IMPACT OF LEASE FINANCE ON PRODUCTIVITY, PROFITABILITY&EMPLOYMENT IN SMALL MANUFACTURING FIRMS IN BANGLADESH: STUDY ON UNITED LEASING COMPANY

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1. Introduction

1.1 Background of the Study
Bangladesh is a small country but have a large population and a large market economy. Entrepreneurial activity is growing and the economy is on rise. Spread of education; improve transportation and technological advancement are fostering the growth aspiration of individual business FIRM. World financial organization like Asian development bank, International Finance Corporation, Commonwealth Organization and such many organizations came ahead to assist those small FIRMs to grow up.

The NBFIS sector in Bangladesh consisting primarily of the development financial institutions, leasing enterprises, investment companies, merchant bankers etc. Non-bank financial sector is important to increase the mobilization of term savings and for the sake of providing support services to the capital market. The focus of this paper is to highlight impact of lease finance to strengthen the economic condition of small manufacturing organizations and their dependent population i.e. labor, owner, supplier.

1.2 Objectives of the Study
To show the impact of lease finance on Productivity, Profitability and Employment in small manufacturing FIRM.

1.4 Methodology
Sampling design:
The population is all the manufacturing enterprises taken loan from united leasing company ltd of Jessore office. There are clients who reside and operate in Jessore, Satkhira or Khulna, Magura, Faridpur, Zhenaidah and Narail districts. The three districts Khulna Jessore Satkhira have 78 manufacturing ventures. Among them 16 units were used as sample for the study.

Target population: Manufacturing organization of Jessore who was client of ULC

Sampling frame: Official lists and records with conversation and approval from office executives.

Sampling technique: Sample was selected based multistage sampling. Initially the sample frame produced sample. Later research followed quota to represent FIRMs from all manufacturing categories. Then the Simple Random sampling technique was adopted to select the sample.

Sample size: The nature of the research, level of homogeneity in population and dispersion factor suggests 20% population's study of 16FIRMs. The sample comes off more than 12 categories of business units.Those were arranged in lease agreement with ULC Jessore office till 2010.

Needed Information
    I.   Employee number before and after lease

II.   Change in Profit for a given scale of investment of BDT. 100
III.   Change in Productivity (studied as the output- input ratio)
IV.   Lease size

Data Collection:
 I.   Primary data are acquired through respondent survey, conversation to ULC official, new recruits and trained officers in Jessore office ULC
 II.   Secondary data came through extensive literature study collected from online pdf articles, reports, and web sites.

Survey technique:
The survey was primarily conducted in unstructured manner. As the respondents are of various group having unique context needed to raise different and appropriate question so that they elicit needed information on the topics stated above

Scaling technique:
The research sought data on ratio scale. The precise ratio scale produced exact score on changes on the variables whether it were lease or impacts and changes. The ratio scale data were directly used to conduct parametric Paired Sample t test.(Malhotra, 2009)

Data analysis tools
>   Standard deviation
>   Coefficient of variance
>   T- Test hypothesis analysis
>   Correlation analysis

Data interpretation
Through various table graph and figure the data will be interpreted.

1.5 Limitations
Analyzing data was full of difficulties due to inconsistency and insufficiency. The FIRMs under study were quite different in counting the production output and reporting profit is some time confiscated due to the fear of income tax.The respondents were needed to be explained first the terms and concepts. Moreover most of the respondent was the owner or the Managing Director of the FIRM. They had time constraints in co-operating the research as deeply as needed. Time allocation was considering both to maintain office activity and field touring.The sample FIRMs responded with presence of the Relationship Manager. There remains a probability that the responses are free of negativity. In this causal research for testing hypothesis extraneous variables impact is assumed to be neutral. And thus the research can be defined as only a 'before and after without control design' (Kothari, 2010). The sample consists of 16 FIRMs. To get higher external validity sample could bit larger. And to confirm sufficient internal validity an independent resourceful research could be more appropriate. The internship research project lacked these resources.

2. Literature Review and Hypotheses Development
2.1 Literature Review
Manufacturing sector in Bangladesh has been contributing at a consistent rate over the last decade to around 15 percent. SMEs in manufacturing and services combined have 19 percent share of GDP. A nationwide survey claims that Micro, Small and Medium Enterprises (MSMEs) value addition accounts for 20 to 25 percent of Bangladesh's GDP (Daniel, 2003).SMEs have historically played an important role in contributing to economic development of many Countries around the world. Naturally all businesses start as small businesses or even start out of small businesses initiated by individuals. (Mukole, 2010). By chronicle of success these FIRMs emerge into big ventures. Bangladesh being a cyclone, disaster prone agricultural country independent since 1971 goes through the same rule on economic up gradation. Throughout the global map we see the fact. One of the significant characteristics of a flourishing and growing economy is a booming and blooming small and medium enterprises sector. Small and medium enterprises play an important role in the development of a country (Feeney and Riding, 1997). The importance of small business in the economy has been convincingly debated by policy makers, researchers and economists for many decades (Neumark et al. 2008). In countries like Bangladeshhand many other developing countries where population rate is high, capital is scarce and skilled, trained and education people few,the role of Small Industries is apprehended positively.For Bangladesh small

FIRMs are important segment that employ people, creates job and money to poor workers. Manufacturing FIRMs are more important as found other studies. the greatest potential of employment creation is among the SMEs involved in manufacturing, SMEs in manufacturing are important for the developed countries as well (Baldwin and Picot, 1994) since growth of SME in manufacturing sector creates disproportionate amount of net employment because of its labor intensive character. (Mehnazand Munshi, 2005). The role of SME in employment generation and poverty reduction has been well recognized in the PRSP (GOB, 2002). SMEs create and retain most jobs, between 60 %-70 % in rich economies, even more in emerging economies. (OECD, 2006)

The history of the economic development of different countries of the world suggests that financial development of the country start from banking financial institutions followed by the non banking financial institutions. But in the later stage, the contribution of non-banking financial institutions becomes more eminent than the BFIs(Monzur and Shahid ,2005).

Industrial development has had an important role in the economicgrowth of countries like China, the Republic of Korea (Korea), TaiwanProvince of China (Taiwan), and Indonesia. Along with accelerated growth,poverty rates have declined in many countries.(Kniivilä, 2007)

Bangladesh is independent since 1971. The country ever faced pressure of large population, scarcity of resources and spread of modern education. As it walks on an agro economy industrial ventures are likely associated with agriculture either as supplier or user. After 80's the government focused on industrialization of the country and later it was apprehended that the Small and Medium scale industries can help the economy in more effective way.Huge population of the country who are largely unskilled having two arms to work supports expansion of small scale enterprise as small ventures are by nature labor intensive and operated in small area.

In third world countries like Bangladesh capital scarcity is a major problem in urbanization and economic development. The current understanding of economic growth is largely based on the neoclassicalgrowth model developed by Robert Solow (1956). In the Solowmodel, capital accumulation is a major factor contributing to economicgrowth. Productivity growth – measured as an increase in output per worker– results from increases in the amount of capital per worker, or capital accumulation(e.g. Fagerberg 1994)(Kniivilä, 2007). It is apprehensible that Small Enterprise Finance can really improve the financing capacity and easing business for small enterprises in Bangladesh.

The SME sector of India reported about 25% job losses during the recent global recession. However, it has been one of the fastest to tide over the gloom with figures of job creation coming up on a steady pace, the analysis said. This sector alone contributed almost 40 % of all jobs created in the economy thereafter - showing the flexibility and adaptability of quick response. SMEs contributes to 45 per cent of the industrial output, 40 per cent of exports, provides employment to nearly 60 million people and creates as many as 10 lakh jobs each year. The SME sector also produces more than 8,000 different products annually not only for the Indian markets but also international shores. Further push is being given to the SME sector in the areas such as pharma, food processing, auto ancillary, IT, retails, textiles and garments, agro, nano technology, financial sector and service sectors. It is probably the only sector with an employment potential at a low capital cost. More labor intensive, the sector has consistently registered higher growth compared to the overall industrial sector. And owing to its size, these units are more adaptable to the changing market scenario and show remarkable innovativeness in each vertical. (Mahesh, 2010)

Industrialization is often essential for economic growth, and for long-runpoverty reduction. The pattern of industrialization, however, impactsremarkably on how the poor benefit from growth. Pro-poor economic andindustrial policies focus on increasing the economic returns to the productivefactors that the poor possess, e.g. raising returns to unskilled labour,whereas policies promoting higher returns to capital and land tend toincrease inequality, unless they also include changes in existing patterns ofconcentration of physical and human capital and of land ownership. Use ofcapital-intensive methods instead of labour-intensive ones tends to increaseincome disparities, as does the employment of skill-biased technologies, especiallywhere the level of education is low and human capital concentrated.(Kniivilä, 2007). Also, the location of industrial facilities has an impact on overall povertyreduction and inequality. As enterprises are often concentrated in urban areas

– Because of ready access to skilled labour force, better infrastructure, largermarkets and technological spillovers (e.g. Lanjouw and Lanjouw, 2001),industrialization may increase inequality between urban and rural areas.Promoting development of rural non-agricultural activities, like productionin small and medium-sized enterprises (SMEs), may decrease this disparity.(Kniivilä, 2007)

In various writing like the above few, role of small and medium industries is established in economic development of a country. However how are the small enterprises affected by lease finance as lease finance is also apprehended for positive impact worldwide?Small and Medium Enterprises (SMEs) are accounting for 25 percent of GDP, 80 percent of industrial jobs, and 25 percent of the total labor force in Bangladesh (Shamsul and Anwar, 2006). How much is the small industries activity influenced by finance mechanism. Atpresent 29

leasing companies are working in Bangladesh. These enterprises are accommodating more than 30 million people aged 15 years and above. Therefore, SME sector deserves more attention and focus to foster growth and generate employment. (Mehnazand Munshi, 2005)

Jessore is one of sixty four cities of Bangladesh. It has importance to national economy for supplying goods and material those are input in many of large industries. The city also produces the necessary auto parts, machine tools needed for a vast market of southern region of the country It's assumed to be the nucleus of the greater southern districts.As found in local studies the city got advancement in business sector during the British Reign. Numbers of small and medium enterprises of different manufacturing category supplies necessary inputs to many other businesses across the greater regions. Those small FIRMs engage worker and employees from surrounding places. The FIRMs are also seemingly growing. Many empirical studies suggests that the Small and medium enterprises supports job creation and revenue. It's also notable that numbers of financing companies are opening branches over time. Lease financing has sail out since 1987 in Bangladesh. Small and med size organizations financing is a strategic decision to maximize return.

the above findings help assume that Lease Finance is improving many FIRMs profitability, their productivity, allocative efficiency as well contributing to the poverty reduction by employment creation by channeling value toward a diverse chain to root level of people of Bangladesh. The report aim to test this assumption So This report aims to find out whether as stated above, ULC's Lease finance puts positive impact on employment creation, productivity and profitability to the business community of Jessore.

2.2 Hypothesis Development
Productivity Hypotheses

    Null Hypotheses: h_0,
    Lease Finance did not improve productivity of small manufacturing units in Jessore region
    Experimental Hypotheses: h_1
    Lease Finance did not improve productivity of small manufacturing units in Jessore region

Profitability Hypotheses:

    Null Hypotheses:h_0,
    Lease Finance didn't improved profitability of small manufacturing FIRMs of Jessore region
    Experimental Hypotheses: h_1
    Lease Finance improved profitability of small manufacturing FIRMs of Jessore region

Employment Hypothesis:

    Null Hypotheses:h_0,
    Lease Finance didn't create new jobs in small manufacturing FIRMs of Jessore region
    Experimental Hypotheses: h_1
    Lease Finance created new jobs in small manufacturing FIRMs of Jessore region

Variables for the study are as follows

Independent variables:
    Loan amount

Dependent variable:
    Employment
    Profitability
    Productivity

Parameters are
    Before loan Employment (J_0) and after loan Employment (J)
    Before loan Profitability(Pf_0 and after loan Profitability (Pf)
    Before loan Productivity (Pd_0) and after loan Productivity (Pd)

3. Understanding Lease Finance
3.1 Definition of Lease
Lease finance is a way of financing where the person can arrange purchase of his needed equipment without deploying the full amount of money. Commercial purchasing of large scale equipment be it machinery, vehicles, machines are frequently conducted by leasing arrangements. Because of it merits the finance mechanism is worldwide accepted. Bangladesh as one of least developed countries posses a wide prospect for lease finance

services. Leasing is an international practice of financing for the expansion of business. A **finance lease** or capital lease is a type of lease. It is a commercial arrangement where:

- The lessee (customer or borrower) will select an asset (equipment, vehicle, software);
- The lessor (finance company) will purchase that asset;
- The lessee will have use of that asset during the lease;
- The lessee will pay a series of rentals or installments for the use of that asset;
- The lessor will recover a large part or all of the cost of the asset plus earn interest from the rentals paid by the lessee;
- The lessee has the option to acquire ownership of the asset (e.g. Paying the last rental, or bargain option purchase price);

The finance company is the legal owner of the asset during duration of the lease. However the lessee has control over the asset providing them the benefits and risks of (economic) ownership.

3.2 Understanding Small Enterprise

Industrial policies prior to 1999 divided the industrial sector into three categories — large, small and cottage. The cut-off limit of these size categories was determined on the basis of the size of fixed assets. Thus, the Industrial Policy 1991 defined "Small Industry" as industrial undertakings whose total fixed investment excluding the price of land, expenses for inland transportation and commissioning of machinery and appliances, and duties and taxes, was limited to Tk. 30 million (US $800 thousand) including initial working capital, while the upper limit on the investment level in "Cottage Industry" was Tk. 500,000 (US $13 thousand). In contrast, the Industrial Policy 1999 distinguished medium from large industry and defined the size categories in terms of both capital and employment size. Thus,

Large Industry" was defined to include all industrial enterprises having 100 or more workers and/or having a fixed capital of over Taka 300 million (US $6 million).

Medium industry covered enterprises employing between 50 and 99 workers and/or with a fixed capital investment between Taka. 100-300 million (US $2-6 million).

'Small Industry" meant enterprises having fewer than 50 workers excluding the cottage units and/or with a fixed capital investment of less than Taka 100 million (US $2 million). "Cottage Industry" covered household-based units operated mainly with family labor. However, in the latest industrial policy announced in 2005, significant changes have been brought about in the definition of the various size categories. In the Industrial Policy 2005, a distinction has been made between manufacturing and non-manufacturing enterprises. In the case of the manufacturing enterprises, sizes have been defined in terms of the value of the fixed assets while in the case of the non-manufacturing enterprises the cut-off line has been identified in terms of employment size. Thus, large industry is now defined as units with fixed capital of more than Tk. 100 million (US $1.6 million) excluding the value of land and building while non manufacturing large enterprise is defined as units having more than 100 workers. Medium industry is defined as units with fixed capital of Tk. 15-100 million (US $246 thousand - $1.6 million) excluding the value of land and building while non 4 manufacturing medium enterprises are those with employment size between 25 and 100 workers. Manufacturing enterprises with fixed assets of less than Tk. 15 million excluding the value of land and non-manufacturing enterprises with fewer than 25 workers are to be treated as small enterprise. (Shamsul and Anwar,2006)

While the definition of SME has changed overtime in different Industrial Policy pronouncements, Bangladesh Bureau of Statistics (BBS), which is the prime national organization responsible for generating and compiling various types of statistics in the country has been consistently using an all together different classificatory scheme. Thus, BBS defines enterprises having 10-49 workers as "Medium" industries while those having 50 or more workers are identified as "Large" industries. For industrial GDP data, the medium and large industries are lumped together under "Large" category. The rest of the industrial enterprises including cottage industries are grouped under the "Small" category.

Numbers of companies are giving the service worldwide even in Bangladesh. As a nonbank financial institution the united leasing company has established its name in Bangladesh business Community.

3.3 Origin of Lease Finance

Although leasing is often thought of as a modern day financing technique, indications are that leasing transactions took place around 2000 B.C., when Sumerian FIRMers leased tools from temple priests. The basics of leasing have changed little since that time. Over the years, the strength of the leasing industry has been its resiliency and its ability to make the most of the changing business environment. (Lease Financing - Comptroller's Handbook) .In Bangladesh IDLC started lease services in 1983 and then ULC in 1989. The history of the economic development of different countries of the world suggests that financial development of the country start from banking financial institutions followed by the non banking financial institutions. But in

the later stage, the contribution of non-banking financial institutions becomes more eminent than the BFIs. (Monzur &Shahid 2005).

3.4 Types of Lease
Many types of lease contracts are seen in practice, some of which are as follows:

(i) Financial Lease: A long term lease contract which extends over the whole useful life of an asset and which cannot be cancelled is known as Financial Lease. The duration of the lease is almost equal to the useful life of an asset. Thus whole investment is recovered by the lessor in case of Financial Lease. The lessee may be given an option to purchase the asset at the expiration. Sometimes this type of lease is also known as capital lease. In the Statement of Financial Accounting Standard No. 13, published by the U.S. Financial Accounting Standard Board, a lease is regarded as a Capital Lease (or Financial Lease) if it meets any one of the following conditions:
(a) The lease transfers title to the asset to the lessee by the end of the lease period.
(b) The lease contains an option to purchase the asset at a bargain price.
(c) The lease period is equal to or greater than, 75 per cent of the estimated economic life of the asset.
(d) At the beginning of the lease, the present value of the minimum lease payments equals or exceeds 90 per cent of the fair value of the leased property to the lessor.
If any of three conditions is met, the lessee is said to have received most of the economic benefits and risk associated with the leased property. It is a very popular method and is a better alternative to raising finance through debentures or bank loan. The asset is available for use to the lessee without arranging for the full value of the asset. Under this form of lease, the lessee generally selects the asset and the lessor places an order for it and gets the delivery. The lessor receives the invoice and makes payment for it, end he retains the ownership of the asset. The lessor is not the manufacturer of or trading in specific assets or equipments. He simply provides finance for whatever asset the lessee needs.
In financial lease, the maintenance and other related expenses are normally borne by the lessee. He also bears the risk of obsolescence. Such type of leasing arrangement is also called 'Close-end Lease', because it is non-cancellable. Secondly, the lease rent is fixed in such a way that whole cost of the asset is recovered and in addition, profit is made in such a way that a fixed rate of return in earned on capital invested.

(ii) Operating Lease: It is a type of lease in which asset is leased for a short period and the contract is cancellable after giving notice of a fixed period, e.g. giving an office space on a 2 year lease cancellable on 60-days notice. Similarly lease contracts for computers or office equipments may run for 3 to 5 years. Thus the period of such type of lease is shorter than the asset's economic life. It is prevalent particularly in those machines where technological changes are rapid.
In other words, an operating lease is one which does not satisfy any of the conditions mentioned above in respect of Financial Lease. In this type of lease, the original cost of the asset cannot be recovered in a single lease, because a single lease covers a period which is shorter than the useful life of the asset. The risk of obsolescence remains with the lessor. Naturally, the shorter the period of the lease, the greater will be the lease rentals. The lessor is also responsible for the insurance and other expenses.
The operating lease is generally preferred under following circumstances
(a) When the asset is likely to become obsolete within a short period.
(b) When the lessee is interested in overcoming his problems temporarily.

(iii) Sale and Lease Back: This is a very popular method of leasing. Under a sale and lease back lease, a firm or individual who is the owner of an asset sells it to another party and the same asset is taken on lease from that party. Thus the lessee gets money by selling the asset and at the same time, he continues to use the asset by paying a fixed rental. Generally the parties interested in purchasing assets under such arrangement are insurance companies, other financial institutions, institutional investors, banks and other specialized leasing companies. The lessor gets the benefit of depreciation deductions, while the lessee gets the benefit of increased funds, which he can use in business. Such arrangement has become very popular in the U.S.A. after the Second World War. The owner of the asset can realize money by selling the asset and can also continue to use it in his own business. The selling price is usually the fair market price. As such contracts were made at market price, the lessor used to get high depreciation charges. So in India, in the budget presented to the Parliament on 22nd July, 1996, the Finance Minister provided that the depreciation on such asset will be allowed only on depreciated value of such an asset to the original owner, whatever may be its market value.
In most of lease back agreements the lessee is required to pay all maintenance expenses, property taxes, and insurance and lease payments. In some cases, the lease arrangement allows the lessee to repurchase the Property on termination of the lease.

This type of lease is beneficial to both the parties. The lessee gets back the price of the asset by selling it-and so his liquidity increases. The lessor gets the benefit of higher depreciation charges. Such arrangement is particularly useful to companies facing shortage of liquidity.

(iv) Leveraged Leasing: This type of lease arrangement has become popular during last few years. It is generally a popular method of financing expensive asset. It is generally used when the asset to be leased is a very costly one and the lessor is not able to provide complete finance. He generally provides 25 per cent of the cost of the asset, while the remaining amount is provided by the financier, who may be a bank or a financial institution, mainly as a loan. Thus three parties are involved (a) the Lessor (b) the Lessee and (c) The Financier. The position of the lessee is the same as in any other type of lease. He continues to make payment of rent during the period of the lease and continues with the right to use the asset. But the position of a lessor is different. He does not provide 100% finance. Generally 25% of the finance is provided by him and the remaining 75% is provided by the financier to whom the asset remains mortgaged. Retail stores, office buildings, multi-purpose industrial building and even complete shopping centers are frequently financed with this method.

(v) Service Lease: Under this arrangement the lessor provides not only the finance but also undertakes servicing of the asset during the lease period. Computers copiers, trucks and other capital assets requiring maintenance are general leased under contracts that provide maintenance or servicing of the asset during the lease period.
In case of service lease (a) the maintenance cost is included in lease rent. As the lessor is responsible for all routine servicing and repairs; the lessee gets protection against any major breakdown. (b) In such leases, the lease period is no sufficiently long to recover fully the original cost of the asset. This means that the lease period is less than the service, life of the asset. (c) In most cases, the service lease can be cancelled | by the lessee by giving notice of a fixed period. But provision is made, for penalty, if the lease is cancelled before its term.

(vi) Direct Leasing: In case of direct leasing, the lessee may lease directly from a manufacture. This is often done in case of computers and office equipments. The asset may be purchased by a third party, who leases it to the user, such lessors are finance companies, commercial banks, specialized leasing companies and also individuals. Thus in the second case the lease is acquired through the third party. In certain cases, the lessor get the benefit of large scale buying from manufacturer and this benefit is passed on to the lessee in the form of low lease rent.
In addition to the above types of leasing there are certain other types as described below:

(vii) International or Cross-border Leasing: When a lease agreement is made between citizens of two different countries, it is called International Leasing or Cross-border Leasing. The lessor and the lessee are from different countries. There are very few such lease contracts, because they involve complex problems of law and taxation. The U.S.A., Britain, countries of West Europe, Japan etc. started such leasing arrangements. Particularly the costly war equipments like sub-marines etc. are obtained on such lease, e.g. India obtained three atomic sub-marines from Russia on lease.

(viii) Medical Equipment Leasing: In fact, this is not a kind of lease, but is a method of giving very costly medical equipments on lease. Some of the latest machines Millions of Taka, which an individual doctor or a charitable hospital may not afford. Hence, special leasing companies have come into existence to lease such costly machines and equipments.

(ix) Sales-Aid Leasing: When a manufacturer himself starts a Leasing Company and leases products manufactured by him to customers, then it is sales-aid leasing. The leasing company aids the manufacturer in selling. Of course, here again this is not a kind of lease, but is an arrangement by which products are leased by the manufacturer.
From the above discussion, it becomes clear that there are mainly two types of leases vis. Financial Lease and Operating Lease. Some authors describe direct leasing, sale and lease back as well as leveraged lease as a part of Financial Lease.

3.5 Lease Finance Industry of Bangladesh

LeaseFinance Companies are termed as Non-Bank Financial Institutions (NBFIs). Non-Bank Financial Institutions play a significant role in meeting the diverse financial needs of various sectors of an economy and thus contribute to the economic development of the country as well as to the deepening of the country's financial system. According to Goldsmith (1969), financial development in a country starts with the development of banking institutions. As the development process proceeds, NBFIs become prominent alongside

the banking sector. Both can play significant roles in influencing and mobilizing savings for investment. Their involvement in the process generallymakes them competitors as they try to cater to the same needs. However, they are also complementary to each other as each can develop its own niche, and thus may venture into an area where the other may not, which ultimately strengthens the financial mobility of both. In relatively advanced economies there are different types of non-bank financial institutions namely insurance companies, finance companies, investment banks and those dealing with pension and mutual funds, though financial innovation is blurring the distinction between different institutions. In some countries financial institutions have adopted both banking and non-banking financial service packages to meet the changing requirements of the customers. In the Bangladesh context, NBFIs are those institutions that are licensed and controlled by the Financial Institutions Act of 1993 (FIA '93). NBFIs give loans and advances for industry, commerce, agriculture, housing and real estate, carry onunderwriting or acquisition business or the investment and re-investment in shares, stocks, bonds,debentures or debenture stock or securities issued by the government or any local authority; carry onthe business of hire purchase transactions including leasing of machinery or equipment, and use theircapital to invest in companies.The importance of NBFIs can be emphasized from the structure of the financial system. In thefinancial system of Bangladesh, commercial banks have emerged in a dominant role in mobilizingfunds and using these resources for investment. Due to their structural limitations and rigidity ofdifferent regulations, banks could not expand their operations in all expected areas and were confined to a relatively limited sphere of financial services.

4. Analysis&Findings

4.1 Business Process of SampleFIRMs

Business means conversion of some of the resources in to some other things. Business is producing something of value to someone using something usually with less cost. The input enters in the business system of the FIRM and output is the result that comes out of the FIRM. The owner of the FIRM pays money to collect resources as input. The money receives by selling the output to its ultimate customer is the revenue. More the difference in these two components more the FIRM will face profit, and competitive gain and overall earning.

Before entering the analysis, it will be convenient to place here the input output list of the sample business units.

Table 4-1: Input and Output of samples

Serial	Category	General Input	General Output
1	Brick field	Labor, mud, truck, excavator	Brick
2	Rice Mill	Labor, raw paddy, machine, electricity	Rice
3	Biscuit factory	Wheat, nutrient elements, vehicle	Biscuit
4	Fish FIRM Hatchery	Child fish, ponds, fertilizer, technology	Fish
5	Cottage	Transported goods and people	Handicrafts
6	Machine works	Skilled mechanist, tools, electricity, damaged vehicle	Machinery servicing
7	Transport	Truck, bus, minibus,	Load of goods Transportation
8	Cold storage	Cooling machine, labor, big space, secured maintenance	Waste prone crops storage in tons
9	Hospital	Medical equipment, lab technician, doctor, nurse, medicine,	Patient care, diagnosing health problem
10	Construction	Skilled builder, worker, construction vehicle	Buildings and establishments

11	Foundry	Plastic, metal chemicals, equipment, skill, technology	PVC Pipe, tube well , iron metal engine part
12	Printing	Printing machine, papers, colors,	Print of posters, banners, adds,

Table 4-1 illustrates the business process of various categories where studied FIRMs fall in. the input describe the list of resources. The input and output related questions in the research were aimed to understand the business process of the organization. Sound understanding of the business of the organization was seemed a key factor to explore deep inside of the organization.

4.2 Survey Summary of the Sample FIRMs
The research on survey stage got visit on sixteen sample units. Those business ventures are established in Jessore Khulna and Satkhira Districts. The raw data found against the questionnaire is tabulated in simple table as below. One advance sorting has been conducted over the raw data. The serial has been produced here as the size of the lease finance.

Table 4.2: Measures of Component for Each small FIRMs

Sample	L A	Pd_0	Pd	$\Box$ Pd	Pf_0	Pf	$\Box$ Pf	J_0	J	$\Box$ J
FIRM 01	3	2	2.4	0.4	18	20	2	14	18	4
FIRM 02	4	1.8	2.1	0.3	18	21	3	17	21	4
FIRM 03	6	1.8	2.5	0.7	17	19	2	45	60	15
FIRM 04	6	1.7	2.2	0.5	15	17	2	35	45	10
FIRM 05	6	1.6	1.9	0.3	18	20	2	18	25	7
FIRM 06	7	1.8	2.2	0.4	14	16	2	20	26	6
FIRM 07	9	1.75	2.2	0.45	16	18	2	35	45	10
FIRM 08	10	2.1	2.5	0.4	14	16	2	20	26	6
FIRM 09	10	1.75	2.1	0.35	16	18	2	30	40	10
FIRM 10	12	2.4	2.6	0.2	15	17	2	50	70	20
FIRM 11	16	2.1	2.5	0.4	18	21	3	75	100	25
FIRM 12	18	1.8	2.4	0.6	16	19	3	17	25	8
FIRM 13	20	2	2.4	0.4	16	19	3	150	170	20
FIRM 14	22	1.7	2.2	0.5	15	18	3	145	166	21
FIRM 15	22	2	2.3	0.3	15	18	3	24	36	12
FIRM 16	23	1.8	2.2	0.4	16	20	4	140	165	25

Notes: the sixteen FIRMs are presented here as their lease size. The loan amounts started from 3 lacs and end with 23 lacs.

LA: Lease Amount
Pd_0: Productivity before the leased material started functioning
Pd : Productivity after the leased material started functioning
ΔPd: Change of productivity
Pf_0 : Profitability before the leased material started functioning
Pf   : Profitability before the leased material started functioning
Δ Pf: Change of profitability
J_0 : Productivity before the leased material started functioning
J   :Productivity before the leased material started functioning
Δ J : Change in Job in the FIRM

4.3 Concepts to advance the Analysis
The research objective was to show the impact of lease finance on productivity, profitability and employment of small manufacturing sectors and to infer about the population from the studied sample.So Exploring the findings

will be conducted on the three different segments- productivity, profitability and employment. Statistics that will be performed on all there concepts are summarized below to start main operations of the analysis part.

Productivity

Productivity is a measure of output from a production process, per unit of input. For example, labor productivity is typically measured as a ratio of output per labor-hour, an input. Productivity may be conceived of as a metric of the technical or engineering efficiency of production. As such, the emphasis is on quantitative metrics of input, and sometimes output. Productivity is distinct from metrics of allocative efficiency, which take into account both the monetary value (price) of what is produced and the cost of inputs used, and also distinct from metrics of profitability, which address the difference between the revenues obtained from output and the expense associated with consumption of inputs. The research addressed 100 TK input could produce output of 200 TK. So output – input ration was 200/100 that equals 2. After the lease the ratio if were changed what was the new one.

Profitability

Profitability address the difference between the revenues obtained from output and the expense associated with consumption of inputs. This research uses the term 'profitability' to mean the scope of getting profit by the FIRMs. For convenience of response the question asked was 'suppose each 100 TK input produced amount of output that you could sell at certain TK and could make a profit of 20 TK after deducting all costs. If other costs like tax and such remained same was the profit changed after did the leased machinery were adopted in the business process. The response of the FIRM owner could have been negative or positive.

Job creation

Employee: In a FIRM people who works regularly. Who ever take a pay in the FIRM. Sometime it seems ambiguous to count the part time employee and regular employee. The employee number presented here refers the number of employees that can complete the tasks considering each worker time is full work day.
Loan Amount: the amount of money the business unit used to acquire the lease instrument or machine, vehicle or whatever. ULC's amount were 60- 80 percent of that amount. Because the portion of self finance also had an opportunity cost, the Acquisition installment and starting cost is referred as the loan amount.
Employee before loan: the number of employees before the leased financed tools reached to the business.
Employee after Loan: employment of the FIRM after at least one complete business cycle for any sort of seasonal or special demand instrument. Employee average for the entire business cycle excluded from any other distant cause for raising employee number like merging with another small supplier or producer.

Test Preconditions

In the hypothesis testing, all the tests are conducted at 95% significance level and are two-tailed tests. As the samples are less than 30 and the observations of two categories come from a single set of respondents **a paired sample t test** will be deployed to measure the difference between performances of the FIRMs in all three categories before the loan and after the loan.

4. 4 Analysis of Hypothesis test on Productivity
Table 4-3: SPSS Output on Hypothesis test Productivity change

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Productivity before lease	1.8813	16	.20320	.05080
	Productivity after lease	2.2938	16	.18786	.04697

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Productivity before lease & Productivity after lease	16	.809	.000

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Productivity before lease - Productivity after lease	-.4125	.12179	.03045	-.4774	-.3476	-13.548	15	.000

At degrees of freedom, (32-2)/2, 15, 95% Confidence Interval gives us a table value of two tail t=2.1313. Our computed t= 13.548. So computed value is greater than table value. The null hypothesis is rejected. So the alternative hypothesis is accepted.So statistics says lease improves Productivity in manufacturing FIRMs in Jessore region.

Mean of the after values 2.2938 is larger than the before value 1.8813 by .4124 with a Std. Deviation of 0.12179. So output table describes a certain change that occurred in productivities of the studied FIRMs.

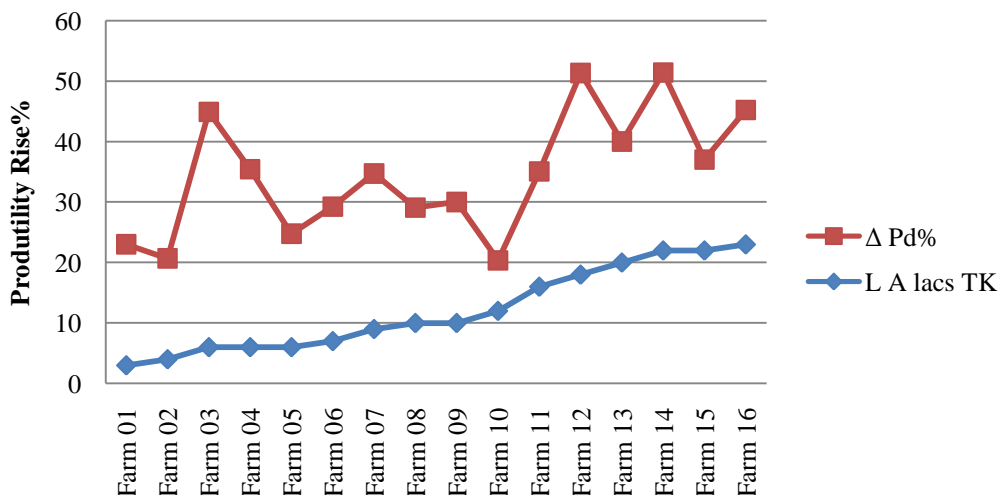Std. Error Mean

Standard Error of the mean or proportion refers the deviation in sampling distribution of the mean or the proportion (Malhotra, 2009)

$$Std. Error\ Mean = Standard\ Deviation\ of\ the \frac{mean}{Square\ root\ of\ sample}$$

Thus std error mean $= .\frac{12179}{4} = .03045$

Figure 4-1: Productivity rise% across FIRMs with lager lease

Productivity Movement Accross Farms

4.5 Regression Analysis Productivity

Table 4-4: SPSS Output on Hypothesis test Productivity change

Descriptive Statistics

	Mean	Std. Deviation	N
Productivity rise %	22.3688	7.48079	16
Lease Amount Lac TK	12.1250	6.98451	16

Correlations

		Productivity rise %	Lease Amount Lac TK
Pearson Correlation	Productivity rise %	1.000	-.029
	Lease Amount Lac TK	-.029	1.000
Sig. (1-tailed)	Productivity rise %	.	.457
	Lease Amount Lac TK	.457	.
N	Productivity rise %	16	16
	Lease Amount Lac TK	16	16

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	Lease Amount Lac TK(a)	.	Enter

a All requested variables entered.
b Dependent Variable: Productivity rise %

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics			
1	.029(a)	.001	-.071	7.74001	.001	.012	1	14	.914

a Predictors: (Constant), Lease Amount Lac TK

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.725	1	.725	.012	.914(a)
	Residual	838.709	14	59.908		
	Total	839.434	15			

a Predictors: (Constant), Lease Amount Lac TK
b Dependent Variable: Productivity rise %

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part

| 1 | (Constant) | 22.750 | 3.972 | | 5.727 | .000 | 14.230 | 31.271 | | | |
| | Lease Amount Lac TK | -.031 | .286 | -.029 | -.110 | .914 | -.645 | .582 | -.029 | -.029 | -.029 |

a Dependent Variable: Productivity rise %

$\hat{y} = 22.75 - 0.031X$

This equation describes a relationship in productivity and Lease Amount

Figure 4-2: Regression curve of productivity rise

Productivity falls slowly for the same farm
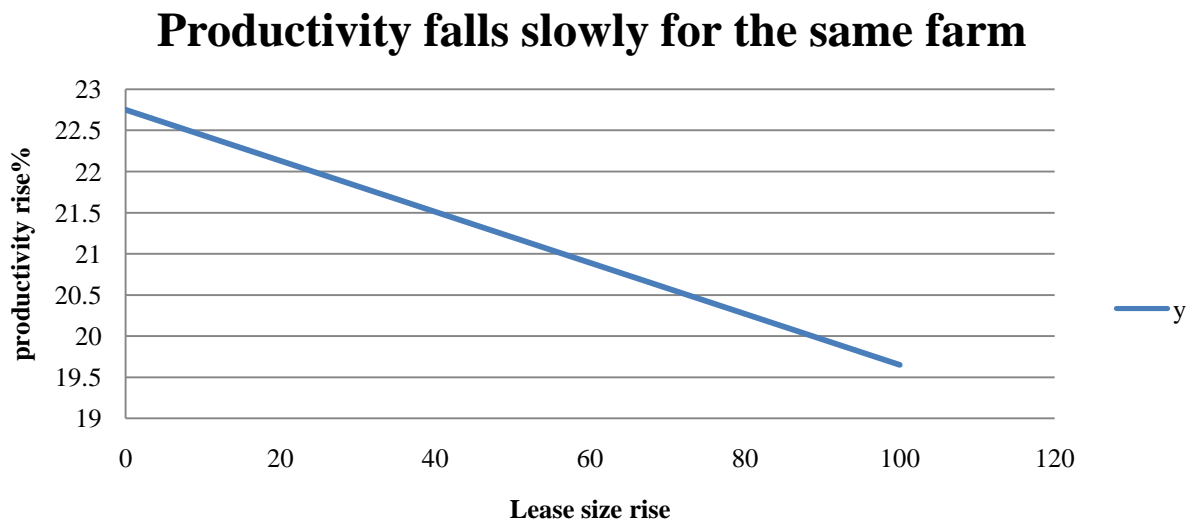
4.6 Analysis on Hypothesis Test for Profitability

Table 4-5: SPSS Output on Hypothesis test Profitability change

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Profitability befor lease	16.0625	16	1.38894	.34724
	Profitability after lease	18.5625	16	1.59034	.39758

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Profitability befor lease & Profitability after lease	16	.919	.000

Paired Samples Test

		Paired Differences						
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)

|					Lower	Upper			
Pair 1	Profitability befor lease - Profitability after lease	-2.5000	.63246	.15811	-2.8370	-2.1630	-15.811	15	.000

At degrees of freedom, (32-2)/2, 15, 95% Confidence Interval gives us a table value of two tail t=2.1313. Our computed t= 13.508. So computed value is greater than table value. The null hypothesis is rejected. So the alternative hypothesis is accepted.So statistics says lease improved Profitability in manufacturing FIRMs in Jessore region.

Figure 4-3: Profitability rise% across FIRMs with lager lease

Movement of Profitability accross farms with increasing lease size
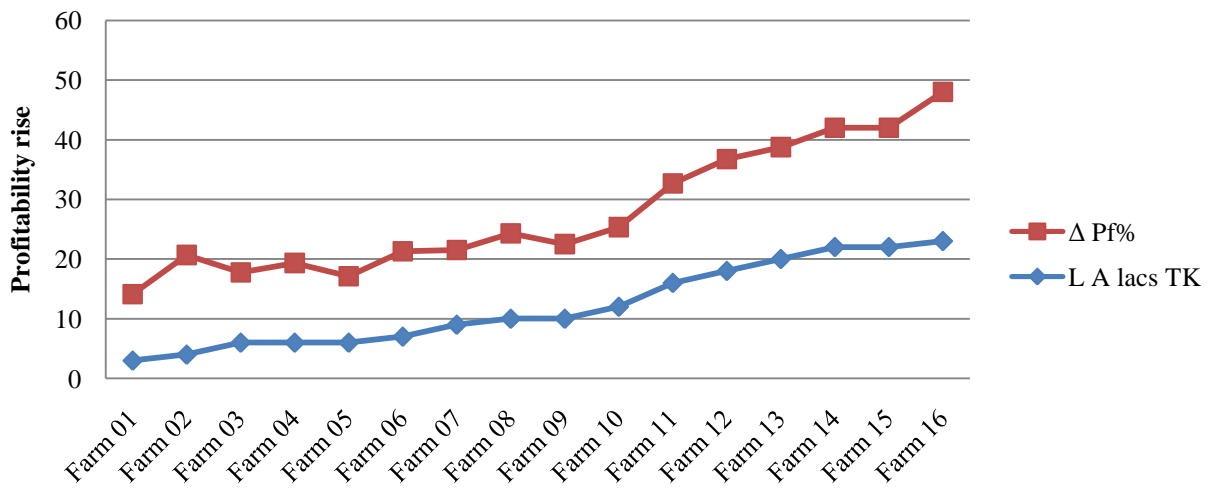
4.7 Regression Analysis for Profitability

Table4-6: SPSS Output on Regression Profitability change

Descriptive Statistics

	Mean	Std. Deviation	N
Profitability rise%	15.6286	3.97616	16
Lease Amount Lac TK	12.1250	6.98451	16

Correlations

		Profitability rise%	Lease Amount Lac TK
Pearson Correlation	Profitability rise%	1.000	.864
	Lease Amount Lac TK	.864	1.000
Sig. (1-tailed)	Profitability rise%	.	.000
	Lease Amount Lac TK	.000	.
N	Profitability rise%	16	16
	Lease Amount Lac TK	16	16

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	Lease Amount Lac TK(a)	.	Enter

a All requested variables entered.
b Dependent Variable: Profitability rise%

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.864(a)	.746	.728	2.07388	.746	41.138	1	14	.000

a Predictors: (Constant), Lease Amount Lac TK

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	176.934	1	176.934	41.138	.000(a)
	Residual	60.214	14	4.301		
	Total	237.147	15			

a Predictors: (Constant), Lease Amount Lac TK
b Dependent Variable: Profitability rise%

Coefficients (a)

| Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B Lower Bound	Upper Bound	Correlations Zero-order	Partial	Part
1	(Constant)	9.666	1.064		9.082	.000	7.384	11.949			
	Lease Amount Lac TK	.492	.077	.864	6.414	.000	.327	.656	.864	.864	.864

a Dependent Variable: Profitability rise%

Regression Line

$\hat{y} = 9.666 + 00.492X$

Figure 4-4: Regression Curve for profitability rise with lease size

Lease size and profitability for a single farm
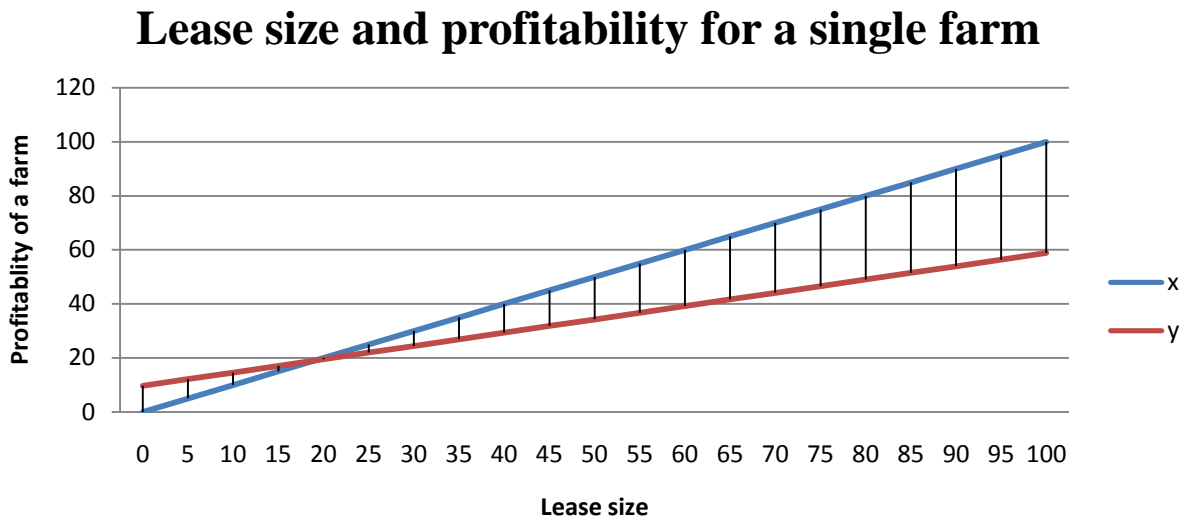
4.8 Analysis on Hypothesis Test for Job Creation by lease Finance
4.9
Table 4-7: SPSS Output on Hypothesis test Productivity change

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Lease Amount	16	3.00	23.00	12.1250	6.98451
New Job Creation	16	4.00	25.00	13.1250	7.37451
Job rise par lac TK	16	.66	9.52	3.8239	2.62010
Valid N (list wise)	16				

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Job before Loan	51.8750	16	48.72901	12.18225
	Job after loan	64.8750	16	54.86575	13.71644

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Job before Loan & Job after loan	16	.996	.000

Paired Samples Test

|		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)

Pair 1	Job before Loan - Job after loan	-13.0000	7.51887	1.87972	-17.0065	-8.9935	-6.916	15	.000

The SPSS Out put describes the reported job increase in FIRMs. Before-after paired sample t test gives following SPSS Output.At degrees of freedom, (32-2)/2, 15, 95% Confidence Interval gives us a table value of two tail t=2.1313. Our computed t= 6.916. So computed value is greater than table value. The null hypothesis is rejected. So the alternative hypothesis is accepted.So statistics says lease improved job creation in manufacturing FIRMs in Jessore region.

Figure 4-5: Employment rise% across FIRMs with lager lease

Employment creation accross farms
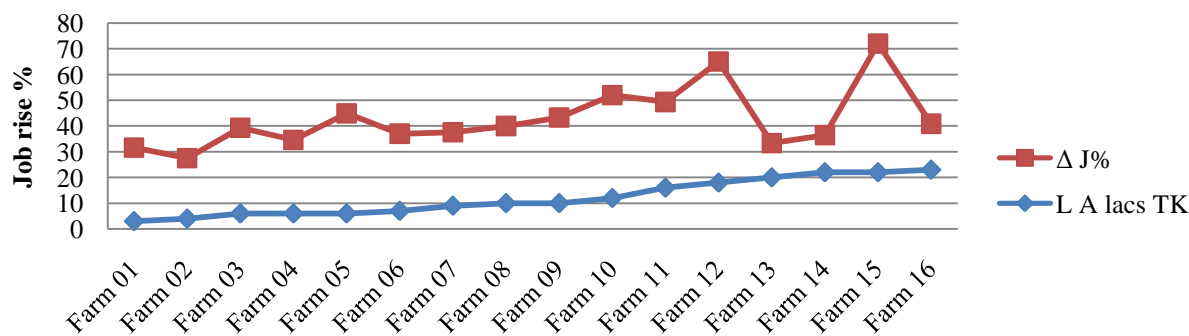
4.9 Regression Analysis for New Job creation by rise in Lease size

Table4-8: SPSS Output on Regression Analysis for New Job creation

Descriptive Statistics

	Mean	Std. Deviation	N
New Job Creation	13.2500	7.26177	16
Lease Amount Lac TK.	12.1250	6.98451	16

Correlations

		New Job Creation	Lease Amount Lac TK.
Pearson Correlation	New Job Creation	1.000	.616
	Lease Amount Lac TK.	.616	1.000
Sig. (1-tailed)	New Job Creation	.	.006
	Lease Amount Lac TK.	.006	.
N	New Job Creation	16	16
	Lease Amount Lac TK.	16	16

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method

1	Lease Amount Lac TK.(a)	.	Enter

a All requested variables entered.
b Dependent Variable: New Job Creation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.616(a)	.379	.335	5.92238

a Predictors: (Constant), Lease Amount Lac TK.

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	299.955	1	299.955	8.552	.011(a)
	Residual	491.045	14	35.075		
	Total	791.000	15			

a Predictors: (Constant), Lease Amount Lac TK.
b Dependent Variable: New Job Creation

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	5.487	3.040		1.805	.093	-1.032	12.006			
	Lease Amount Lac TK.	.640	.219	.616	2.924	.011	.171	1.110	.616	.616	.616

a Dependent Variable: New Job Creation

$$\widehat{y} = 5.487 + 00.640X$$

Figure 4-6: Regression Curve for Job rise with lager lease

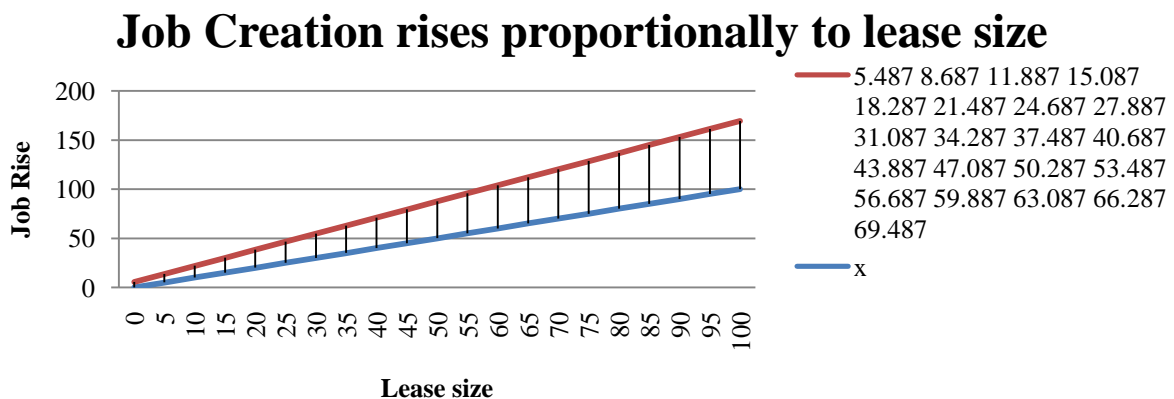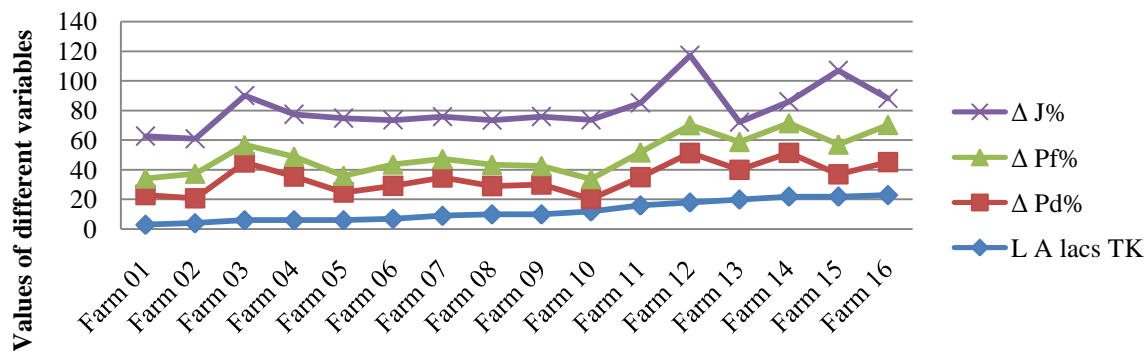**Job Creation rises proportionally to lease size**

Figure 4-7: Percentage Change of all three dependent and one Independent Variable

Joint view of movemt of all three Independent variables accross farms

For entire sample the percentage changes are given on a single graph. It shows that changes follow each other.

5. Conclusion

Lease Finance helps small FIRMs acquiring necessary equipment or establishing important sites. The FIRMs under study took lease finance from ULC for purchasing equipment, machinery, vehicle or plant. Studied manufacturing FIRMs were under any of twelve categories. They purchased vehicle for supply, delivery or both, machineries for plant expansion, or stock raw materials to ensure fast supply in production process.

Around 69% respondent claimed their production goes other where for further business. The report revealed that among 65% responded measured impact of their latest lease agreement on around 2000 families for being the retailer, dealer or agent for outputs of those FIRMs. More than 200 jobs were created in those manufacturing unit with a mean of 13.25 jobs per FIRM with a standard deviation of 7. 262.

In case of productivity measurement on average FIRMs responded 22% productivity rise with a standard deviation of 7.5%. It is notable that the big deviation relates probably to the unique context of the FIRMs. Most of the FIRMs were representing one unique sample of its own business chain.

About 13% profitability rise was observed on the later years of the lease agreement with a standard deviation of 3.2%. None of the organizations recognized negative growth. Some of the FIRMs had small change around 13% while some reported big as much as 57%. Individual organizations' economic growth by productivity and profitability provided them with competitive edge and also larger scope for profit making.

Financing helped those small enterprises adopt technology and innovation.It also impact on social wellbeing. In sixteen FIRMs more than two hundred new jobs were created. It is assumable that equal numbers of families are directly benefitted. Again in distribution process other two thousand more families are getting income by time or place value of the production output by the sixteen enterprises. This change in employment will thus affect poverty reduction in root level.

One further consideration the research availed was social impact of lease on peoples living and raising economic strength. The leases are employing peoplewho had no job earlier. Around 2000 families were benefitted by enhanced production or output in the manufacturing FIRMs those raise their income and buying capacity.

We can also assume that this sort of financing to small FIRMs will certainly enhance economic activity in rural Bangladesh.How much of those rises are creditable to the lease arrangement may be discovered through further advanced researches.

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