.3 (12.6)		46.0 (12.2)	

Figures in parentheses are standard deviation.

Source of Data: DRD - Survey of Rural Nonfarm Enterprises, 1992

Table III-2a: Distribution of RNEs by age of owner/operator, by province

Age of owner/ operator (yrs)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Below 20	1	0.25	0	0.00	2	0.51	0	0.00	3	0.76
20 to below 40	17	4.30	22	5.57	28	7.09	49	12.41	116	29.37
40 to below 60	18	4.56	62	15.70	59	14.94	86	21.77	225	56.96
60 and up	11	2.78	16	4.05	10	2.53	14	3.54	51	12.91
Total	47	11.90	100	25.19	99	25.06	149	37.53	395	100.00
No answer	3				1		1		5	
Mean age	47.1 (14.7)		48.1 (12.4)		45.0 (12.0)		45.3 (11.4)		46.0 (12.2)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Educational level

On the average, the entrepreneurs have had some schooling at least at the secondary level. Entrepreneurs engaged in trading have the highest number of years spent in school at almost 12 years, on the average, followed by those in services at approximately 10 years, and then those in manufacturing at about 9 years. On the whole, almost half (about 46 percent) of the entrepreneurs have completed or at least attended tertiary education. (See Table III-3) Only less than one percent have not had any schooling. Among the provinces, it appears that entrepreneurs in Negros Occ. and Cebu are better educated than those in Iloilo and Bohol. (See Table III-3a). The average number of years spent in school of entrepreneurs in Negros Occ. is 12 years and in Cebu, 10 years. On the other hand, entrepreneurs in Bohol and Iloilo have, on the average, had only 9 years of schooling. Statistical tests on pairwise comparison of mean years in school indicate significant differences between Negros Occ. and Cebu, Iloilo and Negros Occ., and Bohol and Negros Occ. These results imply that while the observed superiority in educational level of entrepreneurs in Negros Occ. over those in Bohol and Iloilo statistically holds, that of Cebu over Bohol and Iloilo does not. On the other hand, statistical tests indicate that there are no significant differences in mean years in school between Cebu and Iloilo and Cebu and Bohol.

Household size

In terms of household size, majority of the entrepreneurs have household sizes ranging from 3 to 9 persons (i.e., more than half with 3-6 members while about one-fourth with 7-9 members). (See Table III-4). On the average, household sizes of entrepreneurs engaged in manufacturing, trading, and services are the same at 6 members. Both Iloilo and Negros Occ. appear to have higher average household size than Cebu and Bohol. (See Table III-4a). Statistical tests, however, indicate that it is only over Cebu that both Iloilo and Negros Occ. have higher mean household size. The difference between the mean household size in Negros Occ. and Iloilo is not statistically significant. The same is true between Iloilo and Bohol, between Negros Occ. and Bohol, and between Cebu and Bohol.

Gender of entrepreneurs

More than half (54 percent) of the total number of entrepreneurs in the sample are male. (See Table III-5). Male entrepreneurs are predominant in manufacturing enterprises and in services, although the difference in number between males and females in the latter is very slight. On

Table III-3: Distribution of RNEs by educational attainment of owners/operator, by type of activity

Educational attainment of owner/operator	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
No schooling	1	0.25	1	0.25	1	0.25	3	0.75
Primary, not completed	20	5.00	7	1.75	10	2.50	37	9.25
Primary Completed	31	7.75	14	3.50	12	3.00	57	14.25
Secondary, not completed	20	5.00	9	2.25	24	6.00	53	13.25
Secondary completed	20	5.00	25	6.25	23	5.75	68	17.00
Tertiary, not completed	13	3.25	23	5.75	20	5.00	56	14.00
Tertiary completed	20	5.00	85	21.25	21	5.25	126	31.50
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean years in school	8.5 (3.7)		11.7 (3.3)		9.7 (3.4)		10.2 (3.6)	

Figures in parentheses are standard deviation.

Source of Data: DRD - Survey of Rural Nonfarm Enterprises, 1992

Table III-3a: Distribution RNEs by educational attainment of owner/operator, by province

Educational attainment of owner/operator	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
No schooling	0	0.00	1	0.25	1	0.25	1	0.25	3	0.75
Primary, not completed	9	2.25	8	2.00	3	0.75	17	4.25	37	9.25
Primary completed	7	1.75	25	6.25	5	1.25	20	5.00	57	14.25
Secondary, not completed	9	2.25	14	3.50	11	2.75	19	4.75	53	13.25
Secondary completed	7	1.75	20	5.00	19	4.75	22	5.50	68	17.00
Tertiary, not completed	8	2.00	12	3.00	14	3.50	22	5.50	56	14.00
Tertiary completed	10	2.50	20	5.00	47	11.75	49	12.25	126	31.50
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean years in school	9.1 (3.6)		9.2 (3.6)		11.6 (3.4)		10.2 (3.8)		10.2 (3.6)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-4: Distribution of RNEs by household size of owner/operator, by type of activity

Household size of owner/ operator	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
2 & below	7	1.76	15	3.78	11	2.77	33	8.31
3 to 6	75	18.89	95	23.93	61	15.37	231	58.19
7 to 9	32	8.06	39	9.82	30	7.56	101	25.44
10 & up	11	2.77	13	3.27	8	2.02	32	8.06
Total	125	31.49	162	40.81	110	27.71	397	100.00
No answer			2		1		3	
Mean household size	6.0 (2.8)		6.7 (2.6)		5.6 (2.5)		5.8 (2.6)	

Figures in parentheses are standard deviation.

Source of Data: DRD - Survey of Rural Nonfarm Enterprises, 1992

Table III-4a: Distribution RNEs by household size of owner/operator, by province

Household size of owner/operator	PROVINCE							
	Bohol		Iloilo		Neg. Occ.		Cebu	TOT/
	No.	%	No.	%	No.	%	No.	%
2 & below	5	1.26	8	2.02	6	1.51	14	3.53
3 to 6	30	7.56	50	12.59	51	12.85	100	25.19
7 to 9	11	2.77	33	8.31	29	7.30	28	7.05
10 and up	4	1.01	9	2.27	12	3.02	7	1.76
Total	50	12.59	100	25.19	98	24.69	149	37.53
No answer					2		1	
Mean household size	5.5 (2.4)		6.3 (3.1)		6.2 (2.5)		5.2 (2.3)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-5: Distribution of RNEs by gender of owner/operator, by type of activity

Gender of owner/ operator	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Male	88	22.00	67	16.75	61	15.25	216	54.00
Female	37	9.25	97	24.25	50	12.50	184	46.00
Total	125	31.25	164	41.00	111	27.75	400	100.00

Source of Data: DRD - Survey of Rural Nonfarm Enterprises, 1992

the other hand, trading enterprises are mostly operated by women. Among the provinces, both Cebu and Iloilo have higher relative shares of male to total number of entrepreneurs, while Bohol and Negros Occ. have higher relative shares of women entrepreneurs. (See Table III-5a). This can be attributed to the observation that both Cebu and Iloilo have a predominance of manufacturing enterprises, while Bohol and Negros Occ. have a prevalence of service and trading enterprises, respectively.

Past experience

In terms of past experience, more than half (53 percent) of the entrepreneurs have previous work experience in the same line of activity that they are currently undertaking. It is interesting to note that while the relative share of those with experience vis-a-vis those without among entrepreneurs engaged in service activities is higher, the reverse is true among those in trading. (See Table III-6). That is, more of those engaged in trading activities do not have any previous experience related to their current activity. If this observation is related with the previous observation that majority of entrepreneurs engaged in trading have completed tertiary education, then it can be inferred that for most of these entrepreneurs, engaging in trading activities is an alternative to finding employment in government or some other institutions. Likewise, it can also be inferred that past experience need not be a critical factor in operating a trading enterprise. Among manufacturing enterprises, on the other hand, those without previous experience is slightly higher than those with experience, although the difference is very minimal that it may not be significant at all.

C. Enterprise Characteristics

Age of the enterprise, how it started, and legal status

The average age of nonfarm enterprises in the sample is 13.6 years. Manufacturing enterprises have the highest mean age at 15.1 years, followed by services at 13.3, and trading at 12.7. These averages imply that manufacturing enterprises have been operating the longest among the three types of enteprises. On the whole, around half (51 percent) of the enterprises have been operating for 1-10 years, while more than one-fourth (27 percent) for more than 10-20 years. (See Table III-7). Thus, majority of these enterprises are really just starting out to establish themselves in the market. The rest (22 percent) have been operating for more than 20 years. Among the provinces, Iloilo has the highest relative share of enterprises that have been operating for more than 20 years. Bohol has the highest mean age of enterprises at 17.7

Table III-5a: Distribution RNEs by gender of owner/operator, by province

Gender of owner/operator	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Male	17	4.25	68	17.00	41	10.25	90	22.50	216	54.00
Female	33	8.25	32	8.00	59	14.75	60	15.00	184	46.00
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-6: Distribution of RNE operators, by previous work experience in same line of activity, by type of activity

With past experience	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Yes	62	15.54	76	19.05	73	18.30	211	52.88
No	63	15.79	87	21.80	38	9.52	188	47.12
Total	125	31.33	163	40.85	111	27.82	399	100.00
No answer			1				1	

Source of Data: DRD - Survey of Rural Nonfarm Enterprises, 1992

Table III-7: Distribution of RNEs by age of enterprise, by type of activity

Age of the enterprise	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
1 to 10 yrs.	52	13.03	88	22.06	63	15.79	203	50.88
Above 10 to 20 yrs.	42	10.53	41	10.28	23	5.76	106	26.57
Above 20 yrs.	31	7.77	34	8.52	25	6.27	90	22.56
Total	125	31.33	163	40.85	111	27.82	399	100.00
No answer			1				1	
Mean age	15.1 (11.1)		12.7 (10.8)		13.3 (11.1)		13.6 (10.8)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

years,followed by Iloilo at 15.8, Negros Occ. at 13, and Cebu at 11.3. (See Table III-7a). Statistical tests, however, indicate that statistically significant difference in means exists only between Iloilo and Cebu and between Bohol and Cebu, implying that the observation that the mean age of enterprises in Bohol and Iloilo is higher than that in Cebu is statistically correct.

Majority of the enterprises were founded or established by the owners/operators themselves. (See Table III-7b). Morever, these enterprises started out mostly as single proprietorships. (See Table III-7c). Almost one-fourth (22 percent), on the other hand, started as a shift in ownership from one family member to another. This kind of start-up can result in either the continuation of the type of activity undertaken by the previous operator, or a shift to a new type of activity by the new operator. Most of the time, however, the new operator merely continues the activity started by either the parents or older brothers or sisters. Currently, majority of the enterprises are operating as single proprietorship and only very few as partnership or corporation.

In terms of legal status, majority of the enterprises are registered with their municipal government. (See Table III-7d). The registration takes the form of permits to operate. Enterprises operating as corporations are registered with the Securities and Exchange Commission (SEC). On the other hand, those enterprises not registered with any government agency account for less than one-fifth of the total enterprise in the sample.

Amount of initial capital

The average amount of initial capital put up by the entrepreneurs is ₱ 61,786. By type of activity, average initial capital is ₱ 96,807 for trading, ₱ 54,408 for manufacturing, and ₱ 18,668 for services. Overall, more than half of the enterprises (54 percent) have initial capital ranging from ₱ 5,000 and below, while more than one-third have initial capital ranging from more than ₱ 5,000 to ₱ 50,000. (See Table III-8). Among the provinces, only Cebu has the highest relative share of enterprises having initial capital ranging between more than ₱ 5,000 to ₱ 50,000. For the other provinces, the relative share of enterprises is highest for those with initial capital ranging from ₱ 5,000 and below. (See Table III-8a).

Major source of initial capital is personal investment by the owner/operator. The average initial capital personally invested by the owner/operator is ₱ 28,373, accounting for almost half of the average amount of initial capital. (See

Table III-7a: Distribution of RNEs by age of the enterprise, by province

Age of the enterprise	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
1-10 yrs.	18	4.51	51	12.78	54	13.53	80	20.05	203	50.88
Above 10-20 yrs.	15	3.76	18	4.51	25	6.27	48	12.03	106	26.57
Above 20 yrs.	17	4.26	31	7.77	20	5.01	22	5.51	90	22.56
Total	50	12.53	100	25.06	99	24.81	150	37.59	399	100.00
No answer					1				1	
Mean age	17.7 (11.5)		15.8 (13.7)		13.0 (10.8)		11.3 (8.0)		13.6 (10.8)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-7b: Distribution of RNEs by how the enterprise was started, by type of activity

How business was started	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Founded it	97	77.6	113	68.9	69	62.2	279	69.7
Bought it	5	4.0	9	5.5	7	6.3	21	5.2
Took over from other family members	21	16.8	41	25.0	26	23.4	88	22.0
Others	2	1.6	1	0.6	9	8.1	12	3.0

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-7c: Distribution Of RNEs by type of ownership at start and currrent, by type of activity

Type of ownership	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Start								
Single proprietorship	114	91.2	153	93.3	107	96.4	374	93.5
Partnership	5	4.0	8	4.9	3	2.7	16	4.0
Corporation	6	4.8	3	1.8	1	0.9	10	2.5
Others	-	-	-	-	-	-	-	-
Total	125	100.0	164	100.0	111	100.0	400	100.0
Current								
Single proprietorship	116	93.6	153	93.3	106	96.4	375	94.2
Partnership	2	1.6	5	3.0	3	2.7	10	2.5
Corporation	6	4.8	6	3.7	1	0.9	13	3.3
Others	-	-	-	-	-	-	-	-
Total	124	100.0	164	100.0	110	100.0	398	100.0
No answer	1				1		2	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-7d: Distribution of RNEs by legal status, type of activity

Legal status	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
Registered	80	64.0	160	97.6	103	93.6	343	86.0
Not registered	45	36.0	4	2.4	7	6.4	56	14.0
Total	125	100.0	164	100.0	110	100.0	399	100.0
No answer					1		1	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-8: Distribution of RNEs by amount of initial capital, by type of activity

Age of the enterprise	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
5,000 & below	71	17.79	72	18.05			215	53.88
Above 5,000 to 50,000	36	9.02	69	17.29	34	8.52	139	34.84
Above 50,000 to 100,000	8	2.01	11	2.76	4	1.00	23	5.76
Above 100,000	10	2.51	11	2.76	1	0.25	22	5.51
Total	125	31.33	163	40.85	111	27.82	399	100.0
No answer			1				1	
Mean value	54,408 (22,192)		96,807 (787,138)		18,668 (86,509)		61,786 (515,919)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-8a: Distribution RNEs by amount of income, by province

Amount of initial capital (in pesos)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
5,000 & below	39	9.77	72	18.05	59	14.79	45	11.28	215	53.88
Above 5,000 to 50,000	11	2.76	24	6.02	33	8.27	71	17.79	139	34.84
Above 50,000 to 100,000	0	0.00	3	0.75	5	1.25	15	3.76	23	5.76
Above 100,000	0	0.00	1	0.25	2	0.50	19	4.76	22	5.51
Total	50	12.53	100	25.06	99	24.81	150	37.59	399	100.00
No answer					1				1	
Mean value	5,113 (9,493)		9,122 (21,546)		22,856 (92,594)		141,481 (836,449)		61,786 (515,919)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Tables III-8b and III-8c). Capital contributed by family members amounted to ₱ 27,578, on the average. Initial capital coming from loans from banks and other formal financial institutions averaged only ₱ 5,253; while those coming from informal loans amounted to only ₱ 233, on the average.

Assets, liabilities, and networth

The mean value of total assets of the enterprises surveyed is ₱ 385,039. (See Table III-9). Total assets include the total value of all fixed, variable and other assets of the enterprise as of the end of 1991. Trading enterprises have the highest value of total assets, on the average, at ₱ 487,560. Manufacturing enterprises come second with ₱ 405,535. Service enterprises have the lowest average value of total assets at ₱ 210,486, about half of the average value of those in manufacturing and trading. In terms of distribution, a little more than one-third (38 percent) of the enterprises have total assets valued at least ₱ 100,000 but less than half a million pesos. About one-fourth have total assets below ₱ 50,000, while almost one-fifth have total assets of at least ₱ 50,000 but less than ₱ 100,000. On the other hand, less than ten percent have total assets of at least one million pesos. This distribution implies that most of the rural nonfarm enterprises belong to the micro- and cottage-type enterprises, and only a small number can be considered small-scale.

It is interesting to note that enterprises with total assets below ₱ 50,000 have the highest relative share in manufacturing. This implies that most of these manufacturing enterprises are really household-based microenterprises. On the other hand, those enterprises with total assets of at least ₱ 100,000 but less than ₱ 500,000 have the highest relative share in trading as well as in services. Among the provinces, almost half of the enterprises in Bohol and Iloilo have total assets below ₱ 50,000. (See Table III-9a). On the other hand, majority of enterprises in Cebu and almost half of those in Negros Occ. have assets of at least ₱ 100,000 but less than ₱ 500,000. This implies that enterprises in Bohol and Iloilo are smaller than those in Negros Occ. and Cebu (in terms of total assets).

The average value of outstanding liabilities of the enterprises in the survey is ₱ 22,711. These liabilities include loans from both formal and informal financial institutions. Loans from formal financial institutions generally consist of short-term loans (at most one-year maturity) for working capital. Only a small number of formal loans were used for either the purchase of fixed assets or for initial capital investment. Loans from informal lenders mostly involve consignment of goods for resale and/or the

Table III-8b: Mean values of sources of initial capital, by type of activity

Sources of initial capital	Activity			
	Manufacturing	Trading	Services	All
Personal investment	44,794 (194,848)	29,874 (98,877)	7,721 (14,234)	28,373 (126,764)
Family members	7,521 (48,312)	60,130 (703,559)	2,071 (10,158)	27,578 (451,345)
Friends	288 (2,717)	162 (1,597)	126 (992)	191 (1,901)
Formal loan	1,764 (17,929)	5,675 (44,257)	8,558 (81,149)	5,253 (52,177)
Informal loan	41 (321)	408 (2,875)	191 (1,480)	233 (2,010)

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-8c: Mean values of sources of initial capital, by province

Sources of initial capital	Activity				
	Bohol	Iloilo	Neg. Occ.	Cebu	All
Personal investment	4,150 (9, 040)	6,708 (19,258)	12,733 (22,289)	61,213 (201,402)	28,373 (126,764)
Family members	424 (2,827)	574 (2,574)	612 (5,025)	72,610 (736,357)	27,578 (451,345)
Friends	140 (639)	230 (2,019)	5 (50)	307 (2,606)	191 (1,901)
Formal loan	400 (2,222)	1,457 (10,499)	8,885 (85,018)	7,000 (48,821)	5,253 (52,177)
Informal loan	0.0	152 (1,500)	480 (3,093)	200 (1,703)	233 (2,010)

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-9: Distribution of RNEs by total value of assets, by type of activity

Total value of assets (in pesos)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Below 50,000	47	11.75	20	5.00	35	8.75	102	25.50
At least 50,000 but < 100,000	21	5.25	25	6.25	23	5.75	69	17.25
At least 100,000 but < 500,000	29	7.25	80	20.00	42	10.50	151	37.75
At least 500,000 but < 1 M	16	4.00	22	5.50	6	1.50	44	11.00
At least 1 M	12	3.00	17	4.25	5	1.25	34	8.50
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean value	405,535 (1,029,375)		487,560 (1,010,134)		210,486 (411,158)		385,039 (897,597)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-9a: Distribution of RNEs by total value of assets, by province

Total value of assets (in pesos)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Below 50,000	20	5.00	43	10.75	13	3.25	26	6.50	102	25.50
At least 50,000 but < 100,000	12	3.00	15	3.75	16	4.00	26	6.50	69	17.25
At least 100,000 but < 500,000	15	3.75	26	6.50	45	11.25	65	16.25	151	37.75
At least 500,000 but < 1 M	1	0.25	12	3.00	16	4.00	15	3.75	44	11.00
At least 1 M	2	0.50	4	1.00	10	2.50	18	4.50	34	8.50
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean value	155,108 (245,686)		222,532 (354,339)		529,542 (1,127,122)		473,685 (1,073,655)		385,039 (897,597)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

provision of input supplies in advance. Trading enterprises have the highest average amount of outstanding liabilities at ₱ 34,600, followed by manufacturing enterprises at ₱ 17,949. Service enterprises have the least outstanding liabilities at ₱ 10,509. In terms of distribution, majority (63 percent) of the enterprises surveyed have no outstanding liabilities. (See Tables III-9b and III-9c). Only a little less than one-third have outstanding liabilities of less than ₱ 50,000, while only one percent have outstanding liabilities of at least half a million pesos. The high percentage of enterprises without outstanding liabilities indicate either of two situations: (a) that majority of these enterprises have sufficient funds to finance their operation that they do not need to avail of funds from outside, (b) that these enterprises without outstanding liabilities are not able to avail of funds from outside because of factors internal or external to the enterprise, or (c) that some of these enterprises have fully paid their outstanding liabilities by the time of the survey. Among the provinces, both Iloilo and Cebu have the highest relative share of enterprises without outstanding liabilities. Negros Occ. has the lowest relative share.

The average net worth of the enterprises surveyed is ₱ 362,327. Trading enterprises have the highest average net worth at ₱ 452,960, followed by manufacturing enterprises at ₱ 387,586. Service enterprises have the lowest average net worth at ₱ 199,976. A little more than one-third of the enterprises have net worth of at least ₱ 100,000 but less than ₱ 500,000, while almost one-third have net worth of below ₱ 50,000. (See Tables III-9d and III-9e). Enterprises with negative net worth (i.e., assets are greater than liabilities) accounted for a little more than one percent of total enterprises surveyed. Among those with negative net worth, Cebu has the most number of enterprises, followed by Bohol and Iloilo. Manufacturing has the most number of enterprises with net worth below ₱ 50,000. Trading and services, on the other hand, have the highest relative share accounted for by enterprises with net worth of at least ₱ 100,000 but less than half a million pesos. Trading also has the most number of enterprises with net worth of at least half a million pesos. Among those with the highest net worth, Cebu has the most number of enterprises.

As source of income

More than two-thirds (73 percent) of the enterprises in the sample are primary sources of capital. (See Tables III-10 and III-10a). A little less than one-third, on the other hand, are operating as secondary sources of income by the entrepreneurs. Manufacturing has the highest relative share of enterprises that are primary sources of income (about 78

Table III-9b: Distribution of RNEs by total value of outstanding liabilities, by type of activity

Total value of outstanding liabilities (in pesos)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
None	91	22.75	79	19.75	83	20.75	253	63.25
Below 50,000	26	6.50	62	15.50	25	6.25	113	28.25
At least 50,000 but < 100,000	4	1.00	10	2.50	1	0.25	15	3.75
At least 100,000 but < 500,000	3	0.75	11	2.75	1	0.25	15	3.75
At least 500,000	1	0.25	2	0.50	1	0.25	4	1.00
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean value	17,949 (94,773)		34,600 (107,001)		10,509 (81,228)		22,711 (96,924)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-9c: Distribution of RNEs by total value of outstanding liabilities, by province

Total value of outstanding liabilities (in pesos)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
None	32	8.00	66	16.50	56	14.00	99	24.75	253	63.25
Below 50,000	15	3.75	27	6.75	30	7.50	41	10.25	113	28.25
At least 50,000 but < 100,000	2	0.50	5	1.25	5	1.25	3	0.75	15	3.75
At least 100,000 but < 500,000	1	0.25	2	0.50	8	2.00	4	1.00	15	3.75
At least 500,000	0	0.00	0	0.00	1	0.25	3	0.75	4	1.00
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean value	8,262 (20,092)		7,843 (19,802)		38,629 (116,879)		26,829 (123,616)		22,711 (96,924)	

Figures in parenthese are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-9d: Distribution of RNEs by total value of networth, by type of activity

Total value of net worth (in pesos)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Negative (liab > assets)	2	0.50	2	0.50	1	0.25	5	1.25
Below 50,000	49	12.25	26	6.50	34	8.50	109	27.25
At least 50,000 but < 100,000	18	4.50	26	6.50	23	5.75	67	16.75
At least 100,000 but < 500,000	29	7.25	75	18.75	42	10.50	146	36.50
At least 500,000 but < 1 M	17	4.25	19	4.75	6	1.50	42	10.50
At least 1 M	10	2.50	16	4.00	5	1.25	31	7.75
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean value	387,586 (1,004,988)		452,960 (931,129)		199,976 (352,342)		362,327 (844,516)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-9e: Distribution of RNEs by total value of networth, by province

Total value of net worth (in pesos)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Negative (liab > assets)	1	0.25	1	0.25	0	0.00	3	0.75	5	1.25
Below 50,000	20	5.00	45	11.25	16	4.00	28	7.00	109	27.25
At least 50,000 but < 100,000	13	3.25	12	3.00	18	4.50	24	6.00	67	16.75
At least 100,000 but < 500,000	13	3.25	26	6.50	43	10.75	64	16.00	146	36.50
At least 500,000 but < 1 M	2	0.50	12	3.00	14	3.50	14	3.50	42	10.50
At least 1 M	1	0.25	4	1.00	9	2.25	17	4.25	31	7.75
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean value	146,846 (244,376)		214,689 (344,833)		490,913 (1,088,465)		446,856 (987,689)		362,327 (844,516)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-10: Distribution of RNEs as source of income, by type of activity

As source of income	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Primary	97	24.31	113	28.32	80	20.05	290	72.68
Secondary	28	7.02	51	12.78	30	7.52	109	27.32
Total	125	31.33	164	41.10	110	27.57	399	100.00
No answer					1		1	
Relative share of primary (%)	77.60		68.90		72.70		-	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-10a: Distribution RNEs as source of income, by province

As source of income	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Primary	46	11.53	65	16.29	66	16.54	113	28.32	290	72.68
Secondary	4	1.00	35	8.77	33	8.27	37	9.27	109	27.32
Total	50	12.53	100	25.06	99	24.81	150	37.59	399	100.00
No answer					1				1	
Relative share of primary (%)	92.00		65.00		66.70		75.30		-	

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

percent). Service enterprises come next with about 73 percent, followed by trading with approximately 69 percent. Among the four provinces, Bohol has the highest relative share of enterprises as primary sources of income (92 percent). Cebu comes next with 75 percent. Both Iloilo and Negros Occ. have more or less the same relative shares at 65 and 68 percent, respectively. The lower relative shares in Iloilo and Negros Occ. can be attributed to the prevalence of agricultural production as primary source of income in these two provinces. Both Iloilo and Negros Occ. have better resource endowments suitable for agriculture relative to either Bohol or Cebu.

Number of workers and their compensation

On the average, the enterprises included in the survey started with four workers. (See Table III-11). Current average number of workers is five workers. This implies an average increase in employment of 25 percent since the enterprise started operating. Overall, majority of the enterprises started with number of workers ranging from more than one to 10 workers (74 percent). Likewise, more than three-fourths of enterprises are currently operating with more than one to 10 workers. Enterprises that started with only one employee (i.e., only the owner/operator is working) accounted for almost one-fifth (20 per cent) of total enterprises. Currently, however, this relative share has declined to just about one-eighth (12 percent) of total sample. This implies that some of those one-man operated enterprises have expanded their number of workers over the years that they have been operating. The distribution of enterprises according to the number of workers likewise implies that majority of them belong to the microenterprise category (i.e., with at most 10 workers). Only a small percentage of enterprises (less than one percent) have more than 50 workers (i.e., small-scale category).

Manufacturing enterprises have the highest number of workers, on the average, both at the start of operations and currently (5.7 and 7.3, respectively). Trading enterprises follow with average number of workers of 3.4 and 4.4 at the start and currently, respectively. Enterprises engaged in service activities have the lowest average number of workers at 3.0 and 3.5, respectively. Statistical tests indicate that there are significant differences in the mean number of workers between manufacturing and trading enterprises as well as between service and manufacturing enterprises. The test results imply that manufacturing enterprises generally have more workers, on the average, than either trading or service enterprises. On the other hand, there is no significant difference in mean number of workers between trading and

Table III-11: Distribution of RNEs by number of workers, at the start and current, by type of activity

Number of worker	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Start								
Single	29	7.25	26	6.50	24	6.00	79	19.75
Above 1-10	75	18.75	137	34.25	85	21.25	297	74.25
10-50	21	5.25	0	0.00	2	0.50	23	5.75
Above 50	0	0.00	1	0.25	0	0.00	1	0.25
Total	125	31.25	164	41.00	111	27.25	400	100.00
Mean no. of workers	5.7 (7.0)		3.4 (7.8)		3.0 (2.1)		4.0 (6.5)	
Current								
Single	16	4.00	16	4.00	18	4.50	50	12.50
Above 1-10	79	19.75	141	35.25	89	22.25	309	77.25
10-50	28	7.00	6	1.50	3	.75	37	9.25
Above 50	2	0.50	1	0.25	0	0.00	3	0.75
Total	125	31.25	164	41.00	111	27.75	400	100.00
No answer					1	0.25	1	0.25
Mean no. of workers	7.3 (10.9)		4.4 (7.9)		3.5 (3.2)		5.0 (8.2)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

service enterprises. These test results hold for mean number of workers at the start and currently.

Among the four provinces, Cebu has the highest number of workers, on the average, both when the enterprises started and currently, while Iloilo has the lowest. (See Table III-11a). It should be noted that Iloilo has the highest relative shares of enterprises that are operated by their owners only, i.e., single operator, at the start and currently. Statistical tests of the difference in mean number of workers among provinces confirm the higher mean number of workers at the start in Cebu relative to the other three provinces. For mean number of current workers, it is only over Iloilo that Cebu has a higher average, as indicated by the statistical test for difference in means.

Enterprises engaged in manufacturing have the highest number of male workers, on the average, both at the start and currently. (See Table III-11b). Trading enterprises, on the other hand, have the highest number of female workers, on the average, both at the start and currently. (See Table III-11c). On the whole, number of workers grew by 25 percent, on the average, since the start of operation until the present for all enterprises surveyed. The number of male workers exhibited the highest increase from the start up to the present in both the manufacturing and trading enterprises. On the other hand, it is interesting to note that the highest growth in number of female workers, on the average, is shown by the manufacturing enterprises (i.e., 38 percent, on the average). Thus, even if males dominate the manufacturing enterprises, on the average, there has been an increasing number of women engaging in manufacturing activities among the enterprises included in the survey.

Among the provinces, Cebu has the highest average number of male workers both at the start and currently. This is validated by statistical tests on the difference between mean number of male workers at the start. For current averages, it is only over Iloilo that Cebu has a higher mean number of workers. For female workers, Cebu has the highest average number at the start, and this is statistically significant. On the other hand, statistical tests indicate no significant difference in means of current number of female workers.

Majority of family members working either full-time or part-time in the enterprises are unpaid (approximately 89 and 93 percent), respectively. (See Table III-11d). Among those working full-time and are receiving actual compensation, about eight percent are being paid more than ₱ 5,000 per month, while two percent receive compensation between ₱ 1,000 to ₱ 5,000 per month , on the average.

Table III-11a: Distribution of RNEs by the number of workers, at the start and current, by province

Number of workers	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Start										
Single	9	2.25	38	9.50	19	4.75	13	3.25	79	19.75
Above 1-10	40	10.00	62	15.50	76	19.00	119	29.75	297	74.25
10-50	1	0.25	0	0.00	5	1.25	17	4.25	23	5.75
Above 50	0	0.00	0	0.00	0	0.00	1	0.25	1	0.25
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean no. of workers	2.6 (1.7)		2.2 (1.4)		3.6 (3.4)		6.0 (9.8)		4.0 (6.5)	
Current										
Single	5	1.25	21	5.25	15	3.75	9	2.25	50	12.50
Above 1-10	41	10.25	73	18.25	77	19.25	118	29.50	309	77.25
10-50	4	1.00	6	1.50	6	1.50	21	5.25	37	9.25
Above 50	0	0.00	0	0.00	1	0.25	2	0.50	3	0.75
No answer					1	0.25			1	0.25
Total	50	12.50	100	25.00	99	0.25	150	0.25	399	100.00
Mean no. of workers	4.5 (3.1)		3.5 (4.4)		4.9 (9.4)		6.4 (10.2)		5.0 (8.2)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-11b: Distribution of RNEs by number of male workers, at the start and current, by type of activity

Number of male worker	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Start								
None	9	2.25	46	11.50	28	7.00	83	20.75
Below 10	105	26.25	117	29.25	83	20.75	305	76.25
10-50	11	2.75	1	0.25	0	0.00	12	3.00
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of workers	4.1 (5.9)		1.5 (2.4)		1.3 (1.4)		2.3 (3.9)	
Current								
None	7	1.75	41	10.25	31	7.75	79	19.75
Below 10	103	25.75	121	30.25	79	19.75	303	75.75
10-50	14	3.50	2	0.50	1	.25	17	4.25
Above 50	1	0.25	0	0.00	0	0.00	1	0.25
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of workers	5.2 (7.8)		1.9 (2.7)		1.6 (2.5)		2.8 (5.1)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-11c: Distribution of RNEs by number of female workers, at the start and current, by type of activity

Number of female worker	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Start								
None	56	14.00	25	6.25	31	7.75	112	28.00
Below 10	65	16.25	138	34.50	80	20.00	283	70.75
10-50	4	1.00	0	0.00	0	0.00	4	1.00
Above 50	0	0.00	1	0.25	0	0.00	1	0.25
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of workers	1.6 (2.5)		1.8 (5.8)		1.7 (1.8)		1.7 (4.1)	
Current								
None	54	13.50	20	5.00	30	7.50	104	26.00
Below 10	67	16.75	142	35.50	81	20.25	290	72.50
10-50	4	1.00	1	0.25	0	0.00	5	1.25
Above 50	0	0.00	1	0.25	0	0.00	1	0.25
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of workers	2.2 (4.9)		2.4 (5.9)		1.9 (1.8)		2.2 (4.8)	

Figures in parenthese are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-11d: Distribution of RNEs by average wages of family workers, full-time and part-time, by type of activity

Average wages of family workers (in pesos per month per person)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Full-time								
Unpaid	96	28.07	123	35.96	85	24.85	304	88.89
500 & below	0	0.00	0	0.00	2	0.58	2	0.58
Above 1,000 to 5,000	0	0.00	4	1.17	4	1.17	8	2.34
Above 5,000	7	2.05	16	4.68	5	1.46	28	8.19
Total	103	30.12	143	41.81	96	28.07	342	100.00
No full time family workers	22		21		15		58	
Part-time								
Unpaid	32	38.55	27	32.53	18	21.69	77	92.77
500 & below	0	0.00	0	0.00	1	1.20	1	1.20
Above 1,000 to 5,000	1	1.20	0	0.00	1	1.20	2	2.41
Above 5,000	1	1.20	2	2.41	0	0.00	3	3.61
Total	34	40.96	29	34.94	20	24.10	83	100.00
No part-time family workers	91		135		91		317	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Trading enterprises have the highest relative share (36 percent) of unpaid family members working full-time. On the other hand, manufacturing enterprises have the highest relative share of unpaid family members working part-time (38 percent).

Among hired workers, majority (about 59 and 47 percent, respectively) are receiving monthly compensation of more than ₱ 5,000, on the average, for both full-time and part-time workers. (See Table III-11e). Assuming a six-day workweek, this tranlates to a daily wage of at least ₱ 208, higher than the minimum daily wage. For those working full-time, about 15 percent have monthly compensation ranging from ₱ 1,000 to ₱ 5,000, on the average. Those receiving monthly compensation of ₱ 500 and below, on the average, account for about one-fourth of the total, while those with monthly compensation ranging from ₱ 1,000 to ₱ 5,000, on the average, account for almost 15 percent of the total. For those working part-time only, about 32 percent receive monthly compensation ranging from ₱ 1,000 to ₱ 5,000; 15 percent with ₱ 500 to ₱ 1,000; and six percent with ₱ 500 and below, on the average.

Male workers appear to be better paid than female workers. The average monthly compensation of full-time male workers is ₱ 3,126 compared to ₱ 2,488 for full-time female workers. (See Tables III-11f and III-11g). This shows a wage differential of about 25 percent, assuming the same number of workhours and workdays. Male part-time workers also have higher average monthly wages at ₱ 515 compared to ₱ 134 for female part-time workers.

Length of operation

Majority (98 percent) of the enterprises operated more than six months in 1991. (See Table III-12). The rest (2 percent) operated below six months. On the whole, the average number of months of operation in 1991 was slightly less than 12 months (11.7 months). Service enterprises operated the longest at 11.9 months, followed by trading enterprises at 11.7 months, and then manufacturing enterprises at 11.4 months. Statistical tests indicate sifnificant difference in mean number of months of operation between service and manufacturing enterprises but none between those engaged in service and trading activities. Enterprises in Bohol operated the longest at 12 months, on the average, while those in Iloilo operated the least at 11.4 months. (See Table III-12a). Between Bohol and Iloilo, the test for difference in mean number of months of operation is statistically significant.

Table III-11e: Distribution of RNEs by average wages of hired workers, full-time and part-time, by type of activity

Average wages of hired workers (in pesos per month per person)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Full-time								
500 & below	11	4.80	29	12.66	19	8.30	59	25.76
Above 500 to 1,000	0	0.00	0	0.00	1	0.44	1	0.44
Above 1,000 to 5,000	13	5.68	12	5.24	9	3.93	34	14.85
Above 5,000	45	19.65	63	27.51	27	11.79	135	58.95
Total	69	30.13	104	45.41	56	24.45	229	100.00
No answer	56		60		55		171	
Part-time								
500 & below	1	2.13	2	4.26	0	0.00	3	6.38
Above 500 to 1,000	3	6.38	3	6.38	1	2.13	7	14.89
Above 1,000 to 5,000	3	6.38	6	12.77	6	12.77	15	31.91
Above 5,000	8	17.02	8	17.02	6	12.77	22	46.81
Total	15	31.91	19	40.43	13	27.66	47	100.00
No answer	110		145		98		353	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-11f: Distribution of RNEs by average wages of male workers, full-time and part-time, by type of activity

Average wages of male workers (in pesos per month per person)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Full-time								
Unpaid	48	23.19	38	18.36	36	17.39	122	58.94
500 & below	1	0.48	0	0.00	1	0.47	2	0.99
Above 500 to 1,000	0	0.00	0	0.00	2	0.97	2	0.97
Above 1,000 to 5,000	3	1.45	4	1.93	3	1.45	10	4.83
Above 5,000	27	13.04	30	14.49	14	6.76	71	34.30
Total	79	38.16	72	34.78	56	27.05	207	100.00
No answer	46		92		55		193	
Mean wage							3,126 (8,094)	
Part-time								
Unpaid	17	36.17	8	17.02	3	6.38	28	59.57
500 & below	0	0.00	0	0.00	1	2.13	1	2.13
Above 500 to 1,000	0	0.00	1	2.13	0	0.00	1	2.13
Above 1,000 to 5,000	1	2.13	2	4.26	1	2.13	4	8.51
Above 5,000	3	6.38	6	12.77	4	8.51	13	27.66
Total	21	44.68	17	36.17	9	19.15	47	100.00
No answer	104		147		102		353	
Mean wage							515 (3.044)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-11g: Distribution of RNEs by average wages of female workers, full-time and part-time, by type of activity

Average wages of female workers (in pesos per month per person)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Full-time								
Unpaid	16	9.20	49	28.16	24	13.79	89	51.15
500 & below	0	0.00	1	.57	0	0.00	1	.57
Above 500 to 1,000	0	0.00	0	0.00	1	.57	1	.57
Above 1,000 to 5,000	2	1.15	8	4.60	10	5.75	20	11.49
Above 5,000	15	8.62	35	20.11	13	7.47	63	36.21
Total	33	18.97	93	53.45	48	27.59	174	100.00
No answers	92		71		63		226	
Mean wage							2,488 (6,875)	
Part-time								
Unpaid	11	25.58	11	25.58	9	20.93	31	72.09
500 & below	0	0.00	0	0.00	1	2.33	1	2.33
Above 500 to 1,000	0	0.00	2	4.65	0	0.00	2	4.65
Above 1,000 to 5,000	2	4.65	3	6.98	1	2.33	6	13.95
Above 5,000	1	2.33	2	4.65	0	0.00	3	6.98
Total	14	32.56	18	41.86	11	25.58	43	100.00
No answer	111		146		100		357	
Mean wage							134 (1,099)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-12: Distribution of RNEs by number of months operated in 1991, by type of activity

Average number of months operated in 1991	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
6 months & below	5	1.25	3	0.75	1	0.25	9	2.25
Above 6 months	120	30.00	161	40.25	110	27.50	391	97.75
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of months	11.4 (1.7)		11.6 (1.6)		11.9 (0.6)		11.7 (1.3)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-12a: Distribution of RNEs by number of months operated in 1991, by province

Average number of months operated in 1991	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
6 months & below	0	0.00	4	1.00	2	0.50	3	0.75	9	2.25
Above 6 months	50	12.50	96	24.00	98	24.50	147	36.75	391	97.75
Total	50	12.50	100	25.00	100	25.00	150	37.500	400	100.0
Mean no. of months	12.0 (0.0)		11.4 (1.9)		11.6 (1.5)		11.7 (1.2)		11.7 (1.3)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

The average number of days that an enterprise operated in1991 was 26.1 days. (See Table III-13). This implies a workweek consisting of six and one-half days. Trading enterprises operated the most number of days at 27.9 days, followed by service enterprises at 26 days, and manufacturing enterprises at 24 days, on the average. Among the provinces, enterprises in Negros Occ. operated the longest number of days, on the average, while those in Iloilo operated the shortest. (See Table III-13a). Statistical tests show that there is a statistically significant difference in mean number of days operation between enteprises in Negros Occ. and Cebu and between Negros Occ. and Iloilo. In terms of number of hours operated per day, trading enterprises operated the longest at 9.4 hours on the average. (See Table III-14). Service enterprises come second followed by manufacturing enterprises. The average number of hours that an enterprise operated in 1991 was 8.9 hours per day. Enterprises in Bohol operated the longest while those in Iloilo the shortest. (See Table III-14a). On the other hand, a worker worked 8.8 hours per day on the average, in 1991. (See Table III-15 and III-15a). The slight differential in the average number of hours that an enterprise operated and the average number of hours that a worker worked can be attributed to the longer hours that an owner/operator puts in the enterprise relative to the hours worked by the workers.

Costs of operation

Labor. The average yearly cost of labor (wages and other compensation) is ₱ 68,907. (See Table III-16). Manufacturing enterprises have the highest average yearly cost at ₱ 145,955. Trading enterprises follow at ₱ 45,589, while service enterprises have the lowest average yearly cost at ₱ 16,595. The high average yearly labor cost of manufacturing enterprises can be attributed to the fact that it is the most labor intensive among the three types of enterprises. The average number of workers for manufacturing enterprises is 7.3 being paid an average hourly wage of ₱ 7.11 per worker. (See Table III-16a). Trading enterprises, on the other hand, have an average of 4.4 workers with average hourly wage of ₱ 5.17 per worker, the highest among the three types of enterprises. Service enteprises employ the least number of workers (3.5 on the average) being paid an average hourly wage rate of ₱ 3.34 per worker. Among the four provinces, Negros Occ. has the highest average yearly labor cost at ₱ 158,714. (See Table III-16b). Iloilo, on the other hand, has the lowest at ₱ 9,558.

Raw materials. Manufacturing enterprises have the highest average yearly cost of raw materials at ₱ 325,569. Service enterprises come second at ₱ 49,968. Trading enterprises have the lowest average yearly cost at ₱ 2,716.

Table III-13: Distribution of RNEs by average number of days operated in 1991, by type of activity

Average number of days operated in 1991	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
At most once a week (≤4)	0	0.00	2	0.50	5	1.25	7	1.75
At most half a month (>4-≤15)	15	3.75	2	0.50	5	1.25	22	5.50
At least half a month (>15)	110	27.50	160	40.00	101	25.25	371	92.75
Total	125	31.25	164	41.00	111	27.75	400	100.0
Mean no. of days	24.0 (5.5)		27.9 (4.3)		25.9 (6.9)		26.1 (5.7)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-13a: Distribution of RNEs by average number of days operated in 1991, by province

Average number of days operated in 1991	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
At least once a week (≤4)	0	0.00	7	1.75	0	0.00	0	0.00	7	1.75
At least half a month (>4 -≤15)	5	1.25	7	1.75	4	1.00	6	1.50	22	5.50
At least half a month (>15)	45	11.25	86	21.50	96	24.00	144	36.00	371	92.75
Total	50	12.50	100	25.00	100	25.00	150	37.500	400	100.00
Mean no. of days	26.0 (5.9)		24.9 (7.7)		28.0 (4.7)		25.8 (4.4)		26.1 (5.7)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-14: Distribution of RNEs by average number of hours operated in 1991, by type of activity

Average number of hours operated in 1991 (per day)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Maximum of 4 hrs.	2	0.50	0	0.00	4	1.00	6	1.50
More than 4 but less than 8 hrs.	24	6.00	7	1.75	15	3.75	46	11.50
At least 8 hrs.	99	24.75	157	39.25	92	23.00	348	87.00
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of hours	8.1 (2.0)		9.4 (2.1)		8.9 (2.2)		8.9 (2.2)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Non-farm Enterprises, 1992

Table III-14a: Distribution of RNEs by average number of hours operated in 1991, by province

Average number of hours operated in 1991 (per day)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Maximum of 4 hrs.	0	0.00	3	0.75	0	0.00	3	0.75	6	1.50
More than 4 but less than 8 hrs.	2	0.50	21	5.25	6	1.50	17	4.25	46	11.50
At least 8 hrs.	48	12.00	76	19.00	94	23.50	130	32.50	348	87.00
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean no. of hours	10.1 (2.0)		8.5 (2.2)		8.8 (1.4)		8.8 (2.5)		8.9 (2.2)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-15: Distribution of RNEs by average number of hours workers worked in 1991, by type of activity

Average number of hours workers worked in 1991 (per day)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Maximum of 4 hrs.	5	1.25	0	0.00	5	1.25	10	2.50
More than 4 but less than 8 hrs.	22	5.50	8	2.00	16	4.00	46	11.50
At least 8 hrs.	98	24.50	156	39.00	90	22.50	344	86.00
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean no. of hours	7.9 (1.9)		9.3 (2.1)		8.8 (2.2)		8.8 (2.2)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-15a: Distribution of RNEs by average number of hours workers worked in 1991, by province

Average number of hours worker worked in 1991 (per day)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Maximum of 4 hrs.	0	0.00	7	1.75	0	0.00	3	0.75	10	2.50
More than 4 but less than 8 hrs.	2	0.50	18	4.50	6	1.50	20	5.00	46	11.50
At least 8 hrs.	48	12.00	75	18.75	94	23.50	127	31.75	344	86.00
Total	50	12.50	100	25.00	100	25.00	150	37.500	400	100.0
Mean no. of hours	10.1 (2.0)		8.4 (2.4)		8.7 (1.4)		8.6 (2.3)		8.8 (2.2)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-16 : Mean values of costs of operation, by type of activity

Cost items	Activity			
	Manufacturing	Trading	Services	All
Labor	145,955 (826,667)	45,589 (882,563)	16,595 (37,495)	68,907 (498,224)
Raw materials	325,569 (1,412,729)	2,716 (17,429)	49,968 (77,585)	115,781 (798,254)
Other materials and supplies	20,568 (60,846)	7,080 (39,339)	5,180 (11,455)	10,768 (43,166)
Interest paid on loans	4,573 (43,100)	2,806 (18,176)	238 (1,226)	2,646 (26,748)
Cost of goods for resale	39,693 (297,329)	3,624,292 (38,371,480)	30,339 (75,757)	1,506,707 (24,589,585)

Note: Figures in parentheses are standard deviation.

Source of data: DRD- Survey of Rural Nonfarm Enterprises, 1991

Table III-16a: Mean values of number workers and hourly wage for worker, by type of activity

Item	Manufacturing	Trading	Ser
Number of workers	7.3 (10.9)	4.4 (7.9)	3 (3
Hourly wage rate per worker	7.11 (9.63)	5.17 (10.68)	3. (5.

Figures in parentheses are standard deviation.

Source of data: DRD- Survey of Rural Nonfarm Enterprises, 1991

Table III-16b : Mean values of costs of operations, by province

Cost items	Province				
	Bohol	Iloilo	Neg. Occ.	Cebu	All
Labor	21,034 (39,019)	9,558 (43,655)	158,714 (920,069)	64,560 (303,194)	68,907 (498,224)
Raw materials	17,480 (27,952)	32,542 (91,437)	95,192 (324,352)	219,036 (1,270,026)	115,781 (798,254)
Other materials and supplies	2,311 (6,160)	10,697 (50,933)	5,599 (18,893)	17,080 (54,170)	10,768 (43,166)
Interest paid on loans	1,982 (7,957)	42 (289)	229 (902)	6,213 (43,279)	2,646 (26,748)
Cost of goods for resale	232,849 (560,128)	176,129 (1,014,954)	220,968 (362,134)	3,677,012 (40,133,466)	1,506,707 (24,589,585)

Note: Figures in parentheses are standard deviation.

Source of data: DRD- Survey of Rural Nonfarm Enterprises, 1991

Overall, the average yearly raw material cost is ₱ 115,781. Among the four provinces, Cebu has the highest average yearly cost of raw materials at ₱ 219,036. Bohol, on the other hand, has the lowest average at ₱ 17,480.

Other materials and supplies. These include materials and supplies that are not primary inputs in the production of the good or service. The average yearly cost of other materials and supplies for all enterprises is ₱ 10,768. Among the three types of enterprises, those engaged in manufacturing have the highest yearly average cost at ₱ 20,568. Trading enterprises come next at ₱ 7,080, while service enterprises have the lowest at ₱ 5,180.

Cost of goods purchased for resale. This refers to purchases of goods that are being resold. Trading enterprises have the highest average yearly cost at ₱ 3,624,292. This is not surprising because trading enterprises generally do not undertake production activities but obtain their goods for resale by buying them from other traders or directly from manufacturers. Manufacturing enterprises come in second at ₱ 39,693, while service enterprises have the lowest at ₱ 30,339. Overall, the average yearly cost of goods purchased for resale is ₱ 1,506,707. Among the four provinces, Cebu has the highest yearly average at ₱ 3,677,012. Iloilo has the lowest yearly average at ₱ 176,129.

Gross sales

Average gross sales in 1991 is ₱ 608,027. (See Table III-17). Manufacturing enterprises exhibited the highest average gross sales at ₱ 587,619, followed by trading enterprises at ₱ 423,932. Service enterprises have the lowest average gross sales at ₱ 164,267. About two-fifths of total enterprises have gross sales of more than ₱ 100,000 up to half a million pesos. On the other hand, a little more than one-fifth have gross sales of ₱ 50,000 and below. Only less than ten percent have gross sales of more than a million pesos.

Iloilo has the most number of enterprises with gross sales below ₱ 50,000, followed by Bohol, Negros Occ., and Cebu. (See Table III-17a). On the other hand, Cebu has the most number of enterprises with gross sales of more than half a million pesos and up, while Bohol has none. Comparing gross sales in 1991 with gross sales in 1990, almost half of the enterprises have experienced no change. (See Table III-17b). Almost one-third have experienced an increase while slightly less than one-fourth had lower gross sales. For those that have experienced higher gross sales, the average increase over the previous year's gross sales is about 23 percent. (See Table III-17c). While trading enterprises exhibited the

Table III-17: Distribution of RNEs by yearly gross sales in 1991, by type of activity

Gross sales in 1991 (in pesos)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
50,000 & below	40	10.00	15	3.75	32	8.00	87	21.75
Above 50,000 to 100,000	20	5.00	25	6.25	31	7.75	76	19.00
Above 100,000 to 500,000	45	11.25	78	19.50	39	9.75	162	40.50
Above 500,000 to 1 M	7	1.75	24	6.00	9	2.25	40	10.00
Above 1 M	13	3.25	22	5.50	0	0.00	35	8.75
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean gross sales	587,619 (1,779,888)		423,932 (3,849,869)		164,267 (190,798)		608,027 (2,673,089)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-17a: Distribution of RNEs by yearly gross sales in 1991, by province

Gross sales in 1991 (in pesos)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
50,000 & below	16	4.06	51	12.75	12	3.00	8	2.00	87	21.75
Above 50,000 to 100,000	13	3.25	16	4.00	17	4.25	30	7.50	76	19.00
Above 100,000 to 500,000	17	4.25	26	6.50	54	13.50	65	16.25	162	40.50
Above 500,000 to 1 M	4	1.00	6	1.50	8	2.00	22	5.50	40	17.50
Above 1 M	0	0.00	1	0.25	9	2.25	25	6.25	35	8.75
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean gross sales	148,626 (201,539)		199,442 (729,806)		403,997 (649,384)		1,169,570 (4,237,765)		608,027 (2,673,089)	

Figures in parentheses are standard deviation.

Source: DRD-Survey of Rural Nonfarm Enterprises, 1992

Table III-17b: Distribution of RNEs by comparison of gross sales in 1991 with gross sales in 1990, by type of activity

Comparison of gross sales between 1991 and 1990	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Yearly gross sales								
The same	62	16.02	63	16.28	51	13.18	176	45.48
Increased	28	7.24	46	11.89	35	9.04	109	28.17
Decreased	34	8.79	46	11.89	22	5.68	102	23.36
Total	124	32.04	155	40.05	108	27.91	387	100.00
No answer							13	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-17c: Average increase/decrease in gross sales (in percent), by type of activity

Increase/ Decrease	Activity			
	Manufacturing	Trading	Services	All
Increase				
Over gross sales in 1990	23.0 (16.8)	23.2 (14.2)	21.9 (13.1)	22.7 (14.5)
Over gross sales in first year of operation	36.6 (24.1)	34.8 (30.1)	41.9 (28.4)	37.3 (27.8)
Decrease				
Below gross sales in 1990	28.2 (21.9)	34.1 (20.3)	34.1 (24.4)	32.1 (21.7)
Below gross sales in first year of operation	38.2 (23.9)	38.4 (36.4)	38.6 (25.1)	38.4 (31.1)

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

highest increase on the average, service enterprises have the highest relative share of those that have higher gross sales in 1991 and manufacturing the lowest. This implies that more enterprises engaged in services have higher sales in 1991 relative to 1990, although the increase in sales on the average is not as high as those experienced by enterprises engaged in trading. On the other hand, the relative share of those that have lower gross sales is higher than the relative share of those with higher gross sales among enterprises engaged in manufacturing. This implies that more enterprises engaged in manufacturing experienced decline in sales than those that experienced increase in sales.

Among the provinces, Iloilo has the most number of enterprises that have higher gross sales in 1991. (See Table III-17d). On the other hand, Cebu has the most number of enterprises with lower gross sales. Both Negros Occ. and Cebu exhibited higher relative shares of enterprises with increased gross sales vis-a-vis those with lower gross sales, with Cebu having the greatest differential at almost 70 percent. Both Bohol and Iloilo, on the other hand, have higher relative shares of enterprises with increased gross sales vis-a-vis those with decreased gross sales.

Comparing gross sales in 1991 with gross sales in the first year of operation, majority of the enterprises have experienced increases. (See Table III-17e). On the average, the enterprises experienced an increase of about 37 percent over gross sales in the first year of operation. Among the three types of activities, services posted the highest average increase. On the other hand, almost one-fifth have the same level of gross sales as when they started operation, while about 15 percent have experienced lower gross sales in 1991 compared to those in their first year of operation. The average decline in 1991 sales compared with those in the first year of operation is about 38 percent. Service enterprises exhibited the highest average decline at about 39 percent. Most of these enterprises attributed the lower gross sales to the low demand for their products resulting from the tight economic condition faced by the country. Among those with lower gross sales, trading enterprises have the most number, followed by manufacturing. Among the provinces, it is interesting to note that almost all of the enterprises in Bohol have higher gross sales in 1991 compared to gross sales in the first year of operation, while none exhibited lower gross sales. (See Table III-17f). In Cebu, the number of enterprises that have higher gross sales is almost four times the number of those with lower gross sales. In Negros Occ. the number is 3.5 times, while in Iloilo it is almost three times.

Table III-17d: Distribution of RNEs by comparison of gross sales in 1991 with gross sales 1990, by province

Comparison of gross sales between 1991 and 1990	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Yearly gross sales										
The same	18	4.65	31	8.01	49	12.66	78	20.16	176	45.48
Increased	26	6.72	35	9.04	23	5.94	25	6.46	109	28.17
Decreased	6	1.55	28	7.24	26	6.72	42	10.85	102	26.36
Total	50	12.92	94	24.29	98	25.32	145	37.47	387	100.00
No answers			6		2		5		13	

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-17e: Distribution of RNEs by comparison of gross sales in 1991 with gross sales in first year of operation, by type of activity

Comparison between 1991 and first year of operation	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Yearly gross sales:								
The same	20	5.15	23	5.93	29	7.47	72	18.56
Increased	87	22.42	102	26.29	69	17.78	258	66.49
Decreased	16	4.12	31	7.99	11	2.84	58	14.95
Total	123	31.70	156	40.21	109	28.09	388	100.00
No answer	2		8		2		12	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-17f: Distribution of RNEs by comparison of gross sales in 1991 with gross sales in first year of operation, by province

Comparison between 1991 and first year of operation	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Yearly gross sales:										
The same	2	0.52	11	2.84	22	5.67	37	9.54	72	18.56
Increased	48	12.37	61	15.72	60	15.46	89	22.94	258	66.49
Decreased	0	0.00	22	5.67	17	4.38	19	4.90	58	14.95
Total	50	12.89	94	24.23	99	25.52	145	37.37	388	100.00
No answer			6		1		5		12	

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

The enterprises sell mostly in cash. On the average, 85 percent of sales are obtained from cash sales, while the rest are from sales on credit. (See Table III-17g). Among the enterprises, those engaged in services have the highest proportion of cash sales, on the average. Trading enterprises, on the other hand, have the highest relative share of sales on credit. Statistical tests indicate that the difference in relative shares of cash sales and credit sales between trading and service enterprises are significant at the five percent level.

When inquired whether they are able to sell all their products or service all their clients, majority of the enterprises indicated a positive answer. (See Table III-17h). On the other hand, about 44 percent indicated a negative answer. This implies that those enterprises not selling all of their production are facing limited market demand resulting in excess supply of their products. Among the types of enterprises, majority of those engaged in manufacturing and services are able to sell all of their products/services, while majority of those engaged in trading are not able to dispose of all their goods for sale.

To obtain an indication of capacity utilization, enterprises were asked whether they can sell or service more than the current level given their existing capacity/resources. Majority of them indicated a negative answer, implying that they are fully utilizing their existing resources. Only slightly less than one-fifth indicated that they can still sell or service more, implying the existence of excess capacity in their current operating level.

Net income

The average net income in 1991 of the enterprises surveyed is ₱ 88,365. (See Table III-18). Manufacturing enterprises have the highest average net income at ₱ 102,914, followed by trading enterprises at ₱ 98,926. Service enterprises have the lowest average net income at ₱ 56,378. Almost half of the enteprises have net income of more than ₱ 10,000 to ₱ 50,000. Among these enterprises, majority are engaged in trading activities. Enterprises with net income of ₱ 10,000 and below account for almost 13 percent of all enterprises surveyed. Service enterprises account for the most number among these enterprises. Only a little more than three percent of the sample have net income of more than half a million pesos, and such enterprises are engaged in manufacturing and trading. Among the provinces, Cebu has the most number of enterprises that have exhibited the highest net income (more than half a million pesos in 1991). (See Table III-18a). Iloilo, on the other hand, has the most number of enterprises with the lowest net income (₱ 10,000 and below).

Table III-17g: Average proportion of sales in cash/credit, by type of activity

Sales (in percent)	Activity			
	Manufacturing	Trading	Services	All
Cash	84.9 (20.5)	82.7** (18.9)	88.4** (16.7)	85.0 (19.0)
Credit	14.3 (19.1)	17.3** (18.9)	10.7** (14.5)	14.5 (18.0)

Note: ** - Test for difference in mean percent between manufacturing and services is significant at five percent level.

Figures in parentheses are standard deviation.

Source: DRD-Survey of Rural Nonfarm Enterprises, 1992

Table III-17h: Distribution of RNEs by capacity utilization, by type of activity

Firm sells all/ services all customers	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
Yes	105	84.0	51	32.1	62	57.9	218	55.8
No	20	16.0	108	67.9	45	42.1	173	44.2
Total	125	100.0	159	100.0	107	100.0	391	100.0
No answer			5		4		9	
Firms can sell/ service more:								
Yes	34	27.2	18	11.3	26	24.3	78	19.9
No	91	72.8	142	88.7	81	75.7	314	80.1
Total	125	100.0	160	100.0	107	100.0	392	100.0
No answer			4		4		8	

Source: DRD-Survey of Rural Nonfarm Enterprises,1992

Table III-18: Distribution of RNEs by yearly net income in 1991, by type of activity

Net income in 1991 (in pesos)	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
10,000 & below	16	4.00	13	3.25	22	5.50	51	12.75
Above 10,000 to 50,000	60	15.00	77	19.25	54	13.50	191	47.75
Above 50,000 to 100,000	28	7.00	28	7.00	19	4.75	75	18.75
Above 100,000 to 500,000	14	3.50	40	10.00	16	4.00	70	17.50
Above 500,000	7	1.75	6	1.50	0	0.00	13	3.25
Total	125	31.25	164	41.00	111	27.75	400	100.00
Mean net income	102,914 (226,093)		98,926 (141,707)		56,378 (74,386)		88,365 (161,282)	

Figures in parentheses are standard deviation.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-18a: Distribution of RNEs by yearly net income in 1991, by province

Net income in 1991 (in pesos)	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
10,000 & below	12	3.00	23	5.75	11	2.75	5	1.25	51	12.75
Above 10,000 to 50,000	27	6.75	59	14.75	51	12.75	54	13.50	191	47.75
Above 50,000 to 100,000	3	0.75	6	1.50	23	5.75	43	10.75	75	18.75
Above 100,000 to 500,000	6	1.50	12	3.00	14	3.50	38	9.50	70	17.50
Above 500,000	2	0.50	0	0.00	1	0.25	10	2.50	13	3.25
Total	50	12.50	100	25.00	100	25.00	150	37.50	400	100.00
Mean net income	66,728 (149,056)		45,454 (65,844)		63,350 (88,256)		140,862 (222,950)		88,365 (161,282)	

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Comparing net income in 1991 with net income in 1990, almost half of the enterprises did not experience any change. (See Table III-18b). Those that have higher net income account for a slightly higher percentage (28 percent) over those that have lower net income (26 percent). The average increase in net income is about 23 percent, while for those that experienced lower net income, the average decrease is about 33 percent. (See Table III-18c). Among those that have higher net income, the most number are engaged in trading activities, followed by those engaged in manufacturing activities, then the service enterprises. In terms of magnitude, however, enterprises engaged in manufacturing have higher increases relative to those engaged in trading and services, on the average. This implies that many enterprises engaged in trading experienced higher incomes in 1991 but the increases are highest among manufacturing enterprises. From among those enterprises engaged in services, the number of those that have lower net income in 1991 compared to net income in 1990 is slightly higher. Among the provinces, both Negros Occ. and Cebu have more enterprises with lower net income in 1991 compared to that in 1990 than those with higher net income. (See Table III-18d). Bohol, on the other hand, has the least number of enterprises with decreased net income.

Majority of enterprises have higher net income in 1991 compared to net income in the first year of their operation. (See Table III-18e). The average increase in net income overall is about 33 percent. Enterprises engaged in manufacturing have the highest average increase and this is significant at the five percent level when compared with the average increase in trading enterprises. Those that have no change in net income account for about 18 percent, slightly higher than those with lower net income. It should be noted that although less than half of the enterprises have experienced growth in net income in 1991 over 1990, majority of them have increased their net income in 1991 over net income in their first year of operation. This implies an improvement in performance over the years for majority of the enterprises surveyed. Among the types of activities, there are more than five times more enterprises with higher net income than those with lower net income from among those engaged in manufacturing. In trading, those with higher net income are almost twice the number of those with lower net income. This number is more than three times among those engaged in service activities. Among the provinces, Bohol has the highest relative share of enterprises that have higher net income in 1991 over net income in the first year of operation, while Negros Occ. has the lowest. (See Table III-18f).

Table III-18b: Distribution of RNEs by comparison of net income in 1991 with net income in 1990, by type of activity

Comparison between 1991 and 1990	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Yearly net income								
The same	54	14.14	66	17.28	55	14.40	175	45.81
Increased	36	9.42	45	11.78	26	6.81	107	28.01
Decreased	32	8.38	41	10.73	27	7.07	100	26.18
Total	122	31.94	152	39.79	108	28.27	382	100.00
No answer	3		12		3		18	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-18c: Average increase/decrease in income (in percent), by type of activity

Increase/Decrease	Activity			
	Manufacturing	Trading	Services	All
Increase:				
Over income in 1990	25.3 (21.3)	23.7 (16.8)	20.2 (12.4)	23.4 (17.4)
Over income in first year of operation	41.0** (36.8)	32.2** (25.4)	38.8 (30.1)	32.6 (22.1)
Decrease:				
Below income in 1990	29.1 (21.4)	33.0 (22.6)	36.0 (22.6)	32.6 (22.1)
Below income in first year of operation	36.3 (22.0)	36.6 (21.4)	39.2 (20.2)	37.2 (20.9)

Note: ** - Test for difference in mean percent between manufacturing and services is significant at five percent level.

Figures in parentheses are standard deviation.

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-18d: Distribution of RNEs by comparison of net income in 1991 with net income in 1990, by province

Comparison between 1991 and first year of operation	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Yearly net income										
The same	19	4.97	31	8.12	51	13.35	74	19.37	175	45.81
Increased	27	7.07	31	8.12	20	5.24	29	7.59	107	28.01
Decreased	4	1.05	31	8.12	28	7.33	37	9.69	100	26.18
Total	50	13.09	93	24.35	99	25.92	140	36.65	382	100.00
No answers			7		1		10		18	

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-18e: Distribution of RNEs by comparison of net income in 1991 with net income in first year of operation, by type of activity

Comparison between 1991 and first year of operation	Activity						TOTAL	
	Manufacturing		Trading		Services			
	No.	%	No.	%	No.	%	No.	%
Yearly net income								
The same	15	3.91	27	18.49	29	7.55	71	18.49
Increased	90	23.44	60	15.63	60	15.63	244	63.54
Decreased	17	4.43	33	8.59	19	4.95	69	17.97
Total	122	31.77	154	40.10	108	28.12	384	100.00
No answer	3		10		3		16	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-18f: Distribution of RNEs by comparison of net income in 1991 with net income in first year of operation, by province

Comparison between 1991 and first year of operation	PROVINCE								TOTAL	
	Bohol		Iloilo		Neg. Occ.		Cebu			
	No.	%	No.	%	No.	%	No.	%	No.	%
Yearly net income										
The same	3	0.78	11	2.86	21	5.47	36	9.38	71	18.49
Increased	46	11.98	53	13.80	59	15.36	86	22.40	244	63.54
Decreased	1	0.26	29	7.55	18	4.69	21	5.47	69	17.97
Total	50	13.02	93	24.22	98	25.52	143	37.24	384	100.00
No answers			7		2		7		16	

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Credit status

Majority of the enterprises surveyed (54.2 percent) have availed of loans from credit markets. (See Table III-19). The rest (45.7 percent) have never availed of credit from external sources since they started their operations. Among those who have availed of credit, more than half (51.6 percent) borrowed from informal sources (i.e., moneylenders, suppliers, buyers/customers, relatives, and friends) only. Those who have borrowed from formal sources only (i.e., commercial banks, development banks, rural banks, thrift banks, savings and loan associations, credit unions and cooperatives) account for a little more than one-fourth of the total number of enteprises who have availed of credit. On the other hand, those enterprises that have availed of credit from both formal and informal sources account for a little less than one-fourth (23 percent). Majority of the enterprises indicated that informal credit is more accessible to them than formal credit. (See Table III-19a). Those that answered in the negative feel that both types of credit are equally accessible to them.

The amount of loan applied for ranges from ₱ 200 to ₱ 1 million, with an average of ₱ 44,706. The average amount applied from formal sources is bigger than that from informal sources by about 75 percent, and this is significant at the five percent level based on statistical t-test. (See Table III-19b). The amount of loan received, on the average, is ₱ 40,640, with loans from formal sources bigger than those from informal sources by about 75 percent, on the average. Loans received may either be in cash or in kind. On the average, the amount of loan received in cash is about ₱ 40,000, while that in kind is around ₱ 34,000. Formal loans are usually given in cash; the average loan amount in cash from formal sources is a little more than twice the average amount from informal loans, and this is significant at the one percent level based on statistical t-test. Loans in kind are, however, common among informal sources, particularly input suppliers and traders. The average amount of loan given in kind by formal sources is slightly higher than that given by informal sources, although the difference is not statistically significant.

To obtain an indication of the existence of unmet demand for formal credit, enterpreneurs were asked whether they would want to borrow more than what they have availed of at the prevailing interest rate. Majority of them answered in the negative while only about two-fifths indicated a desire to borrow more. (See Table III-19c). For those who wanted to borrow more, majority of them indicated that the additional loan be used for working capital. About one-third, on the

Table III-19: Distribution of RNEs by credit status and sources of credit

Status	No	%
With loan	217	54.3
Without loan	183	45.7
Total	400	100.0
Sources	**No**	**%**
Formal sources only	55	25.3
Informal sources only	112	51.6
Both formal and informal sources	50	23.1
Total	217	100.0

Source of Data: DRD-Survey of Rural Nonfarm Enterprises, 1992

Table III-19a: Distribution of RNEs by their opinion on accessibility of credit, by type of activity

Informal credit is more accessible than formal credit	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
Yes	35	76.1	65	89.0	24	92.3	124	85.5
No	11	23.9	8	11.0	2	7.7	21	14.5
Total	46	100.0	73	100.0	26	100.0	145	100.0
No answer	5		9		3		17	

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-19b: Mean values of loan, by type of source

Item (in pesos)	Min.	Max.	Mean	t-value
Amount of loan applied for- all types	200	1,000,000	44,076	-
Amount of loan applied for- formal	500	1,000,000	58,167	2.1102**
Amount of loan applied for- informal	200	560,000	33,264	
Amount of loan received- all types	200	850,000	40,640	-
Amount of loan received- formal	500	850,000	54,036	2.1993*
Amount of loan received- informal	200	560,000	30,511	
Amount of loan received in cash- all types	200	850,000	39,886	-
Amount of loan received in cash- formal	440	850,000	54,343	2.6351*
Amount of loan received in cash- informal	200	433,951	24,432	
Amount of loan received in kind- all types	100	560,000	34,197	-
Amount of loan received in kind- formal	1,375	400,000	34,443	0.0300
Amount of loan received in kind- informal	100	560,000	34,077	

Note: * Significant at one percent level.
** Significant at five percent level.

Source: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-19c: Distribution of RNEs by unmet demand for formal credit, by type of activity

Would want to borrow more at prevailing interest rate on formal credit	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
Yes	7	41.2	24	40.0	7	36.8	38	39.6
No	10	58.8	36	60.0	12	63.2	58	60.4
Total	17	100.0	60	100.0	19	100.0	96	100.0
No answer	6		3				9	
If yes, purpose intended for additional loan								
Capital investment	2	28.6	8	34.8	2	28.6	12	32.4
Working capital	4	57.1	15	65.2	4	57.1	23	62.2
Others	1[a]	14.3			1[b]	14.3	2	5.4
Total	7	100.0	23	100.0	7	100.0	37	100.0
No answer			1				1	

Note: [a]For both capital investment and working capital
[b]For personal use (i.e. payment of tuition fees)

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

other hand, would use the additional loan for capital investment. Only one respondent indicated that the additional loan be used for personal needs. For those who borrowed from informal sources, majority of them indicated that their credit needs are fully met. (See Table III-19d). Among those whose credit needs are not fully met by informal sources, majority of them have unmet credit needs ranging from ten to 25 percentof total credit needs. About one-third, on the other hand, have unmet credit needs of less than ten percent.

In terms of interest rate charged on the loan, the average for both formal and informal loans is 23.25 percent per annum. (See Table III-19e). There is not much difference in the average between formal and informal rates, as indicated by statistical tests. The average rate for informal loans is 23.41 percent per annum while that for formal loans is 23.04 per cent per annum. However, the maximum rate charged by informal sources is about 50 percent higher than the maximum rate charged by formal sources.

For collateral, informal sources do not require borrowers to provide one, in general; although there are still some informal lenders who require that borrowers secure their loans. Formal sources, on the other hand, require that loans be secured by collateral, the most commonly offered types of which are real estate (land or building), equipment, and vehicles. In some instances where the loan granted is a 'character loan' the borrower is not required to provide collateral; instead a guarantor is needed. The average amount of collateral offered is around ₱ 19,000. The amount of collateral offered for formal loans is three times that for informal loans, on the average. This difference is significant at the 10 percent level based on the results of the t-test.

Collateral requirement has the highest share of respondents that ranked it first among the difficulties encountered in applying for formal loans. (See Table III-19f). This is followed by the long processing period before loans can be disbursed. High rate of interest has the highest share of respondents that ranked it third among the difficulties. Thus, it appears that collateral requirement is still a major factor constraining the easy access of entrepreneurs to formal loans.

Majority of the enterprises have not availed of other financial services from formal financial institutions aside from credit, although the relative share of those that have availed is only slightly lower than those that have availed. (See Table III-19g). Among the types of enterprises, it is only among those engaged in trading where majority have availed of other financial services. The most commonly

Table III-19d: Distribution of RNEs by proportion of credit demand unmet by informal sources, by type of activity

Is credit demand fully met?	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
Yes	36	76.6	53	77.9	20	76.9	109	77.3
No	11	23.4	15	22.1	6	23.1	32	22.7
Total	47	100.0	68	100.0	26	100.0	141	100.0
No answer	4		14		3		21	
If no, proportion of credit demand unmet:								
Less than 10%	2	20.0	2	18.2	4	66.7	8	29.6
Less than 25% but more than 10%	8	80.0	6	54.5	2	33.3	16	59.3
Less than 50% but more than 25%			2	18.2			2	7.4
Less than 100% but more than 50%			1	9.1			1	3.7
Total	10	100.0	11	100.0	6	100.0	27	100.0
No answer	1		4				5	

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-19e: Mean values of nominal interest rate on loans and collateral offered

Item	Min.	Max.	Mean	t-value
Interest rate per annum-all	0	240	23.25	-
Interest rate per annum-formal	0	160	23.04	-0.1062
Interest rate per annum-informal	0	240	23.41	
Value of collateral offered-all	0	1,250,000	19,080	-
Value of collateral offered-formal	0	1,250,000	31,088	1.7971***
Value of collateral offered-informal	0	1,000,000	10,503	

Note: *** Significant at 10 percent level.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

Table III-19f: Distribution of RNEs by ranking of difficulties in applying for formal loans

Difficulty	Ranking											
	1st		2nd		3rd		4th		5th		6th	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Collateral requirement	39	63.9	11	18.0	1	1.6	5	8.2	3	4.9	2	3.3
Long loan processing	11	18.0	17	27.9	21	34.4	10	16.4	1	1.6	1	1.6
Complicated application procedures	6	11.8	11	21.6	10	19.6	13	25.5	8	15.7	3	5.9
High interest rate	7	12.1	19	32.8	21	36.2	8	13.8	3	5.2		
Unfriendly bank personnel					1	2.2	6	13.0	19	41.3	20	43.5
Unavailability of funds for specific purpose	1	2.3	2	4.7	5	11.6	9	20.9	12	27.9	14	32.6

Source of Data: DRD- Survey of Rural Nonfarm Enterprises, 1992

Table III-19g: Distribution of RNEs by other financial services availed from formal sources, by type of activity

Availed of other financial service	Activity							
	Manufacturing		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%
No	78	63.4	69	42.1	70	63.1	217	54.5
Yes	45	36.6	95	57.9	41	36.9	181	45.5
If yes, types of services available								
Savings account	36	81.8	71	77.2	41	100.0	148	83.6
Checking account	1	2.3	7	7.6			8	4.5
Both savings and checking account	7	15.9	13	14.1			20	11.3
Checking account and time deposit			1	1.1			1	0.6
Total	44	100.0	92	100.0	41	100.0	177	100.0
No answer	1		3				4	

Source of Data: DRD-Survey of Rural Nonfarm Enterprises, 1992

availed of financial service among the enterprises is savings account (about 84 percent).

IV. Modelling the Impact of Credit on Productivity and Growth of Rural Nonfarm Enterprises

Capital constraints faced by RNEs inhibit them from operating at the optimal level. Relaxing these constraints through improved access to credit will increase the expected revenues and income obtainable from given resources and market opportunities (Carter and Weibe 1990, Feder et al. 1990).

Measuring the impact of credit presents empirical problems arising from the likely heterogeneity of credit recipients and non-recipients. As Adams (1988) pointed out, credit in general will enhance the opportunities of those who use it, however it is very likely that credit recipients would still be performing better than non-recipients even without credit because the former may have better inherent characteristics than the latter. It is important, therefore, to be able to segregate the effect of credit on productivity from the effect of inherent characteristics of the entrepreneur. While descriptive statistical analysis will show the differences between average performance of credit recipients and non-recipients, it does not measure the proportion of the difference attributable to credit alone. The differences measured are distorted by the effects arising from the heterogeneity of the sample; i.e., credit recipients have different inherent characteristics compared with non-recipients.

Table IV-1 shows the descriptive statistics of credit recipients vis-a-vis non-recipients among the RNE operators surveyed. Comparison of the statistics indicate that credit recipients are better performers than non-recipients and statistical tests indicate that the differences are significant at one to 10 percent level. Credit recipients have higher gross sales and net income than non-recipients. They also have more resources. Their total assets, land values, and personal assets are 66, 100, and 73 percent higher than those of non-recipients, respectively. Given these indicators, it would be misleading to attribute the better performance of credit recipients solely to their availment of credit. Other attributes of RNEs and those of their operators may be responsible for the differences in mean resource allocation and production. For instance, better skills and managerial abilities of RNE operator will have a positive impact on output. And since these qualities are not directly observable, their effects may be confounded by the effects of other observable variables.

An econometric method designed to segregate the impact of credit from the impact of latent and observable characteristics of credit recipients and non-recipients is developed to tackle the issues presented above. The model is patterned after the models used by Goldfeld and Quandt (1973) and Maddala and Nelson (1975).

Table IV-1 : Descriptive statistics of credit recipients and non-receipients, 1991

Mean values	Recipient n=217	Non-recipient n=183	t-value	Differential (in percent)
Gross sales	856,161 (3,541,775)	313,791 (785,416)	-2.1928***	172.84
Net income	107,541 (194,159)	65,627 (106,433)	-2.7305*	63.87
Total assets	470,622 (990,799)	283,555 (762,978)	-2.1311**	65.97
Land (in peso value)	24,163 (77,399)	12,052 (30,303)	-2.0884**	100.49
Personal assets	291,611 (559,656)	168,203 (286,486)	-2.8372**	73.37
Number of workers at the start	4.7 (8.3)	3.2 (3.4)	-2.4578**	46.88
Number of workers currently	5.8 (8.8)	4.2 (7.5)	-1.930***	38.10
Number of hired workers at start	3.0 (8.3)	1.6 (3.3)	-2.24**	87.50
Number of hired workers currently	3.9 (8.8)	2.4 (6.8)	-1.93***	62.50
Hourly wage rate	7.16 (6.57)	4.55 (4.12)	-4.8091*	57.36
Number of months operated in 1991	11.8 (0.8)	11.4 (1.9)	-2.5968*	3.51
Number of hours operated in 1991	9.1 (2.25)	8.6 (2.0)	-2.3427**	5.81
Number of hours workers worked per day in 1991	8.9 (2.2)	8.5 (2.1)	-1.6629***	4.71
Income reinvested in the enterprise	48,843 (114,528)	24,774 (57,976)	-2.7064**	97.15
Income reinvested as working capital	58,138 (128,494)	29,080 (67,036)	-2.8914**	99.92

Note:
* - significant at 1 percent
** - significant at 5 percent
*** - significant at 10 percent

Figures in parentheses are estimated standard deviation.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

Variants of the model have been recently used by Feder, et al. 1990, Carter 1989, and Sial and Carter 1991.

A. The econometric model

Let Q^* be the anticipated output supply function of an RNE. Q^* is what the entrepreneur expects to produce given the prevailing market conditions, resource endowments, and entrepreneur skills. The anticipated values for individual 'i' is

(1a) $Q_i^{*n} = b'Z_i + V_i^n$ for non-recipients, and

(1b) $Q_i^{*c} = b'Z_i + V_i^c$ for credit recipients.

The Z_is represent the observable market conditions, characteristics, and resources and the V_is refer to the returns to individual productivity attributes.

The realized output supply functions that correspond to equations in (1) can be written as:

(2a) $Q_i^{*n} = b'Z_i + V_i^n + e_i^n$

(2b) $Q_i^{*c} = b'Z_i + V_i^c + e_i^c$

where the random errors e_is are the difference between individual i's realized and anticipated output supply. It is assumed that $E(e_i)=0$ for all samples and subsamples of RNE operators.

Estimation of the output supply function is complicated by the fact that credit status is endogenously determined in a way that may be systematically related to the expected credit effects (Carter 1989). If only high productivity producers receive loans, then it becomes problematic to disentangle the effect of credit per se from the intrinsic, unobservable productivity attributes of credit recipients. Thus, there is a need to give structure to the credit allocation process in order to resolve this identification problem.

Credit status can be represented by the binary variable D_i which equals one if individual 'i' has credit and equals zero otherwise. D_i can be modelled as the result of a latent creditworthiness variable, L_i^*, which is scaled such that an individual becomes a credit recipient when $L_i^*>0$. Formally,

(3a) $\text{Prob}(D_i=1|Z) = \text{Prob}(L_i^*>0|Z)$ and

(3b) $\text{Prob}(D_i=0|Z) = \text{Prob}(L_i^*<0|Z)$.

A reduced form specification for latent creditworthiness can be written as

(4) $$L_i^* = r'M_i + N_i$$

where M_i is a vector of variables that influence credit worthiness, r is a vector of parameters, and N_i is an error component reflecting random and latent factors that influence creditworthiness. Thus, the credit allocation process can be written as

(5) $$D_i = \begin{cases} 1 \text{ if } L_i^* = r'M_i + N_i \text{ or } N_i > -r'M_i \\ 0 \text{ otherwise.} \end{cases}$$

Combining equations in (2) and (5), the expected output supply conditional on the credit allocation process and observable characteristics is:

(6a) $$E(Q_i^n | D_i=0) = b'Z_i + E(u_i^n | N_i < -r'M_i)$$

(6b) $$E(Q_i^c | D_i=1) = b'Z_i + E(u_i^c | N_i > -r'M_i)$$

where conditioning on the Z_i has been suppressed and $u_i=V_i^n+e_i^n$ and $u_i^c=V_i^c+e_i^c$. Since $E(e_i)=0$, then equations in (6) can be written as:

(7a) $$E(Q_i^n | D_i=0) = b'Z_i + E(V_i^n | N_i < -r'M_i)$$

(7b) $$E(Q_i^c | D_i=1) = b'Z_i + E(V_i^c | N_i > -r'M_i).$$

The fundamental econometric problem induced by endogenous credit status is the lack of information on individual attributes that can affect both credit allocation and RNE productivity. As a second best solution, distributional assumptions can be made to substitute for the latent information. Following the sample selection literature, it is possible to separately identify the effect of latent individual attributes and obtain consistent estimates of the structural parameters of the output supply function conditional on assumptions about the error structure. The assumption employed here is that (N_i, u_i^n, u_i^c) are distributed multivariate normal with zero expectations and positive definite covariance matrix (Maddala 1983). Thus, the conditional expectations in (7) can be rewritten as:

(8a) $$E(V_i^n | D_i=0) = s^n E(N_i | D_i=0) = s^n A_i^n$$

(8b) $$E(V_i^c | D_i=1) = s^c E(N_i | D_i=1) = s^c A_i^c$$

where $A_i^c = \phi(C)/\Phi(C)$, $A_i^n = \phi(C)/(1-\Phi(C))$,

$s^n = Cov(N_i, V_i^n)/Var(N_i)$, $s^c = Cov(N_i, V_i^c)/Var(N_i)$

$C = r'M_i/V(N_i)$,

and $\phi(C)$ and $\Phi(C)$ are the standard normal density and cumulative density functions, respectively, defined over the observable variables that determine credit status. Note that the s's are the population regression coefficients relating the V_is to N_is and the A_is are the estimates of N_is given credit status (Sial and Carter 1991).

Given these specifications, the complete endogenous switching regressions model becomes

$$(9a) \qquad D_i = \begin{cases} 1 \text{ if } N_i > -r'M_i \\ 0 \text{ otherwise} \end{cases}$$

$$(9b) \qquad E(Q_i^n | D_i=0) = b'Z_i + s^n A_i^n$$

$$(9c) \qquad E(Q_i^c | D_i=1) = b'Z_i + s^c A_i^c.$$

The parameters of this system can be estimated using maximum likelihood methods. Heckman proposes a two-stage procedures for estimating consistent but less efficient parameters of (9) (Madalla 1983). The procedure is as follows. Obtain estimates of $r/Var(N_i)$. Using these, get the estimated values of $\phi(C)$ and $\Phi(C)$ and use these to construct $A_i^c(.)$ and $A_i^n(.)$. Consistent estimates of b may be obtained through separate OLS regressions of the two conditional output supply functions in (9) using the appropriate subsamples of credit recipients and non-recipients for each regression. Alternatively, it is possible and often desirable to estimate (9) using all the observations in Q_i (Madalla 1983). Note that

$$(10) \qquad E(Q_i) = E(Q_i^c | D_i=1)Prob(D_i=1) + E(Q_i^n | D_i=0)Prob(D_i=0)$$

so that

$$(11) \qquad E(Q_i) = b_n'Z_i + (b_c - b_n)Z_i\Phi + (s^c - s^n)\phi$$

$$= b_n'Z_i + dZ_i\Phi + (s^c - s^n)\phi$$

where $d=b_c-b_n$. Estimating (11) allows for testing which coefficients are different in b_n and b_c. Regress Q_i on Z_i, ϕ_i and the interaction terms $Z_i\Phi$ to get consistent estimates of

b, d, and (s^c-s^n). Some of the estimated coefficients may be significant and others not. This procedure allows for the deletion of non-significant variables and thus the implicit imposition of equality restrictions on some coefficients between the regression coefficients in the equations for credit recipients and non-recipients. This is a convenient procedure for imposing cross-equation restrictions in switching regressions models with endogenous switching (Madalla 1983).

B. Measuring the impact of credit on productivity

Credit can affect the optimized output supply by allowing the entrepreneur to use optimal levels of inputs, utilize new technology, and increase the intensity of use for inputs. By overcoming the financial constraints on the purchase and allocation of optimal inputs, credit might enable the entrepreneur to enhance conventional allocative efficiency. This implies a shift along a given production surface to a more intensive and more remunerative input combination. Credit can also permit the purchase of a new technological package that can increase observable technical efficiency (e.g., the use of mechanized processes instead of manual processes). Credit may also allow a more intensive use of fixed inputs of family labor and entrepreneur skill. This can be achieved through: (a) a nutrition-productivity link if credit enhances family consumption levels and productivity, (b) financing the fixed cost of self-maintenance needed to work on the enterprise full-time, and (c) increasing production options (Carter 1989). On the other hand, credit may have no effect on output supply at all. If credit simply displaces another source of finance such as savings, then output supply may not be affected. Also, if credit is treated simply as a welfare program where default costs are perceived as very minimal, then it may have a zero or even negative impact on output supply.

Carter (1989) has defined various measures of the impact of credit on farm productivity. These measures will be adopted to estimate the credit effects on productivity of RNE operators.

One measure, called the unconditional or average credit effect, is the impact credit would have on the productivity of a bundle of resources used by an 'average' individual selected at random from the overall population of RNE entrepreneurs. This effect can be shown as:

$$(12) \qquad E(Q_i^c|Z) - E(Q_i^n|Z) = d'Z$$

where Z are some average characteristics. Equation (12) shows

the expected effect of credit if it were randomly assigned to an average individual without any intervening systematic selection or conditioning on the basis of the unobserved individual characteristics. On the other hand, the production gain grom credit anticipated by an individual 'i' from (1) can be seen to be

$$(13) \qquad Q_i^{*c} - Q_i^{*n} = d'Z_i + V_i^c - V_i^n.$$

This anticipated production gain from credit is composed of an observable systematic component ($d'Z_i$) plus the additional gains (or losses) the individual expects to realize from unobservable productivity attributes when operating with and without credit. If latent individual attributes have the same impact on production with and without credit, then $V_i^c = V_i^n$ and all individuals would anticipate the same effect ($d'Z_i$) regardless of their latent productivity attributes.

Another measure which conceptually corresponds to a before and after comparison of the productivity of credit recipients is called the conditional credit effect. The difference between the average credit effect and the conditional credit effect is the differentiation effect. This differentiation effect results from enhanced returns to latent individual characteristics that are systematically enjoyed by credit recipients.

The conditional credit effect can be measured using the counterfactual expectation (Tunali 1985 as cited by Carter 1989). The counterfactual expectation of what output supply would (counterfactually) be without credit for an individual who actually is a credit recipient is defined as

$$(14) \qquad E(Q_i^n | D_i=1).$$

Note that given Z_i, conditioning on $D_i=1$ is equivalent to conditioning on the individual's unobserved productivity characteristics. Thus, the conditional credit effect can be measured as

$$(15) \qquad E(Q_i^c | D_i=1) - E(Q_i^n | D_i=1).$$

The first term is the expectation conforming to the actual situation and the latter term is the counterfactual expectation of the individual's output supply in the absence of credit. Using the parameterization in (11), equation (15) can be rewritten as

$$(16) \qquad d'Z_i + (V_i^c - V_i^n | D_i=1) \quad \text{or}$$

$$d'Z_i + (s^c - s^n) A_i^c.$$

The terms $(d'Z_i)$ are simply the average credit effect, while the second term is the differentiation effect, i.e., the additional returns expected to unobervable individual productivity attributes. Note that the parameter **d** measures differential returns to observable resources and characteristics while (s^c-s^n) measures the differential returns to unobservable endowments whose level is estimated by A_i^c. If indeed credit recipients enjoy latent productivity attributes over non-recipients, then $(s^c-s^n)>0$. This implies that even if credit is made accessible to everybody, only those 'good' entrepreneurs would benefit while those 'bad' entrepreneurs would not. This result has implications on strategies for economic development particularly credit programs targetted to specific beneficiaries.

V. An Econometric Estimation of the Impact of Credit on RNE Behavior

Descriptive statistics on credit recipients and non-recipients show that the former performed better in terms of gross sales and net income compared to the latter as shown in previous discussions. Credit recipients also employ more hired workers, operate longer, pay higher wages, and reinvest more of their income, on the average. To some extent, these differences indicate that availment of credit relaxes constraints on RNE operation. These measures, however, do not account for the objective conditions faced by credit recipients and non-recipients (e.g., market access, resource endowments, etc.) nor the phenomena of endogenous credit status whereby those entrepreneurs who are inherently more productive may be the ones who receive credit. The model presented in the previous section can be used to untangle these multiple influences and separate the true credit effects from the spurious effects.

The empirical implementation of the model requires the specification of the output supply function. The present analysis uses as the dependent variable the total value of output in 1991. The independent variables include costs of inputs such as labor and non-fixed inputs, and productivity enhancing characteristics of the entrepreneurs such as previous work experience, and total assets. Household size of the entrepreneur is also included together with the average number of hours the enterprise operated. Activity and provincial dummies are included to account for differences in market access and conditions that are not otherwise measured.

To implement the endogenous switching regression model, the first stage credit status equation is estimated using univariate probit. Credit status is specified as a function of variables that indicate or affect creditworthiness. These variables include the value of fixed assets, total assets, and financial assets owned by the entrepreneur, previous year's income, number of years the enterprise has been operating, age of the owner/operator, number of years spent in school (as a measure of educational attainment), household size, and a dummy variable for bank-client relationship, i.e., existence of a bank account which equals one if operator has a bank account and zero otherwise. Dummies for type of activity undertaken and for the province where the enterprise operates are also included.

Table V-1 shows the estimated coefficients of the credit status equation. Of the independent variables included, total assets, financial assets, and number of years in school are statistically significant. Total assets has a negative coefficient, implying that the more resources, in terms of all the assets the entrepreneur has at his or her disposal, the less likely that he or she will choose to be a credit recipient. This implies

Table V-1 : Estimated coefficients of the credit status equation

Variable	Coefficient	Chi-square value
Intercept	-0.1046	0.2048
Fixed Assets	0.2994	2.0730
Total Assets	-0.9423	7.6491*
Financial Assets	0.2697	4.8960**
No. of years enterprise operated	0.0003	0.0021
Age of owner/operator	0.0786	0.8268
Household size	-0.0899	1.4688
No. of years in school	0.1541	2.7978***
Last year's income	-0.0709	0.6801
Bank account (dum)	0.1195	0.5290
Bohol (dum)	0.1526	0.3803
Iloilo (dum)	0.6258	8.3334*
Cebu (dum)	0.1635	0.5752
Manufacturing (dum)	-0.2984	2.1842
Trading (dum)	-0.9284	25.6002*
-2 Log likelihood No. of observations	409.92* 339	

Note: * - significant at 1 percent
** - significant at 5 percent
*** - significant at 10 percent

Services was dropped from activity dummies.
Negros Occidental was dropped from provincial dummies.

Figures in parentheses are estimated standard deviation.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

that the entrepreneur is less likely to borrow from outside sources given that he or she has substantial resources in terms of assets to finance current operations. On the other hand, an entrepreneur with more financial assets (in terms of savings and checking accounts with a financial institution) is more likely to be a credit recipient because of his or her established relationship with a financial institution. Having established this bank-client relationship, the entrepreneur is more likely to get approval for loans applied for. (See Lapar 1988 for an empirical validation of this statement). Also, the better educated the entrepreneur is, the more likely that he or she will be a credit recipient. Since better educated entrepreneurs are perceived to be more productive, this boosts their creditworthiness. Significant coefficients for dummies for Iloilo and trading imply that enterprises operating in Iloilo are more likely to receive credit, while those engaged in trading are less likely to be credit recipients. While not all the estimated coefficients are significant, the joint hypothesis that all coefficients in the model are zero is not accepted at the one percent level because twice the negative of the likelihood ratio is 410 while the one percent critical value (Chi-square, 339 d.f.) is 51.

Using the estimated coefficients of the credit status equation, the probability density function $\phi(.)$ and the cumulative density function $\Phi(.)$ are computed and used as regressors to endogenize the credit status in the estimation of the output supply function. The output supply function, weighted by the $\phi(.)$ and $\Phi(.)$ is then estimated using OLS. The estimating equation for the output supply function is specified in double-log form.

Four variants of the model are estimated. These are the switching regressions for credit recipients and non-recipients using the appropriate sample size for credit status separation (Equation 9), a single equation switching regression using all the observations in the sample (Equation 11), and a restricted switching regressions equation that imposes certain restrictions on the parameters of some explanatory variables (based on Equation 11). The estimated coefficients for each of these equations are presented in Tables V-2 to V-5.

A. Estimates of credit effects

To compute for the credit effects discussed in the previous section, the estimated coefficients of the switching regressions model using two separate samples are used. Table V-6 shows the estimated credit effects. Average credit effect is estimated to be positive at the average level of characteristics and resources. This implies that credit enhances the returns to observable characteristics and resources. The estimated figure indicates that credit availment increases output supply by more than two times (220 percent). Statistical test of the average credit effect shows

Table V-2: Estimated coefficients of output supply function for credit recipients

Variable	Coefficient	t-value
Constant	8.140	10.700*
Family workers	0.002	0.374
Hired workers	0.021	2.887*
Total assets	0.016	2.323**
Working capital	0.510	12.155*
Hourly wage rate	0.057	0.852
No. of years operating	0.001	0.264
Ave. no. of hours operating	-0.693	-2.792*
Household size	0.005	0.858
Previous work experience (dum)	0.170	1.327
Manufacturing (dum)	-0.131	-0.661
Trading (dum)	-0.057	-0.321
Bohol (dum)	-0.507	-2.376**
Iloilo (dum)	0.003	0.017
Cebu (dum)	0.472	2.807*
Lambda	0.026	0.207
Adjusted R^2	0.66	
No. of Observations	215	

Note: * - significant at 1 percent
** - significant at 5 percent

Services was dropped from activity dummies.
Negros Occidental was dropped from provincial dummies.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

Table V-3 : Estimated coefficients of output supply function for non-recipients

Variable	Coefficient	t-value
Constant	8.877	11.051*
Family workers	0.016	2.831*
Hired workers	0.029	3.350*
Total assets	0.027	3.293*
Working capital	0.417	11.041*
Hourly wage rate	-0.178	-2.506**
No. of years operating	0.004	0.680
Ave. no. of hours operating	-0.171	-0.699
Household size	-0.0006	-0.109
Previous work experience (dum)	0.307	2.480**
Manufacturing (dum)	-0.186	-1.098
Trading (dum)	0.030	0.142
Bohol (dum)	-0.781	-3.440*
Iloilo (dum)	-0.508	-2.418**
Cebu (dum)	0.433	2.536**
Lambda	0.094	0.258
Adjusted R^2	0.73	
No. of Observations	181	

Note: * - significant at 1 percent
** - significant at 5 percent

Services was dropped from activity dummies.
Negros Occidental was dropped from provincial dummies.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

Table V-4 : Estimated coefficients of output supply function using a single-equation specification

Variable	Full switching model			
	All		Recipient	
	Coefficient	t-value	Coefficient	t-value
Constant	8.078	4.436*	1.925	0.579
Family workers	-0.008	-0.647	0.036	1.477
Hired workers	0.018	1.212	0.014	0.434
Total assets	0.008	0.498	0.034	0.941
Working capital	0.542	6.222*	-0.176	-0.959
Hourly wage rate	0.115	0.828	-0.341	-1.169
No. of years operating	0.023	2.140**	-0.044	-2.015***
Ave. no. of hours operating	-0.872	-1.815***	0.831	0.817
Household size	0.002	0.145	0.004	0.186
Previous work experience (dum)	0.144	0.585	0.235	0.461
Manufacturing (dum)	-0.409	-0.663	0.486	0.444
Trading (dum)	-0.215	-0.318	0.644	0.474
Bohol (dum)	-0.807	-1.947	0.385	0.410
Iloilo (dum)	0.029	0.056	-0.854	-0.791
Cebu (dum)	0.728	2.234*	-0.762	-1.021
Pdf			-0.434	-0.212
Adjusted R^2	0.71			
No. of Observations	396			

Note:
- * - significant at 1 percent
- ** - significant at 5 percent
- *** - significant at 10 percent

Services was dropped from activity dummies.
Negros Occidental was dropped from provincial dummies.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

Table V-5 : Estimated coefficients of the restricted endogenous switching regression model

Variable	Coefficient	t-value
Constant	8.666	16.623*
Family workers	0.008	1.994**
Hired workers	0.024	4.405*
Total assets	0.023	4.502*
Working capital	0.466	16.884*
Hourly wage rate	-0.046	-1.002
No. of years operating	0.019	2.249**
Ave. no. of hours operating	-0.488	-2.876*
Household size	0.003	0.835
Previous work experience (dum)	0.243	2.780*
Manufacturing (dum)	-1.189	-1.567
Trading (dum)	0.061	0.486
Bohol (dum)	-0.639	-4.198*
Iloilo (dum)	-0.349	-2.716**
Cebu (dum)	0.410	3.597*
Pdf.	-	-
Adjusted R^2	0.71	
No. of Observations	396	

Note: * - significant at 1 percent
** - significant at 5 percent

Services was dropped from activity dummies.
Negros Occidental was dropped from provincial dummies.

Source of Data: DRD-Survey of Rural Nonfarm Enterprise, 1992

Table V-6 : **Estimated credit effects**

Effect	Estimate	Std. error
Average credit effect	2.220	0.769
Differentiation effect	0.064	0.032
Conditional credit effect	2.284	0.776

Source of Data: Tables V-2 and V-3

that it is significant at the one percent level, implying that the hypothesis of zero average credit effect cannot be accepted.

The differentiation effect is estimated to be positive, although quite small in magnitude. The result implies that credit recipients enjoy differential returns to latent productivity attributes over non-recipients resulting in positive effects on output. The statistically significant estimated differentiation effect implies that the hypothesis of no differentiation effect is not accepted at the one percent level.

The conditional credit effect, or the counterfactual effect is also estimated to be positive. Since this effect measures the difference in the level of output of credit recipients operating with credit and without credit (the counterfactual state), the result implies that output is higher under credit availment relative to the level in the counterfactual state. The estimated figure translates to a difference of more than two times (228 percent) the level of output when operating without credit. Statistical test on the conditional credit effect shows that it is significant at the one percent level, implying the non-acceptance of the hypothesis of no effect.

Note that the difference between the average credit effect and the conditional credit effect can be interpreted to be the effect accounted for by the unobservable productivity attributes of credit recipients. In this case, this effect is estimated to be 18 percent. This means that credit recipients enjoy an 18 percent increase in output over non-recipients due to their latent productivity attributes. This also validates Adams' hypothesis (Adams 1988) that credit recipients are generally more productive than non-recipients even without credit.

B. Factors affecting productivity and growth

To determine which observable factors have a significant effect on output supply, a restricted version of the single equation switching regression model (equation 11) is estimated. This restricted version controls for the effect of latent productivity attributes. The estimated equation indicates that aside from the constant term, the variables that significantly contribute to output supply are family workers, hired workers, total assets, working capital, number of years the firm has been operating, entrepreneur's previous work experience, and average number of hours of operation. Among the dummy variables, all the provincial dummies are statistically significant.

Family workers have a positive effect on output. This implies that output increases with every additional family member that works in the enterprise. The implied change in output is quite small, however, based on the small value of the estimated coefficient.

Hired labor has a positive effect on output, implying that output increases with the size of the enterprise in terms of number of workers. From the estimated coefficients, it is indicated that a one percent increase in the number of workers will result in less than 0.1 percent increase in output.

Total assets also has a positive effect on output supply, although the marginal effect is also quite small. An increase of one percent in total assets will result in less than 0.01 percent increase in output. This implies that not all asset investments may be directly used for the operation of the enterprise; rather some of the asset investments may be used for family or personal consumption.

Working capital has a positive effect on output. This implies that increasing working capital will translate into higher output levels. It is shown that a one percent increase in working capital will increase output by slightly less than half a percent. Note that it is in the working capital variable where the direct effect of credit on output can be quantified, assuming that all the credit availed by the entrepreneur is used to finance the working capital requirements of the enterprise.

The longer the enterprise has been operating (in number of years), the bigger is the expected output as indicated by the positive coefficient fo the number of years operating variable. This implies that older firms may have developed some level of efficiency that makes them perform better than younger firms, resulting in higher output levels.

The variable pertaining to the average number of hours the firm operates has a negative effect on output. A one percent increase in average number of hours of operation will result in a decline in the value of output by slightly less than half a percent. This result is quite contrary to expectations. The only explanation for this phenomena could be the existence of a threshold of number of hours of efficiency such that if the enterprise operates beyond that threshold, the level of output declines. In this case, it can be inferred that RNEs in the sample are operating beyond the optimal number of hours.

Experience also has a positive impact on output. Enterprise that are operated by an entrepreneur who has previous work experience that is related to the current

activity of the enterprise will have higher output relative to those operated by entrepreneurs with relatively little or no experience.

Provincial dummies that are statistically significant indicate that enterprises operating in those areas will have higher output relative to those not operating there. Among the provinces, only Cebu is indicated to have a positive effect on output; i.e., RNEs in Cebu will have relatively higher output. This implies that the prevailing market and other conditions in Cebu are more favorable to RNEs relative to other areas. This is not surprising since Cebu is relatively more developed compared to the other provinces. The province has better infrastructure and offers better market opportunities relative to other provinces.

Table V-7: Computed marginal effects of the significant variables in the restricted model

Variable	Marginal Effect*
Family workers	2,658
Hired workers	4,532
Total assets	0.04
Working capital	0.63
No. of years operating	843
Average no. of hrs. operated	-33,43

* Given that the estimated function is logY = alogX, then the marginal effect is

$$dY/dX = aY/X$$

where a = estimated coeffient
Y = mean of the dependent variable
X = mean of the independent variable.

Source of Data: Table 5.

VI. Conclusions and Policy Implications

This study looked at the status of RNEs in the Visayas area. An analysis of the descriptive statistics of the primary data obtained from the survey show that majority of the RNEs are really micro- and cottage-sized enterprises (following the official definition used by the NSO) generally managed by the owner/operator only. Very few can be considered small-scale. Major activities undertaken are manufacturing, trading, and services, accounting for 31, 41, and 28 percent of the total RNEs surveyed.

Most of the RNEs have grown since they first started their operations, although the growth experienced was not substantial. This indicates the lack of dynamism in the sector. This apparent stagnation in the sector can be attributed to several factors. For one thing, the rural areas where these enterprises operate are lacking in facilities and services that can open up opportunities for growth among RNEs. The lack of adequate infrastructure in the rural areas prevents these enterprises from exploring new markets. These enterprises are also hampered by working capital and liquidity constraints. Among the biggest difficulties encountered by RNEs, lack of capital, both at the start and currently, was indicated by majority of the respondents. (See Table VI-1). While the government has introduced several credit programs targetted to service the needs of this sector, it appears that such programs have not made an impact on the RNEs. The formal credit market accounts for just a small portion of the financial resources availed by the RNEs. Much of the financial needs of these enterprises are being served by the informal credit market. Even then, there are indications that not all the credit demands of the sector is fully served by informal sources.

The downtrend in the economic conditions of the country has contributed much to the lackluster performance of RNEs. There are indications that growth has been hampered by the lack of market demand for the goods and services produced by the sector brought about by the lower purchasing power of consumers. Aroung 15 percent of RNEs indicated low consumer demand as the biggest difficulty they currently face in their operations, as shown in Table VI-1. This is particularly significant in the rural areas where people have relatively lower incomes compared to those in the urban areas. Yet, the most surprising aspect of the performance of this sector is their resiliency. The RNEs have continued operating despite all the odds against them. Their being small may have enabled them to make adjustments easily without incurring substantial losses in the process. Thus, smallness may be an advantage after all given the unstable economic conditions currently prevailing.

Table V1-1 : Distribution of RNEs according to the biggest difficulty encountered in the business, start and current, by type of activity

Biggest difficulty	Start								Current							
	Mfg.		Trading		Services		All		Mfg.		Trading		Services		All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Lack of capital	72	58.06	86	52.44	48	44.04	206	51.89	61	49.59	43	26.22	38	34.23	142	35.68
Low consumer demand	20	16.13	22	13.41	12	11.00	54	13.60	20	16.26	23	14.02	18	16.22	61	15.33
Unpaid credit of customers	1	0.81	11	6.71	5	4.59	17	4.28	4	3.25	11	6.71	4	3.60	19	4.77
Competition	3	2.42	9	5.49	4	3.67	16	4.03	7	5.69	44	26.83	23	20.72	74	18.59
Location/space	3	2.42	4	2.44	9	8.26	16	4.03	2	1.63	5	3.05	4	3.60	11	2.76
Lack of laborer/ skilled workers	3	2.42	-	-	2	1.83	5	1.26	1	0.81	5	3.05	2	1.80	8	2.01
Lack of raw materials	5	4.04	-	-	-	-	5	1.26	5	4.06	-	-	-	-	5	1.26
Lack of stocks/ supplies	-	-	3	1.83	1	0.92	4	1.01	-	-	3	1.83	1	0.90	4	1.01
High cost of materials/supplies	-	-	-	-	1	0.92	1	0.25	-	-	5	3.05	2	1.80	7	1.76
Lack of transportation	4	3.22	3	1.83	1	0.92	8	2.02	-	-	1	0.60	-	-	1	0.25
Management problems	1	0.81	7	4.27	1	0.92	9	2.27	1	0.81	-	-	1	0.90	2	0.50
Others	4	3.22	13	7.92	11	10.09	28	7.05	16	13.01	14	8.54	12	10.82	42	10.55
No difficulty	8	6.45	6	3.66	14	12.84	28	7.05	6	4.89	10	6.10	6	5.41	22	5.53
Total	124	100.00	164	100.00	109	100.00	397	100.00	123	100.00	164	100.00	111	100.00	398	100.00
No answer	1		-		2		3		2		-		-		2	

Source of Data : DRD - Survey of Rural Nonfarm Enterprises, 1992

The RNE sector has a lot of potential to expand and be a substantial source of income for people in the rural areas if provided with the right environment conducive to growth. Moreover, major problems of financial constraints, low market demand, and lack of access to primary markets due to poor infrastructure, among others need to be answered as a first step towards this end.

On the demand side, however, there appears to be risk aversion on the part of enterprise operators with regard to borrowing. Although financial constraint was indicated as a major constraint by majority of these entrepreneurs, majority of them indicated that they no longer wish to borrow more from both formal and informal financial sources. One of the reasons given for such a response was the apprehension that they might not be able to pay their loan if they borrow more. Moreover, they feel that they will be rejected anyway if they apply for a loan, perceiving themselves to have inadequate capability to pay back the loan. This prevailing sentiment among RNE operators can pose as a break to their potential for growth. Assuming that financial sources are able to adequately meet the financial demands of the entrepreneurs, the fact that the entrepreneurs themselves do not avail of such resources will constrain them to fully maximize their potential.

This study also estimated the impact of credit on productivity and growth of RNEs. An endogenous switching regressions model was used to account for the likely heterogeneity of the sample. It endogenizes credit status in the estimation of the output supply function to be able to distinguish the pure credit effects from the spurious effects brought about by the latent productivity attributes enjoyed by credit recipients over non-recipients.

The estimated switching regressions model was able to show that credit recipients indeed obtain differential returns from credit arising from their latent productivity attributes. Thus, on the average, credit recipients are inherently more productive than non-recipients. The estimated effect, however, is quite small. This result implies that providing credit to these inherently more productive entrepreneurs will result in bigger increases in gross output relative to output when credit is provided randomly. On the other hand, following this kind of strategy will result in a differentiation in growth potential because, while the productive ones become more productive and grow bigger, those less productive ones are left out in the running. A complementary strategy aimed at developing skills that will enhance the productivity of those with less productivity attributes will partially answer this issue. Thus, in addition to making credit accessible to all, programs designed to train entrepreneurs in management, as well as to develop their technical skills (particularly if the activity undertaken requires technical skills like manufacturing and some service activities) need to be initiated.

Independent of the credit effects from latent productivity attributes, the pure credit effect is quite substantial. This result implies that, factoring out the effects arising from the unobservables, output would still increase when an entrepreneur operates with credit. Thus, programs designed to make credit accessible to RNEs would greatly enhance the productivity of these enterprises such that the gross output of the sector will increase.

Factors contributing positively to output include family workers, hired workers, total assets, working capital, number of years operating, and experience of the entrepreneur. The positive marginal effect of working capital implies that for a liquidity constrained entrepreneur, an easing of the working capital constraint through credit will allow them to move to a position where the combination of resources or inputs used is optimal. For a manufacturer, this means that more funds will allow the use of more inputs in combinations that are more efficient relative to that when working capital is constrained. For traders, additional funds would allow an increase in their inventories of goods for resale as well as the ability to offer more varieties of goods contained in their stocks thereby expanding their market opportunities. The same is true for those engaged in services. Thus, providing credit to finance the working capital needs of RNEs will result in increases in the gross output of the RNE sector.

The results also indicate that utilizing the available rural labor force can help improve the performance of RNEs. The positive marginal effects of both family and hired labor imply that it is to the advantage of RNEs to employ more family and hired labor in their operations. Not only will this increase expected output, it will also minimize the underutilization of the available labor force in the rural areas.

The recent enactment into law of the 'Magna Carta for Small Enterprises' is a positive step towards helping develop the RNEs. Aside from finally recognizing the sector as a potential source of economic growth, the law makes sure that RNEs are given enough support, financially and technically. The mandatory allocation of funds for small enterprises by the financial institutions as provided by the law will provide the necessary funds needed by the sector. What remains to be done is to make sure that these funds be made accessible to everybody. Moreover, efforts should be made to initiate programs designed to improve the productivity attributes of RNE operators. Knowing that financial institutions ration credit based on creditworthiness factors that are more often than not beyond what RNE operators can meet, alternative credit delivery systems that minimize these requirements without compromising the feasibility of the program may have to be designed.

While the results of the study show the importance of credit in enhancing the productivity and growth potential of RNEs, the role of market opportunities should not be taken for granted. RNEs that have better access to market opportunities are more likely to be more productive than those with less. A more conducive environment for RNE growth is therefore essential in promoting RNEs. This implies the dispersion of infrastructure to the rural areas where RNEs operate. Not only will this help decongest the urban areas, it will also provide better opportunities for those in the rural areas in terms of better access to markets and facilities.

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