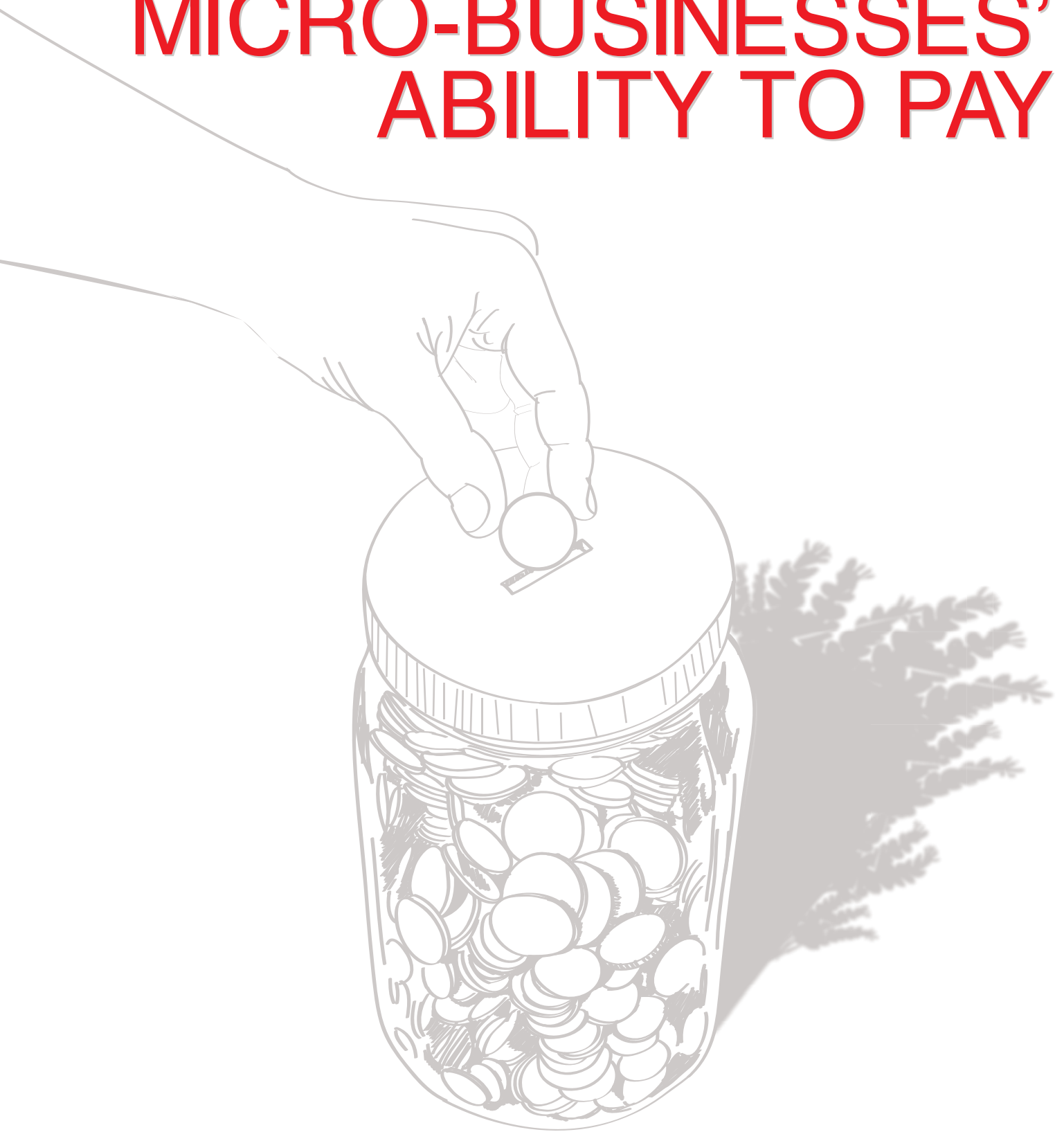


ESTIMATING MICRO-BUSINESSES' ABILITY TO PAY



The Pakistan Microfinance Network is an association of retail microfinance providers. Our vision is to extend the frontiers of formal financial services to all and mission is to support the sector, especially retail microfinance institutions to enhance scale, quality, diversity and sustainability in order to achieve inclusive financial services.

Estimating Micro-businesses' Ability to Pay

Authored by ShoreBank International – Pakistan

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APRIL 2011

Authored by:
ShoreBank International — Pakistan



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Table of Contents

List of Tables		I
List of Figures		III
List of Acronyms		V
Section 1	Executive Summary	1
Section 2	Introduction	5
2.1	Methodology	8
Section 3	Synopsis of Micro-businesses	11
Section 4	Profitability of Micro-businesses	13
4.1	Trading	13
4.2	Agriculture	19
4.3	Livestock/poultry	25
4.4	Services	30
4.5	Manufacturing	36
Section 5	Conclusion	42
Section 6	Annexures	45
6.1	Additional Ratio Calculations	47
6.2	Descriptions of Micro-business Types	48
6.3	Case Studies	55
6.4	Questionnaire	61

List of Tables

Table 1: Snapshot of Basic Findings	2
Table 2: Sample of Sector Categories and Businesses	8
Table 3: Key Data – Trading	13
Table 4: Snapshot of Garment Shop Businesses	14
Table 5: Snapshot of Fruit and Vegetable Shop Businesses	15
Table 6: Snapshot of Cloth Shop Businesses	16
Table 7: Snapshot of General/grocery Shop Businesses	17
Table 8: Snapshot of Agricultural Input Supplies/fertilizer Shop Businesses	18
Table 9: Key Data – Agriculture	19
Table 10: Snapshot of Cotton Crop Businesses	20
Table 11: Snapshot of Rice Crop Businesses	21
Table 12: Snapshot of Sugarcane Businesses	22
Table 13: Snapshot of Vegetable Growing Businesses	23
Table 14: Snapshot of Wheat Crop Businesses	24
Table 15: Key Data – Livestock/poultry	25
Table 16: Snapshot of Livestock Milking Businesses	26
Table 17: Snapshot of Livestock Trading Businesses	27
Table 18: Snapshot of Hatcheries/poultry Businesses	28
Table 19: Snapshot of Animal Rearing and Fattening Businesses	29
Table 20: Key Data – Services	30
Table 21: Snapshot of Tailoring Businesses	31
Table 22: Snapshot of Barber Shop Businesses	32
Table 23: Snapshot of Zari Work Businesses	33
Table 24: Snapshot of Restaurant/eatery Businesses	34
Table 25: Snapshot of Beauty Parlour Shop Businesses	35
Table 26: Key Data – Manufacturing	36
Table 27: Snapshot of Jewellery Making Businesses	37
Table 28: Snapshot of Shoe Making Businesses	39
Table 29: Snapshot of Embroidery/handicraft Making Businesses	39
Table 30: Snapshot of Garment Making Businesses	40
Table 31: Snapshot of Iron Works Businesses	41
Table 32: Snapshot of the Highest and Lowest ROA and Interest Coverage Ratios	42
Table 33: Seasonal Vegetables Grown in Pakistan	50

List of Figures

Figure 1: Trading – Average Effective APR vs. ROA	3
Figure 2: Agriculture – Average Effective APR vs. ROA	3
Figure 3: Livestock/poultry – Average Effective APR vs. ROA	3
Figure 4: Services – Average effective APR vs. ROA	3
Figure 5: Manufacturing – Average Effective APR vs. ROA	4
Figure 6: Effective APR of Participating MFPS (industry)	6
Figure 7: Provincial Distribution of Research Sample	8
Figure 8: City-wise Distribution of Sample	9
Figure 9: Effective APR vs. ROA of the Trading Sector	13
Figure 10: Interest Coverage Ratio of the Trading Sector	13
Figure 11: Effective APR vs. ROA of the Agriculture Sector	19
Figure 12: Interest Coverage Ratio of Agriculture Sector	19
Figure 13: Effective APR vs. ROA of the Livestock/poultry Sector	25
Figure 14: Interest Coverage Ratio of the Livestock/poultry Sector	25
Figure 15: Effective APR vs. ROA of the Services Sector	30
Figure 16: Interest Coverage Ratio of the Services Sector	30
Figure 17: Effective APR vs. ROA of the Manufacturing Sector	36
Figure 18: Interest Coverage Ratio of the Manufacturing Sector	36

List of Acronyms

APR	Annual Percentage Rate
B-M	Manufacturing Business
B-S	Services Business
COGS	Cost Of Goods Sold
CWCD	Centre for Women Cooperative Development
DAMEN	Development Action for Mobilization And Emancipation
EIR	Effective Interest Rate
FGD	Focus Group Discussion
FMFBL	First Microfinance Bank Ltd.
IRR	Internal Rate of Return
MFB	Microfinance Bank
MFI	Microfinance Institution
MFP	Microfinance Provider
NRSP	National Rural Support Programme
PBF	Profit Before Financial cost
PBIT	Profit Before Interest and Tax
PKR	Pakistani Rupee
PMN	Pakistan Microfinance Network
RCDS	Rural Community Development Society
ROA	Return On Assets
ROCE	Return On Capital Employed
RSP	Rural Support Programme
SBI-P	Shorebank International Ltd. – Pakistan
SBP	State Bank of Pakistan
SRSP	Sarhad Rural Support Programme
TMFB	Tameer Microfinance Bank
US\$	United States Dollar
VB	Village Bank

Exchange Rate (State Bank of Pakistan): US\$ 1 = PKR 85.71 (as of January 31, 2011)

1. Executive Summary

Microfinance offers low-income people access to basic financial services such as loans, savings, remittances, and micro-insurance. As with everyone, people living in poverty need a diverse range of financial services to run their businesses, build assets, ensure smooth consumption, and manage risks. Worldwide, microfinance providers (MFPs) have stepped in to provide financial access to low-income people that had previously been denied by the formal banking system. Yet, a concern persists that the interest rates charged on microcredit are considerably higher than commercial bank interest rates. Microfinance stakeholders have responded to this criticism by providing clear evidence that the cost of delivery of microfinance services is much higher than that of commercial banking services. The high-cost delivery models coupled with the fact that these loans are small ticket items, leads to interest rates being well above commercial banks' rates to ensure the sustainable provision of financial services to the un-served and under-served. It is thus understandable that rates will be high, but a complementary concern is whether clients can afford these rates.

The purpose of this study is to provide a financial snapshot of a broad range of micro and small businesses that have gained access to finance through MFPs, and to use enterprise-level financial data to shed light on whether or not clients have the ability to generate profits that can sustain the interest rates charged by the MFPs. The study has been commissioned by the Pakistan Microfinance Network (PMN) with a specific objective of analyzing the average returns generated by businesses across five main economic sectors serviced by Pakistan's MFPs: trade, agriculture, livestock/poultry, services, and manufacturing. ShoreBank International Ltd. – Pakistan (SBI-P) was engaged to execute the research.

Five business categories were selected from each of the five sectors as per sampling requirements established by the PMN. Five enterprises were selected from each of the identified business categories bringing the total sample size to 125 businesses. SBI-P requested seven MFPs to participate in this research. In order to select the most popular business categories with maximum demand and penetration-of-microfinance services, each participating MFP was requested to provide a list of its ten most popular

business types in each of these five sectors. The top five business categories with the highest number of active clients were selected for each sector based on the information provided. Finally, five businesses were selected for each business category keeping two constraints in mind: creating an appropriate urban/rural balance, and an appropriate provincial balance in the sample.

Do the microenterprise clients of MFPs in Pakistan generate sufficient profits to afford the higher rates that MFPs charge on their loans? This report attempts to answer this question using enterprise-level financial data. On the cost side, the effective interest rate (EIR) is used to measure the financial cost of borrowing to the enterprise (micro-businesses), and on the earnings side, the return on assets (ROA) is used to estimate profitability¹. Comparing the two, i.e. the cost and earning-side ratios, gives one a measure of the ability to pay. If the enterprise earns a higher rate of return on assets than the effective rate of interest charged on loans, then the interest rate is economically viable. Return on capital employed (ROCE) is generally used to analyze businesses' profitability or performance and their ability to bear financial costs in a commercial environment, where capital employed constitutes owner's equity plus the long-term debt components of the balance sheet. ROCE does not account for return on current liabilities. In microfinance, most loans are either for or up to a period of one year, and are therefore recognized as current liabilities. Although these loans are a major source of investment (and in some cases the only source of investment for micro-businesses), they have to be ignored for calculating ROCE. Unlike ROCE, ROA measurements include all business assets, including those arising out of current liabilities. ROA is the most stringent test of a business's profitability. It is therefore more meaningful to use ROA instead of ROCE for analyzing a business's ability to pay its financial costs. There is no benchmark or internationally accepted standard for an appropriate ROA for the sector. However, while acknowledging the nature and vulnerabilities of the sector, loans are considered affordable if returns are at least twice as high as the effective annual percentage rate (APR) plus the loan amount. Micro-loans are generally for a period of one year, therefore if the business does not

¹ Analysts sometimes use internal rate of return (IRR) for analysing the feasibility of investments. However, we chose not to use this as an indicator as IRR is a decision tool and is used to determine rate of return for projects, investments, and loans with a definite life or specific period of time. Since these businesses are perpetual, IRR does not apply. In addition, we are examining the profitability of these businesses to ascertain loan affordability. Therefore, use of profitability ratios/tools instead of IRR is more appropriate.

generate returns sufficient to pay off the loan (principal plus interest), it will have to liquidate its assets. The above assertion acknowledges that with such returns, the business will be able to pay off the loan (principal plus interest) from its returns without liquidating its assets and have an equal amount left at the entrepreneur's disposal to either reinvest in business or to withdraw as profit. Another measure of the ability to pay is the interest coverage ratio which shows ease of meeting interest payments through profits earned. Commercially, an interest coverage ratio of two times or more is considered good and anything below is considered risky in terms of the borrower's ability to service the loan.

In presenting data, the research uses both absolute numbers and percentages for analysis as percentages sometimes give a distorted picture of reality. As an example, two businesses operating in the manufacturing and services sectors both earn a ten percent return on their assets. However, the assets of the manufacturing business (B-M) are worth PKR 1,000,000 whereas the assets of the services business (B-S) are PKR 100,000. The two businesses are the same in percentage terms. In absolute terms, the B-M's ROA is PKR 100,000 and the B-S's

ROA is PKR 10,000. This illustrates how percentages ignore magnitude and how, if interpreted in isolation, misrepresent. In addition, there is an inherent limitation in averaging the ROA as it skews the analysis. For example, the ROA figures of two businesses in the manufacturing sector are PKR 10,000 and PKR 150,000. The average ROA would be PKR 80,000 which is far dispersed from both values. The standard deviation is included in the sector-level findings to overcome this limitation. For example, if the average ROA of the trading sector is PKR 180,000 and the standard deviation is PKR 75,000, this means that the lowest ROA in the sector is somewhere around PKR 105,000 and the highest is around PKR 255,000.

BASIC FINDINGS

We find that, overall, microenterprises can afford current MFP interest rates easily. The average effective rate for the participating MFPs stood at 35.9% whereas the average profitability of businesses measured through ROA ranged from 79% (for the livestock/poultry sector) to as high as 226% (for the services sector). Interest rate coverage ratios were far above the desirable level of two times, as well. **TABLE 1** summarizes data across the five sectors.

TABLE 1: Snapshot of Basic Findings

	Formula	Trading	Agriculture	Livestock/poultry	Services	Manufacturing
Financial Ratios						
Effective APR-industry ² (%)		35.9	35.9	35.9	35.9	35.9
ROA ³ (%)	= $(G+H)/I$	98	162	79	226	154
Interest coverage ratio (times)	= $(G+H)/H$	29	23	39	38	36
Effective financial cost-industry (PKR)	= A^*J	11,545	8,433	6,709	11,473	9,494
ROA (PKR)	= I^*B	165,740	115,232	131,576	186,674	159,799
Standard deviation in ROA (%)	= K/E	55	54	57	42	55
Data (PKR)						
Net profit		158,932	110,362	128,122	180,483	154,193
Financial cost		6,808	4,870	3,454	6,191	5,606
Total assets		225,681	112,844	211,995	94,864	189,475
Loan amount		32,200	23,520	18,712	32,000	26,480
Standard deviation in ROA (PKR)		92,507	59,250	76,359	78,971	89,559

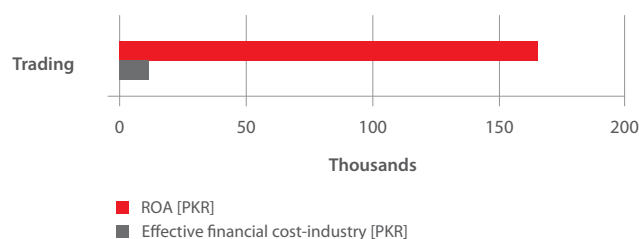
² Effective APR-industry represents the effective APR (IRR) of the microfinance providers that participated in the research.

³ Since we are analyzing the ability of micro-businesses to pay financial costs (cost of borrowing), ROA is calculated by adding back financial cost to net profit to ascertain real returns before the cost of borrowing.

Trading

Businesses observed in the trading sector were profitable with the second highest average monthly income. The sector's effective APR was PKR 11,545 (35.9%), while the ROA was PKR 165,740 (98%). The standard deviation between the ROA of businesses in this sector was \pm PKR 92,507 with 52% of businesses having ROAs above the sector average. Eight percent of the businesses showed a negative variation of ten percent from the average. Interest coverage was around 29 times on average. One (four percent) out of twenty-five businesses had negative equity.

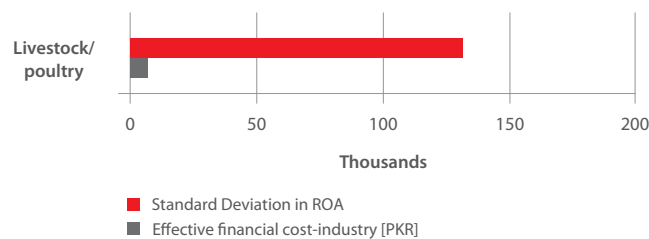
FIGURE 1: Trading — Average Effective APR vs. ROA



Livestock/poultry

All businesses observed in the livestock/poultry sector were profitable. The sector's effective APR was PKR 6,709 (35.9%), and the ROA was PKR 131,576 (79%). The standard deviation between the ROA of businesses in this sector was \pm PKR 76,359 with 44% of businesses having ROAs above the sector average. Eight percent of the businesses showed a negative variation of ten percent from the average. The interest coverage was around 39 times on average, the highest across the sectors examined. None of the businesses had negative equity. This sector had the second highest asset base after trading.

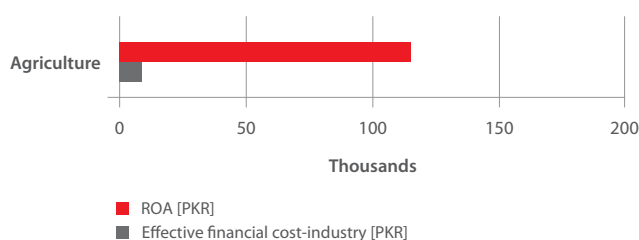
FIGURE 3: Livestock/poultry — Average Effective APR vs. ROA



Agriculture

Businesses observed in the trading sector were profitable with the second highest average monthly income. The sector's effective APR⁴ was PKR 11,545 (35.9%), while the ROA was PKR 165,740 (98%). The standard deviation between the ROA of businesses in this sector was \pm PKR 92,507 with 52% of businesses having ROAs above the sector average. Eight percent of the businesses showed a negative variation of ten percent from the average. Interest coverage was around 29 times on average. One (four percent) out of twenty-five businesses had negative equity.

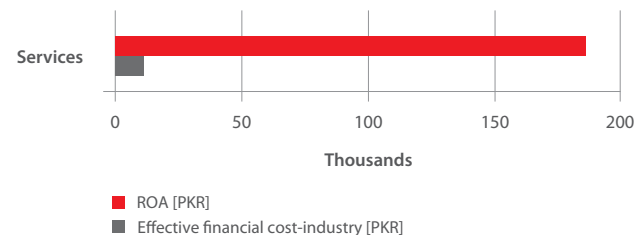
FIGURE 2: Agriculture — Average Effective APR vs. ROA



Services

The average monthly income (net profit) of businesses in the services sector was the highest. The sector's effective APR was PKR 11,473 (35.9%) and the ROA was PKR 186,674 (226%), also the highest among sectors. The standard deviation between the ROA of businesses in this sector was \pm PKR 78,971 with 44% of businesses having ROAs above the sector average. Eight percent of the businesses showed a negative variation of ten percent from the average. Interest coverage was around 38 times on average, the second highest among all sectors. The services sector also had the highest percentage (20%) of negative equity. This puts a big question mark on these businesses' ability to operate in the absence of credit finance.

FIGURE 4: Services — Average Effective APR vs. ROA

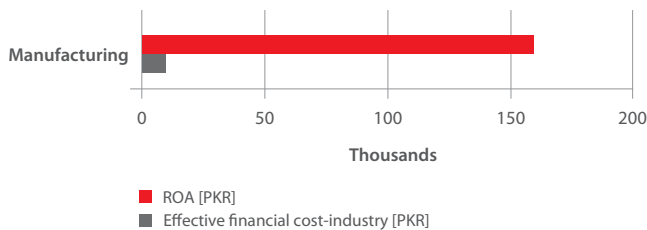


⁴ Effective APR is calculated by multiplying a sector or category's average loan size by the industry's effective APR i.e. 35.9%.

Manufacturing

All businesses observed in the manufacturing sector were profitable. The effective APR of the sector was PKR 9,494 (35.9%), and the ROA was PKR 159,799 (154%). The standard deviation between the ROA of businesses in this sector was \pm PKR 89,559 with 48% of businesses having ROAs above the sector average. Eight percent of the businesses showed a negative variation of ten percent from the average. Interest coverage was around 36 times on average. However, three (12%) out of twenty-five businesses had negative equity, indicating that they were consuming their assets, were entirely dependent on credit finance to operate, and were therefore, extremely vulnerable.

FIGURE 5: Manufacturing — Average Effective APR vs. ROA



The findings presented reveal that returns generated by the sample micro-businesses for each of the sectors observed in our research are quite large compared to the financial costs charged. The interest coverage is also commendable and demonstrates their ability to pay their financial costs.

However, an important qualification to keep in mind when assessing these returns is that the enterprises included in the sample were selected by the MFPs. A more cautious interpretation of the results would be to assume that these ratios are representative of the best-case scenarios for each business category. In order to get more representative average profitability ratios, bigger samples must be examined for each business category where enterprises are selected using random sampling that includes previous MFP clients who have since dropped out.

2. Introduction

Pakistan's economy is facing many challenges such as high commodity prices, a wheat and sugar crisis, declining exports, current account deficits, severe power shortages, a low literacy rate, stagnating health facilities, poverty, and unemployment. Although the Economic Survey of Pakistan 2009–10 shows a 0.4% increase in per capita income (US\$ 1,051), GDP's real growth rate deteriorated from 4.3%⁵ in 2009 to 2.7%⁶ 2010. The unemployment rate during 2010 was also the decade's highest at 15%.⁷ Inflation in 2010 was in double digits at 13.4%.⁸ These deteriorating economic indicators corroborate the fact that people are becoming increasingly vulnerable and sliding below the poverty line. Pakistan faces a major challenge of poverty reduction as approximately 33%⁹ of a population of 162 million¹⁰ is living below the poverty line. The majority of low-income people live in rural areas and urban slums. Major economic activities in rural areas include agriculture and livestock. In peri-urban areas and urban slums, people are mostly engaged in micro and/or small businesses¹¹ in the manufacturing, services, and trading sectors. However, in both urban and rural areas, the non-availability of financial services is a major obstacle for low-income households that want to improve their livelihoods by setting up small businesses. According to the Access to Finance Study conducted at the request of the Government of Pakistan (Ministry of Finance in conjunction with the State Bank of Pakistan) and released in 2009, only 11% of Pakistan's adult population is **banked**¹²– 23% is **informally served**¹³, one percent is **formal other**¹⁴, and around 56% is **financially excluded**.¹⁵ Without capital, people cannot invest in productive activities, fuel growth in existing businesses, or smooth consumption when needed, thus significantly limiting their chances of improving their living standards. Microfinance promises a market-driven,

cost-effective, and efficient and sustainable approach to offering financial and non-financial services to these micro-businesses, simultaneously serving the dual objective of poverty targeting and financial inclusion. Yet, a concern persists that the interest rates charged on microcredit are quite high.

Why do institutions that specifically set out to serve low-income people charge such high interest rates? This appear to be inherently unfair, and a concern raised is whether or not these micro-businesses can afford to pay such high interest rates given the low value-added, subsistence-type economic activities they typically engage in. Are their investments profitable enough to make borrowing at a 35% or 45% annual rate of interest economically viable? Finally, nominal interest rates quoted by MFPs typically deviate considerably from the effective interest rates that clients actually pay¹⁶, and concerns are raised about truth in lending and protecting low-income clients from predatory lenders. Microfinance researchers have endeavoured to address these concerns.¹⁷

One area of research has focused on MFP cost structures and financial sustainability. Bank interest rates are lower than MFI rates because bank costs per loan are lower: the transaction costs of making the loan, expressed as a percentage of the loan, steadily decline as loan size increases. Compared to commercial banks, MFPs have very small average loan balances, and this raises their costs. These costs have to be passed on to customers if the MFP is to become financially sustainable. Another body of research has focused on the demand side of microfinance

^{5, 6, 7, 8} CIA World fact book

^{9, 10} The World Bank website "South Asia"

¹¹ Micro-businesses are defined as those employing up to ten workers while small businesses are defined as employing between 11 and 50 workers.

¹² **Banked:** Adults who currently use one or more traditional banking products supplied by a financial institution. This is not an exclusive usage category; adults in this group may also be currently using one or more "formal-other" or "informal" products.

¹³ **Informal:** Any adult who does not have a bank account or a formal-other service, but uses one or more "informal" products that operate without legal governance. Examples include borrowing from moneylender and shopkeepers or participating in savings committees. This is exclusive usage - the adults in this segment do not currently use any formal products i.e. "banked and formal other".

¹⁴ **Formal Other:** Adults who are currently using one or more formal products supplied by a financial institution (other than a bank) operating under legal governance. Such products include, for example, insurance, leasing, microfinance, and postal financial services. These people do not have bank accounts, but have at least one financial service from a regulated non-bank financial service provider. Thus, this is not an exclusive usage category as people in this segment may also be using one or more "informal" products.

¹⁵ **Financially Excluded:** Adults who are excluded from all financial services – banked, formal other, and informal.

¹⁶ For example, when Grameen Bank in Bangladesh charges a ten percent nominal interest rate on a flat basis, it actually turns out to be equivalent to a 24.28% effective interest rate because of features like weekly repayment schedules and fees and compulsory savings. http://blogs.cgdev.org/open_book/2010/09/quick-whats-the-grameen-banks-interest-rate.php

¹⁷ Rosenberg, Richard, Adrian Gonzalez, and Suhma Narain (2009) *Are the Poor Being Exploited by High Microcredit Interest Rates?* CGAP Occasional Paper.

and analyzed the returns to capital in micro-enterprises in order to assess the ability of microfinance clients to pay high rates of interest. An argument is made that the low asset levels of micro-enterprises and the credit constraints they face result in high returns to capital, making it economical for such enterprises to borrow at the higher-than-bank-rates that MFPs charge.¹⁸

The purpose of our study is to contribute to the second body of research and shed light on the ability of MFP clients to generate profits that can sustain the higher-than-bank interest rates charged by MFPs. The study has been commissioned by the PMN with a specific objective to analyze the average returns generated by businesses across five main economic sectors serviced by MFPs in Pakistan: trading, agriculture and livestock/poultry, services, and manufacturing. SBI-P was engaged to execute the research.

The primary contributions expected out of this research are at two levels: policy and operational. At an overall policy level, the research hopes to guide policymakers to understand the dynamics of microfinance businesses and to make informed policy decisions. At the operational level, this research can make several contributions:

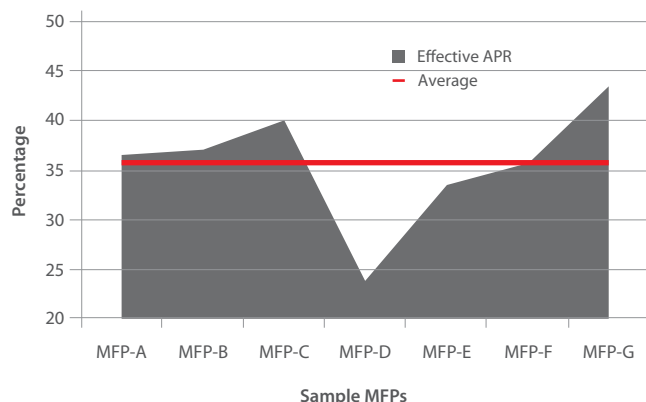
- It provides valuable insights into various business categories that can help MFPs design and develop competitive products for different sectors; sectors and businesses within each category often have differing needs;
- It can help address questions of loan sizes and tenors to better serve clients and eliminate the constraints faced by them;
- It can help MFPs adjust and refine loan appraisal procedures to bring them in line with the realities of different businesses within and across sectors;
- It can help MFPs strengthen their monitoring procedures having properly understood such businesses;
- MFPs can gain valuable insights about micro-

businesses and their limitations and needs while designing training materials for loan officers, which will advance their understanding of the sector.

Effective Interest Rates and the Ability to Pay

MFPs offer a broad range of products to micro-borrowers. Financial costs generally charged are a combination of interest and any or all of the following: processing fees, documentation charges, legal charges, and insurance fees. The term “effective APR” refers to fees plus compound annualized interest rates charged to borrowers on loan amounts. Effective APR is an indicator of effective interest rate or effective cost to the borrower when dealing with loans from MFPs. APR computations factor in up-front costs (like processing fees and documentation charges) that MFP may charge for their loans, and accordingly, the total cost to the borrower is built into it. The effective interest rate for each product offered by MFPs participating in this research was calculated by using average loan size and average tenor for each product. Product wise effective APRs were averaged to arrive at institutional effective APR. Our analysis based on the data provided by seven MFPs showed that these MFPs charged an average¹⁹ effective APR of approximately 35.9%. An MFP-wise comparison of effective APR along with the average is illustrated in FIGURE 6.

FIGURE 6: Effective APR of Participating MFPs (industry)



¹⁸ De Mel, Suresh, David McKenzie, and Christopher Woodruff (2008) *Returns to Capital: Results from a Randomized Experiment* Quarterly Journal of Economics, 123(4): 1329–72.

Udry, Christopher and Santosh Anagol (2006) *The Return to Capital in Ghana* Yale University Economic Growth Center, Paper no. 932.

¹⁹ Average represents a simple average of effective APRs of MFPs.

ROA Ratio

Defined as profits before interest and taxes (PBIT) divided by total assets, the ROA ratio determines an enterprise's ability to utilize assets employed in the business efficiently and effectively to earn a good return. The ratio measures the percentage of profits earned per rupee of asset and is thus a measure of the efficiency of the business in generating profits on its assets. ROA is the most stringent indicator of return to business stakeholders (owners and creditors).

ROCE Ratio

Defined as PBIT divided by capital employed, this ratio establishes the relationship between profit and capital employed in percentage terms and can be used to demonstrate overall profitability and efficiency. Capital employed is the owner's equity plus long-term debts or total assets minus current liabilities. It is considered the best measure of profitability to assess overall business performance. It indicates how well investments are utilized: the higher the ROCE, the more efficient the business is in using its funds.

There are certain limitations specifically for the analysis of micro-businesses. A major limitation of analyzing the ROCE and ROA for micro-businesses is the value of assets, as it is the best estimated value of assets physically available with the enterprise at the time of survey. There is a possibility that some assets have not been accounted for either intentionally or unintentionally. Since these businesses do not have properly maintained financial records, equity is simply calculated by deducting liabilities from total assets. Due to these limitations, in certain cases, equity turns out to be negative which results in astronomical ROCE figures. A negative ROCE means that all assets are financed by liabilities and there is no investment by the owner. It may also imply that certain liabilities are being utilized for self consumption as they are not representing any assets. Businesses with negative ROCE are at risk as they are entirely dependent on external sources of finance.

Interest Coverage Ratio

This is defined as PBIT divided by interest expense. It is used to determine how easily a business can pay interest on outstanding debts. A high interest coverage ratio means that the business is able to meet its interest obligations from profits easily. A low value means that the business is potentially in danger of not being able to meet its interest obligations. For the purposes of our analysis, interest expense is referred to as "financial cost" and includes interest expenses, processing or other fees, insurance premiums, and any other costs that are prerequisites for obtaining loans. Furthermore, the businesses analyzed in our research are below the taxability ambit, therefore the term PBIT is essentially "net income before financial cost." Commercially, an interest coverage ratio of two times or more is considered good from a lender's point of view. Businesses with less than 1.5 times interest coverage are considered risky due to their vulnerability.

The average ratios for each business category and overall for each business sector are calculated by dividing average numerators with average denominators. In addition to looking at the returns to capital and the interest coverage ratio, the research also examines other financial ratios to get a complete picture of the financial health of the enterprises. These include the gross and net profit margins, financial costs as percentages of total operating expenses, net business cash flows, and asset turnover. See Annexure 6.1 for in-depth definitions of the ratios estimated for this study.

2.1 METHODOLOGY

The SBI-P team carried out this assignment in three phases:

- **Phase I** – desk research and development of research tools;
- **Phase II** – field work and data collection and consolidation;
- **Phase III** – data analysis and report writing.

Sample Selection

The sampling for this research was carried out in three stages. Five major sectors (trade, agriculture, livestock/poultry, services, and manufacturing) were selected by the PMN in the concept paper. The sample size was also determined at this stage: five business sub-sectors were to be selected for each sector, and within each of these sub-sectors, five micro-businesses were to be analyzed, creating a total sample size of 125 businesses. The second stage of sampling involved selecting categories and businesses to be surveyed. SBI-P requested seven microfinance providers²⁰ from different peer groups to participate in this research. The mix included microfinance banks (MFBs), microfinance institutions (MFIs), and rural support programmes (RSPs). In order to select the most popular business categories with maximum demand and penetration of microfinance services, each participating MFP was requested to provide a list of its ten most popular business types in each of the first order sectors. Based on the information provided, the top five business categories with the highest number of active clients were selected for each sector. TABLE 2 lists the businesses selected under each business sector.

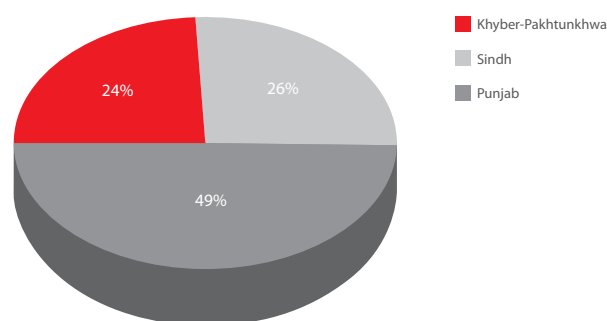
The third stage of sample selection involved the selection of five enterprises within each business category while creating an appropriate urban/rural and provincial mix in the sample. Participating MFPs were informed beforehand about the number of enterprises to be selected within each category, and the branch staff took the lead in identifying businesses to be interviewed. Ideally, the preference would have been to select five individual businesses randomly from a list of all borrowers

TABLE 2: SAMPLE OF SECTOR CATEGORIES AND BUSINESSES

Business Type	Manufacturing	Services	Trading	Agriculture	Livestock/ Poultry
Category 1	Jewellery making	Tailor shops	Garment shops	Cotton crop	Livestock milking
Category 2	Shoe making	Barber shops	Fruit/ vegetable shops	Rice crop	Livestock trading
Category 3	Embroidery and handicraft making	Zari work	Cloth shops	Sugarcane crop	Hatcheries/ poultry
Category 4	Garment making	Restaurants/ eateries	General/ grocery shops	Vegetable growing	Animal rearing and fattening
Category 5	Iron works	Beauty parlour shops	Agricultural input supplies/ fertilizer shops	Wheat crop	N/A

in a given business category, but the participating MFPs were unable to provide such lists. Loan officers from selected MFPs accompanied research teams during client visits, where the relevant questionnaires were filled. Research was conducted at the client's business premises to cross-verify details that were being provided. Sample replacements were made if the interviewee (business owner) was not available at the time of the team visit or if the business owner refused to provide the required information. Information from some of the surveys was discarded because the monthly net income of their respective clients was significantly higher than PKR 25,000, i.e. beyond the income bracket provided by the State Bank of Pakistan (SBP) regulations.

FIGURE 7: Provincial Distribution of Research Sample

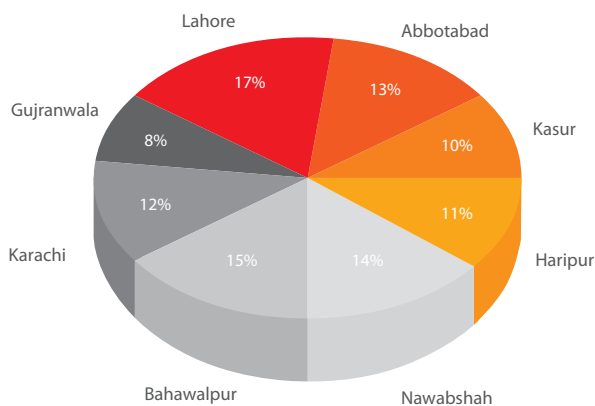


²⁰ Microfinance banks (MFBs) are banks licensed and prudentially regulated by the State Bank of Pakistan to exclusively service the microfinance market; Microfinance institutions (MFIs) are non-government organizations providing only microfinance services, and Rural Support Programmes (RSPs) are non-government organizations running microfinance operations as part of a multidimensional development programme with specific focus on rural areas.

The sample was divided equally among urban and rural areas to obtain a suitable mix reflective of business capacities in both constituencies. Provinces were given relative weight according to penetration of microfinance i.e. Punjab (68% penetration, sample size of 49%), Sindh (23% penetration, sample size of 26%) and Khyber Pakhtunkhwa (four percent penetration, sample size of 25%²¹). Baluchistan and the tribal areas were excluded from the sample due to security concerns and Azad Jammu and Kashmir were excluded due to significantly lower microfinance penetration.

Lastly, areas that were directly affected by the recent floods were not included in our sample as data from these areas would not be reflective of business conditions in normal circumstances. Trickling down to city level, again cities with the highest levels of microfinance client penetration were selected i.e. Lahore, Karachi, Gujranwala, Abbotabad, Kasur, Bahawalpur, Haripur, and Nawabshah. Sample percentages are shown in **FIGURE 8**.

FIGURE 8: City-wise Distribution of Sample



Qualitative assessment was also an important part of the research as it complemented quantitative results and assisted in drawing conclusions where numbers were felt to be inadequate on their own. Focus group discussions (FGDs) were conducted with staff members of almost all MFPs visited by the research team. They were asked about their assessment of micro-businesses' capacities to pay interest rates that were charged by MFPs. In addition to FGDs, six case studies (see Annexure 6.3) were also developed to present a microscopic view down to the client level.

Questionnaire Design

Structured questionnaires (see Annexure 6.4) were designed, one for each sector identified by the PMN. An exception was the livestock sector, where the milking business is significantly different from other business categories and required two questionnaires; livestock (general) and livestock (milking). After designing the questionnaire, a pilot run was conducted to test the appropriateness and relevance of the questionnaires. The pilot was conducted in Lahore for the trading, services, and manufacturing sectors, and in Khushab for the agriculture and livestock/poultry sectors. Questionnaires completed during this phase were not included in the final sample, but the final questionnaires were finalized on the basis of the pilot run findings. Including questionnaires tested in the pilot run, about 145 questionnaires were completed from which a representative batch of 124 was selected for final analysis.

The questionnaires were designed primarily to cater for the quantitative aspects of the research, and included tools such as cash flow statements (business and household-levels), income statement, and micro-business balance sheets (see Annexure 6.4 for questionnaires). For the qualitative aspect of the research, five FGDs were conducted with the staff of participating MFPs, and six case studies (see Annexure 3) of representative clients were prepared.

Limitations of the Methodology

Determining the research sample was complex as the ambitious national scale of this exercise required the team to cover each of the five major sectors that MFPs lend to, and maintain an appropriate provincial and urban/rural balance. The fact that the enterprises represented in the sample were selected by MFP staff because MFPs lacked sector-wise client lists at the branch level, gave rise to the concern that the enterprises might be selected for their good performance, which would undermine conclusions drawn as to the average profitability of such enterprises and their ability to pay MFP interest rates. Nevertheless, the study does present a detailed financial picture of a broad range of enterprises funded by MFPs and can serve as an effective starting point for future research which can then focus on individual business categories using tools of random sampling to get more accurate and representative

²¹ A higher sample weight was assigned to KP to balance the provincial distribution within the data.

estimates of returns to capital. In the present study, even if the enterprises had been randomly selected, it would have been difficult to conduct much meaningful statistical analysis given that each business category only had a sample of five firms; comparing ROAs across business categories with divergent capital intensities is not a meaningful exercise. Perhaps the best way to view this research would be to use it as a benchmark for the best-case scenarios in each business category and undertake further research specific to each sector or business category. This would help paint a more detailed picture utilizing random sampling and bring to light new data on business failures and MFP client drop-outs for each category.

3. Synopsis of Micro-businesses

TRADING

Trading is generally defined as the business of buying and selling goods and services, particularly without any value addition. The microfinance industry serves a huge segment of the market involved in trading activities. General/grocery shops, fruit and vegetable shops, garment shops, cloth shops, agricultural input supplies and fertilizer stores, scrap stores, electronics shops, and medical stores were among the most common business categories identified by the MFPs. Trading is the largest sector of the microfinance industry with the highest active client penetration of 36%.²² This study looks at the five most common trading businesses and defines the trading sector as *businesses where entrepreneurs purchase goods from one market or source and without any further processing sell these to another market after adding their profit margins.*

AGRICULTURE

Agriculture is generally defined as the production, processing, marketing, and use of foods, fibres, and by-products from plant crops. Agriculture includes a wide variety of specialties and techniques, including ways to expand lands suitable for crop raising by digging water-channels and other forms of irrigation. However, cultivation of crops on arable land remains at the foundation of the agriculture sector. In the microfinance industry, the agriculture sector is the second largest beneficiary in terms of agricultural borrowers accounting for 26%²³ (i.e. 0.5 million active borrowers) of total microfinance penetration. The majority of micro-loans utilized are for cotton, rice, sugarcane, vegetables, wheat, and nurseries. The top five businesses amongst these were included in this research.

The total geographical area of Pakistan is 79.6 million hectares. According to the Federal Bureau of Statistics, 23.5 million hectares (about 29%) is currently under cultivation. In terms of number of farms, Pakistan's Statistical Yearbook 2009 puts the total number of farms in Pakistan at about 6.6 million with a total area of 20.4 million hectares. Of these farms, 5.9 million (89%) are

owned by subsistence farmers (i.e. farmers owning less than 12.5 acres of land in Punjab and Khyber-Pakhtunkhwa, 16 acres in Sindh, and 32 acres in Baluchistan) whereas total area in the ownership of these farmers is 10.4 million hectares which is 51% of the total area under cultivation. This means that 49% of the cultivatable land area is owned by 11% of the big land owners. However, these estimates do not include details about land acquired by small farmers on a rental basis.

LIVESTOCK/POULTRY

Livestock includes cattle, buffaloes, sheep, goats, camels, horses, asses, and mules, and it refers to domesticated animals raised to produce commodities such as food (milk, meat, ghee), fibre (wool, leather) and labour (ploughing fields, transporting goods). Often included in "livestock," poultry is a category of domesticated birds kept for their eggs, meat, and/or feathers. In the microfinance industry, livestock is the third largest beneficiary of microfinance loans with a 15%²⁴ share of total active borrowers. Livestock milking, livestock trading, hatcheries/poultry, and animal rearing and fattening were identified to be the most popular businesses in the livestock/poultry sector served by the microfinance industry.

SERVICES

The services sector has the fourth highest (nine percent)²⁵ share of active borrowers in the microfinance industry. Services are the intangible equivalent of economic goods, and generally refer to employing general or specialized skills to satisfy the needs and requirements of the person/business willing to pay for them. Again, for the microfinance industry "services" is an important sector as there is a large eligible microfinance target market that has specialized skills but lacks financial resources to become economically active. For this research, micro-businesses included in this sector are those where entrepreneurs utilize only their skills and expertise to serve their clients. MFPs normally classify sub-sectors in order of popularity among micro-borrowers as follows:

^{22, 23, 24, 25} Pakistan Microfinance Network, 2010.

tailors, barbers, *zari* workers, restaurant/eatery workers, beauty parlour workers, transportation workers, construction workers, electricians, tutors and teachers, and dry cleaners.

MANUFACTURING

Broadly speaking, manufacturing is the use of machines, tools, and labour to produce goods for use or sale. The term may refer to a range of human activity from simple handicrafts to high technology items in which raw materials are transformed into finished goods. Manufacturing is one of the five most common business sectors in the microfinance industry, accounting for six percent of active borrowers.²⁶ Businesses generally classified in this sector by most MFPs include jewellery making, shoe making, embroidery/handicrafts, garment making, iron works, furniture making, bag making, baking and confectionery, box making, carpet weaving, and candle making. For this study, *manufacturing businesses have been defined as those where entrepreneurs purchase their own raw materials and use their skill to transform them into finished goods for wholesale and retail markets.*

The salient features of each business category within each of the main sectors are provided in Annexure 6.2.

²⁴ Pakistan Microfinance Network, 2010.

4. Profitability of Micro-businesses

4.1 TRADING

The top five business categories for the trading sector are garment shops, fruit/vegetable shops, cloth shops, general/grocery shops, and agricultural input

supplies/fertilizer shops. Each business category is discussed in detail and **TABLE 3**, and **FIGURES 9** and **10** provide a snapshot of each business category in the trading sector.

TABLE 3: Key Data — Trading

	Formula	Garment Shops	Fruit/vegetable Shops	Cloth Shops	General/grocery Shops	Agricultural Input Supplies/fertilizer Shops	
Financial Ratios							
A	Effective APR-industry (%)		35.9	35.9	35.9	35.9	
B	ROA (%)	$=(G+H)/I$	74	121	133	132	29
C	Interest coverage ratio (times)	$=(G+H)/H$	13	50	20	36	25
D	Effective financial cost-industry (PKR)	$=A*J$	15,776	7,888	14,485	7,027	12,549
E	ROA (PKR)	$=I*B$	127,082	190,215	182,054	175,271	154,075
F	Standard deviation in ROA (%)	$=K/E$	42	42	70	56	67
Data (PKR)							
G	Net profit		117,052	186,425	172,807	170,408	147,969
H	Financial cost		10,031	3,790	9,247	4,864	6,107
I	Total assets		170,750	157,024	137,242	132,467	530,920
J	Loan amount		44,000	22,000	40,400	19,600	35,000
K	Standard deviation in ROA (PKR)		53,153	80,513	127,089	98,460	103,319

FIGURE 9: Effective APR vs. ROA of the Trading Sector

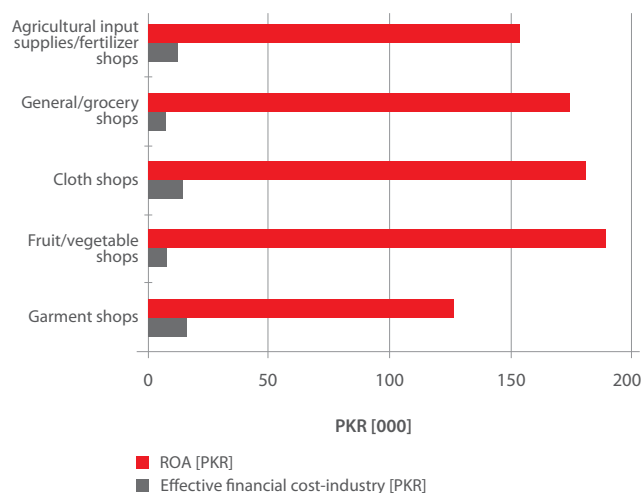
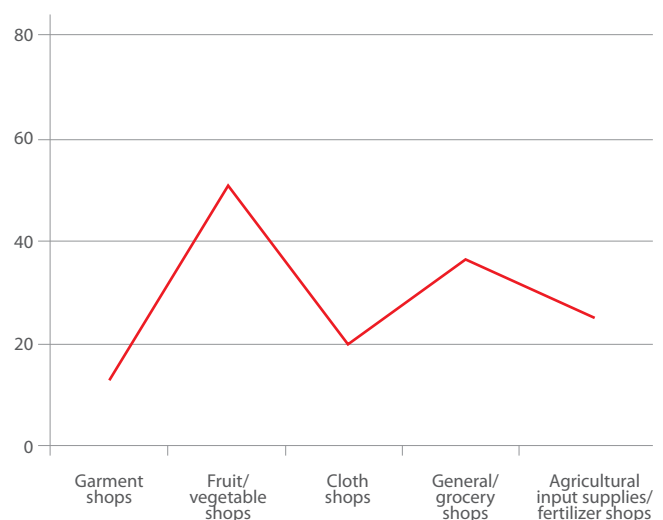


FIGURE 10: Interest Coverage Ratio of the Trading Sector



Garment Shops

The monthly income of garment shop businesses varied between PKR 5,000 and PKR 14,000 with a category average of PKR 10,000. The average gross profit margin and net profit margin were 32% and 15%, respectively, which means a 32 paise gross profit and a 15 paise net profit on each rupee of sales. Average interest coverage was 13 times, the lowest being ten times and the highest around 37 times. The average financial cost was around seven percent of total operating expenses. Net business cash flows were approximately PKR 107,000 whereas net household cash flows were PKR 26,000 on average, indicating a modest contribution towards personal asset generation. Average ROCE and ROA were 99% and 74%,

respectively. Average asset turnover was five times, indicating that each rupee employed as an asset generated sales of five rupees.

Individual indicators for each garment shop business analyzed are presented in **TABLE 4**.

This category is amongst those with relatively lower margins, thus requiring a higher turnover to generate reasonable returns. Nonetheless, our analysis confirms that garment shops do have a capacity to generate returns and hence bear the burden of financial costs at their current level. Although Interest coverage is not very high, it is at a satisfactory level in terms of the ability to bear financial cost burdens.

TABLE 4: Snapshot of Garment Shop Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		481,460	936,000	248,400	1,522,600	988,000	835,292
B	Cost of sales		359,920	655,200	0	1,090,600	735,000	568,144
C	Gross profit	=A-B	121,540	280,800	248,400	432,000	253,000	267,148
D	Operating expenses		51,377	150,510	183,681	258,500	106,414	150,096
E	Net profit	=C-D	70,163	130,290	64,719	173,500	146,586	117,052
Balance Sheet (PKR)								
F	Total assets		68,400	217,500	102,350	274,500	191,000	170,750
G	Total liabilities		15,018	47,300	0	73,000	75,600	42,184
H	Equity	=F-G	53,382	170,200	102,350	201,500	115,400	128,566
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		62,703	152,957	67,069	146,000	109,586	107,663
J	Net household cash flows (annual/period)		4,903	95,957	23,850	2,100	1,786	25,719
Other Information (PKR)								
K	Loan amount		30,000	35,000	25,000	70,000	60,000	44,000
L	Financial costs		6,906	3,627	5,481	19,600	14,540	10,031
Financial Ratios								
M	Average monthly income (PKR)	=E/12	5,847	10,858	5,393	14,458	12,216	9,754
N	Gross profit margin (%)	=C/A	25	30	100	28	26	32
O	Net profit margin (%)	=(E+L)/A	16	14	28	13	16	15
P	Financial cost as percentage of operating expenses (%)	=L/D	13	2	3	8	14	7
Q	Interest coverage ratio (times)	=(E+L)/L	11	37	13	10	11	13
R	Loan coverage ratio (times)	=(E+L)/K	2	3	2	2	2	2
S	ROCE (%)	=(E+L)/H	144	79	69	96	140	99
T	ROA (%)	=(E+L)/F	113	62	69	70	84	74
U	ROA (PKR)	=F*T	77,069	133,917	70,200	193,100	161,126	127,082
V	Asset turnover (times)	=A/F	7	4	2	6	5	5

Fruit and Vegetable Shops

The monthly income for fruit and vegetable shop businesses varied between PKR 4,632 and PKR 21,589 with a category average of PKR 15,535. The average gross profit margin and net profit margin were 15% and 11%, respectively, which means a 15 paisa gross profit and an 11 paisa net profit on each rupee of sales. Average interest coverage was 50 times which is significantly high, the lowest was ten times and the highest was around 269 times. The average financial cost was around five percent of total operating expenses. Net business cash flows were PKR 213,189 whereas net household cash flows were PKR 114,709 on average, indicating a significant contribution towards personal asset generation, leading to an

improvement in living standards. Average ROCE and ROA were 172% and 121%, respectively. Average asset turnover was 11 times, indicating that each rupee of asset utilization generated PKR 11 in sales.

Individual indicators for each fruit and vegetable shop business analyzed are presented in [TABLE 5](#).

The turnover (sales) for most fruit and vegetable shop businesses was significantly high, translating into sizable cash flows as well as interest coverage. Monthly incomes and ROA figures were also reasonable. In most cases, businesses were able to make an ample net contribution towards their households, so it can be easily concluded that financial cost is not a burden.

TABLE 5: Snapshot of Fruit and Vegetable Shop Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		1,270,800	558,000	1,570,365	2,318,040	2,976,000	1,738,641
B	Cost of sales		959,400	453,600	1,261,260	1,974,000	2,703,600	1,470,372
C	Gross profit	=A-B	311,400	104,400	309,105	344,040	272,400	268,269
D	Operating expenses		52,327	48,821	138,780	102,630	66,660	81,844
E	Net profit	=C-D	259,073	55,579	170,325	241,410	205,740	186,425
Balance Sheet (PKR)								
F	Total assets		89,045	126,288	142,000	225,585	202,200	157,024
G	Total liabilities		48,150	62,750	100,000	0	20,000	46,180
H	Equity	=F-G	40,895	63,538	42,000	225,585	182,200	110,844
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		447,340	54,079	158,325	193,459	212,740	213,189
J	Net household cash flows (annual/period)		337,340	90,479	(13,575)	96,759	62,540	114,709
Other Information (PKR)								
K	Loan amount		35,000	30,000	15,000	10,000	20,000	22,000
L	Financial costs		8,767	5,983	1,500	900	1,800	3,790
Financial Ratios								
M	Average monthly income (PKR)	=E/12	21,589	4,632	14,194	20,118	17,145	15,535
N	Gross profit margin (%)	=C/A	25	19	20	15	9	15
O	Net profit margin (%)	=(E+L)/A	21	11	11	10	7	11
P	Financial cost as percentage of operating expenses (%)	=L/D	17	12	1	1	3	5
Q	Interest coverage ratio (times)	=(E+L)/L	31	10	115	269	115	50
R	Loan coverage ratio (times)	=(E+L)/K	6	2	10	22	10	7
S	ROCE (%)	=(E+L)/H	655	97	409	107	114	172
T	ROA (%)	=(E+L)/F	301	49	121	107	103	121
U	ROA (PKR)	=F*T	267,840	61,562	171,825	242,310	207,540	190,215
V	Asset turnover (times)	=A/F	14	4	11	10	15	11

Cloth Shops

The monthly income of cloth shop businesses varied between PKR 4,000 and PKR 28,000 with a category average of PKR 14,000. The average gross profit margin and net profit margin were 19% and 11%, respectively, which means a 19 paise gross profit and an 11 paise net profit on each rupee of sales. Average interest coverage was 20 times, the lowest being five times, and the highest around 47 times. The average financial cost was around seven percent of total operating expenses. Net business cash flows were approximately PKR 203,000 whereas net household cash flows were PKR 85,000 on average, indicating a significant contribution towards personal assets generation and therefore improvements in living

standards. Average ROCE and ROA were 223% and 133%, respectively. Average asset turnover was 12 times, indicating that each rupee of asset utilization generated sales of PKR 12.

Individual indicators for each cloth shop business analyzed are presented in TABLE 6.

Based on interest coverage and high ROA figures, it can be assumed that businesses in this category are not burdened by financial costs.

TABLE 6: Snapshot of Cloth Shop Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	1,008,000	364,000	1,596,000	3,401,400	1,640,000	1,601,880	
B	Cost of sales	594,000	249,500	1,438,200	2,875,320	1,312,000	1,293,804	
C	Gross profit	=A-B	414,000	114,500	157,800	526,080	328,000	308,076
D	Operating expenses	241,974	66,923	108,144	195,690	63,616	135,269	
E	Net profit	=C-D	172,026	47,577	49,656	330,390	264,384	172,807
Balance Sheet (PKR)								
F	Total assets	158,400	26,100	142,250	102,960	256,500	137,242	
G	Total liabilities	21,000	31,300	50,834	27,450	147,250	55,567	
H	Equity	=F-G	137,400	(5,200)	91,416	75,510	109,250	81,675
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	187,026	83,377	140,486	446,040	160,467	203,479	
J	Net household cash flows (annual/period)	128,826	32,877	7,486	227,940	28,967	85,219	
Other Information (PKR)								
K	Loan amount	17,000	30,000	50,000	30,000	75,000	40,400	
L	Financial costs	4,340	7,366	11,546	7,150	15,833	9,247	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	14,336	3,965	4,138	27,533	22,032	14,401
N	Gross profit margin (%)	=C/A	41	31	10	15	20	19
O	Net profit margin (%)	=(E+L)/A	17	15	4	10	17	11
P	Financial cost as percentage of operating expenses (%)	=L/D	2	11	11	4	25	7
Q	Interest coverage ratio (times)	=(E+L)/L	41	7	5	47	18	20
R	Loan coverage ratio (times)	=(E+L)/K	8	1	1	9	3	4
S	ROCE (%)	=(E+L)/H	128	- 1,057	67	447	256	223
T	ROA (%)	=(E+L)/F	111	211	43	328	109	133
U	ROA (PKR)	=F*T	176,366	54,943	61,202	337,540	280,217	182,054
V	Asset turnover (times)	=A/F	6	14	11	33	6	12

General/grocery Shops

The monthly income for general/grocery shop businesses varied between PKR 6,000 and PKR 24,000 with a category average of PKR 14,000. The average gross profit margin and net profit margin were 16% and 11%, respectively, which means a 16 paisa gross profit and an 11 paisa net profit on each rupee of sales. Average interest coverage was 36 times which is significantly high, the lowest being 14 times and highest around 62 times. The average financial cost was around five percent of total operating expenses. Net business cash flows were approximately PKR 186,000, whereas net household cash flows were PKR 56,000 on average, indicating a fair contribution towards personal asset generation. Average ROCE and ROA were

145% and 132%, respectively. Average asset turnover was 12 times indicating that each rupee of asset utilization generated sales of PKR 12.

Individual indicators for each general/grocery shop business analyzed are presented in **TABLE 7**.

Interest coverage and monthly income and cash flows are high. It can therefore be concluded that this category of micro-business has the ability to pay the financial costs charged by MFIs.

TABLE 7: Snapshot of General/grocery Shop Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)							
A	Sales	2,180,004	1,830,000	1,908,000	453,600	1,567,068	1,587,734
B	Cost of sales	1,778,400	1,468,080	1,764,000	330,000	1,298,364	1,327,769
C	Gross profit	=A-B	401,604	361,920	144,000	123,600	259,966
D	Operating expenses	117,158	117,099	72,930	51,190	89,414	89,558
E	Net profit	=C-D	284,446	244,821	71,070	72,410	170,408
Balance Sheet (PKR)							
F	Total assets	125,561	252,978	208,400	59,178	16,220	132,467
G	Total liabilities	9,180	32,724	8,000	10,000	0	11,981
H	Equity	=F-G	116,381	220,254	200,400	49,178	120,487
Cash Flows (PKR)							
I	Net business cash flows (annual/period)	308,626	274,646	84,270	86,760	175,349	185,930
J	Net household cash flows (annual/period)	78,626	123,446	7,870	10,760	59,749	56,090
Other Information (PKR)							
K	Loan amount	15,000	28,000	10,000	20,000	25,000	19,600
L	Financial costs	4,660	5,774	1,500	5,500	6,885	4,864
Financial Ratios							
M	Average monthly income (PKR)	=E/12	23,704	20,402	5,923	6,034	14,201
N	Gross profit margin (%)	=C/A	18	20	7	27	16
O	Net profit margin (%)	=(E+L)/A	13	14	4	17	11
P	Financial cost as percentage of operating expenses (%)	=L/D	4	5	2	11	5
Q	Interest coverage ratio (times)	=(E+L)/L	62	43	48	14	27
R	Loan coverage ratio (times)	=(E+L)/K	15	7	6	3	7
S	ROCE (%)	=(E+L)/H	248	114	36	158	1148
T	ROA (%)	=(E+L)/F	230	99	35	132	1148
U	ROA (PKR)	=F*T	289,106	250,595	72,570	77,910	186,176
V	Asset turnover (times)	=A/F	17	7	9	8	97

Agricultural Input Supplies/fertilizer Shops

The monthly income of agricultural input supplies/fertilizer shop businesses varied between PKR 3,000 and PKR 23,000 with a category average of PKR 12,000. The average gross profit margin and net profit margin were 20% and 16%, respectively, which means a 20 paisa gross profit and a 16 paisa net profit on each rupee of sales. Average interest coverage was 25 times, the lowest being eight times, and the highest around 259 times. The average financial cost was around 13 percent of total operating expenses. Net business cash flows were approximately PKR 166,000 whereas net household cash flows were PKR 107,000 on average, indicating a high contribution towards personal asset generation and a

consequent improvement in living standards. Average ROCE and ROA were 30% and 29%, respectively. Average asset turnover was two times indicating that each one rupee employed as an asset generated two rupees in sales.

Individual indicators for each agricultural input supplies/fertilizer shop business analyzed are presented in **TABLE 8**.

On the basis of the financial data presented in the preceding tables, it can be said that financial costs charged are under the affordability umbrella of these businesses. However, an important detail is that some businesses have significantly higher asset bases, which raises concerns regarding their qualification as micro-businesses. Although on income generation patterns, they fit comfortably within this description.

TABLE 8: Snapshot of Agricultural Input Supplies/fertilizer Shop Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	300,000	240,000	885,000	2,484,000	1,060,800	993,960	
B	Cost of sales	6,000	7,200	788,400	2,355,000	842,100	799,740	
C	Gross profit	=A-B	294,000	232,800	96,600	129,000	218,700	194,220
D	Operating expenses	14,700	990	45,890	83,510	86,166	46,251	
E	Net profit	=C-D	279,300	231,810	50,710	45,490	132,534	147,969
Balance Sheet (PKR)								
F	Total assets	213,500	46,500	1,300,100	830,500	264,000	530,920	
G	Total liabilities	0	20,000	34,200	34,200	15,500	20,780	
H	Equity	=F-G	213,500	26,500	1,265,900	796,300	248,500	510,140
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	282,800	214,310	124,910	109,690	96,467	165,635	
J	Net household cash flows (annual/period)	221,000	248,110	50,710	(11,910)	27,467	107,075	
Other Information (PKR)								
K	Loan amount	20,000	20,000	30,000	30,000	75,000	35,000	
L	Financial costs	1,500	900	4,900	4,900	18,333	6,107	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	23,275	19,318	4,226	3,791	11,045	12,331
N	Gross profit margin (%)	=C/A	98	97	11	5	21	20
O	Net profit margin (%)	=(E+L)/A	94	97	6	2	14	16
P	Financial cost as percentage of operating expenses (%)	=L/D	10	91	11	6	21	13
Q	Interest coverage ratio (times)	=(E+L)/L	187	259	11	10	8	25
R	Loan coverage ratio (times)	=(E+L)/K	13	11	2	1	2	4
S	ROCE (%)	=(E+L)/H	132	878	4	6	61	30
T	ROA (%)	=(E+L)/F	132	500	4	6	57	29
U	ROA (PKR)	=F*T	280,800	232,710	55,610	50,390	150,867	154,075
V	Asset turnover (times)	=A/F	1	5	1	3	4	2

4.2 AGRICULTURE

The top five business categories for the agriculture sector are cotton, rice, sugarcane, vegetables, and wheat. All

business categories are discussed in detail, and **TABLE 9** and **FIGURES 11** and **12** provide a snapshot of each business category within the agriculture sector.

TABLE 9: Key Data — Agriculture

	Formula	Cotton	Rice	Sugarcane	Vegetables	Wheat	
Financial Ratios							
A	Effective APR-industry (%)	35.9	35.9	35.9	35.9	35.9	
B	ROA (%)	$=(G+H)/I$	119	103	74	471	41
C	Interest coverage ratio (times)	$=(G+H)/H$	32	8	28	28	17
D	Effective financial cost-industry (PKR)	$=A*J$	7,960	7,027	9,394	10,111	7,673
E	ROA (PKR)	$=I*B$	124,851	35,471	182,063	175,513	58,261
F	Standard deviation in ROA (%)	$=K/E$	89	62	42	35	45
Data (PKR)							
G	Net profit	120,969	31,019	175,663	169,258	54,901	
H	Financial cost	3,882	4,451	6,401	6,255	3,360	
I	Total assets	104,952	34,320	245,000	37,260	142,690	
J	Loan size	22,200	19,600	26,200	28,200	21,400	
K	Standard deviation in ROA (PKR)	111,131	21,966	75,592	61,350	26,211	

FIGURE 11: Effective APR vs. ROA of the Agriculture Sector

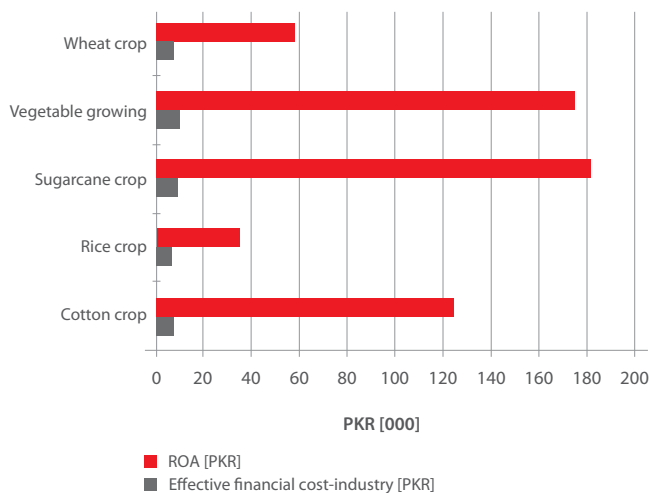
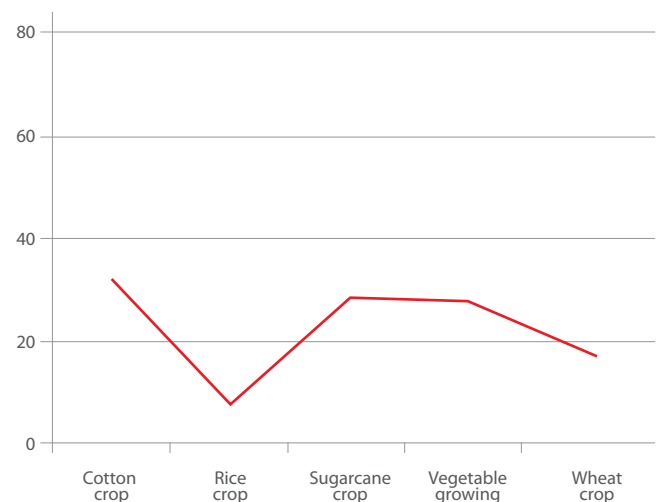


FIGURE 12: Interest Coverage Ratio of Agriculture Sector



Cotton Crop

The monthly income for cotton crop businesses varied between PKR 3,000 and PKR 26,000 with a category average of PKR 10,000. The average gross profit margin and net profit margin were 54% and 45%, respectively, which means a 54 paisa gross profit and a 45 paisa net profit on each rupee of sales. Average interest coverage was 32 times, the lowest being 12 times and the highest around 75 times. The average financial cost was around 13% of total operating expenses. Net business cash flows were approximately PKR 166,000 whereas net household cash flows were PKR 120,000 on average, indicating a significant contribution towards personal asset generation and hence improvements in living standards.

Average ROCE and ROA were 162% and 119%, respectively. Average asset turnover was three times, indicating that each rupee employed as an asset generated three rupees in sales.

Individual indicators for each cotton crop business analyzed are presented in TABLE 10.

The gross and net profit margins were satisfactory and the interest coverage adequate. The analysis concluded that businesses have the ability to pay financial costs.

TABLE 10: Snapshot of Cotton Crop Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		150,000	150,000	231,000	570,000	288,000	277,800
B	Cost of sales		90,600	57,910	135,610	197,000	151,500	126,524
C	Gross profit	=A-B	59,400	92,090	95,390	373,000	136,500	151,276
D	Operating expenses		14,311	5,335	53,790	62,480	15,620	30,307
E	Net profit	=C-D	45,089	86,755	41,600	310,520	120,880	120,969
Balance Sheet (PKR)								
F	Total assets		42,000	385,760	35,000	52,000	10,000	104,952
G	Total liabilities		28,500	25,300	29,200	28,500	28,500	28,000
H	Equity	=F-G	13,500	360,460	5,800	23,500	(18,500)	76,952
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		75,939	112,945	123,410	395,230	134,730	168,451
J	Net household cash flows (annual/period)		32,639	81,345	101,610	334,530	53,130	120,651
Other Information (PKR)								
K	Loan amount		25,000	22,000	14,000	25,000	25,000	22,200
L	Financial costs		4,010	4,100	2,900	4,200	4,200	3,882
Financial Ratios								
M	Average monthly income (PKR)	=E/12	3,757	7,230	3,467	25,877	10,073	10,081
N	Gross profit margin (%)	=C/A	40	61	41	65	47	54
O	Net profit margin (%)	=(E+L)/A	33	61	19	55	43	45
P	Financial cost as percentage of operating expenses (%)	=L/D	28	77	5	7	27	13
Q	Interest coverage ratio (times)	=(E+L)/L	12	22	15	75	30	32
R	Loan coverage ratio (times)	=(E+L)/K	2	3	3	11	4	5
S	ROCE (%)	=(E+L)/H	364	25	767	1,339	-676	162
T	ROA (%)	=(E+L)/F	117	24	127	605	1251	119
U	ROA (PKR)	=F*T	49,099	90,855	44,500	314,720	125,080	124,851
V	Asset turnover (times)	=A/F	4	0	7	11	29	3

Rice Crop

The monthly income for rice crop businesses varied between PKR 900 and PKR 5,000 with a category average of PKR 2,500. The average gross profit margin and net profit margin were 69% and 33%, respectively, which means a 69 paisa gross profit and a 33 paisa net profit on each rupee of sales. Average interest coverage was eight times, the lowest being six times and the highest around 16 times. The average financial cost was around ten percent of total operating expenses. Net business cash flows were approximately PKR 77,000 whereas net household cash flows were PKR 38,000 on average, indicating a significant contribution towards personal asset generation, and hence an improvement in living standards. Average ROCE and ROA were 312% and

103%, respectively. Average asset turnover was three times indicating that each rupee employed as an asset generated three rupees in sales.

Individual indicators for each rice crop business analyzed are presented in TABLE 11.

Monthly income and interest coverage were both on the low side. Gross profit margins were stable across the board, however, net profit margins showed a drastic variation for Business 4 and 5. A deeper analysis revealed that those with margins on the lower side had to bear “land tenancy expenses” as opposed to the other businesses in this category. We concluded that borrowers working on a land tenancy-basis were exposed to vulnerabilities whereas those working on self-owned land had businesses that were profitable and financial costs that were easily affordable.

TABLE 11: Snapshot of Rice Crop Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		103,000	91,200	42,000	145,000	155,000	107,240
B	Cost of sales		29,960	27,695	15,493	39,975	50,660	32,757
C	Gross profit	=A-B	73,040	63,505	26,507	105,025	104,340	74,483
D	Operating expenses		14,619	26,950	3,997	79,200	92,554	43,464
E	Net profit	=C-D	58,421	36,555	22,510	25,825	11,786	31,019
Balance Sheet (PKR)								
F	Total assets		56,500	103,600	2,500	3,000	6,000	34,320
G	Total liabilities		0	50,700	40,000	10,933	13,120	22,951
H	Equity	=F-G	56,500	52,900	(37,500)	(7,933)	(7,120)	11,369
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		76,421	63,125	25,010	104,651	114,018	76,645
J	Net household cash flows (annual/period)		3,121	42,725	(20,490)	78,671	88,138	38,433
Other Information (PKR)								
K	Loan amount		40,000	18,000	18,000	10,000	12,000	19,600
L	Financial costs		12,570	3,500	2,634	1,733	1,820	4,451
Financial Ratios								
M	Average monthly income (PKR)	=E/12	4,868	3,046	1,876	2,152	982	2,585
N	Gross profit margin (%)	=C/A	71	70	63	72	67	69
O	Net profit margin (%)	=(E+L)/A	69	44	60	19	9	33
P	Financial cost as percentage of operating expenses (%)	=L/D	86	13	66	2	2	10
Q	Interest coverage ratio (times)	=(E+L)/L	6	11	10	16	7	8
R	Loan coverage ratio (times)	=(E+L)/K	1	2	1	2	1	1
S	ROCE (%)	=(E+L)/H	126	76	- 67	- 347	- 191	312
T	ROA (%)	=(E+L)/F	126	39	1,006	919	227	103
U	ROA (PKR)	=F*T	70,991	40,055	25,144	27,558	13,606	35,471
V	Asset turnover (times)	=A/F	2	1	17	48	26	3

Sugarcane Crop

The monthly income for sugarcane crop businesses varied between PKR 8,000 and PKR 23,000 with a category average of PKR 15,000. The average gross profit margin and net profit margin were 65% and 53%, respectively, which means a 65 paisa gross profit and a 53 paisa net profit on each rupee of sales. Average interest coverage was 28 times, the lowest being 18 times and the highest around 54 times. The average financial cost was around 14% of total operating expenses. Net business cash flows were approximately PKR 188,000 whereas net household cash flows were PKR 116,000 on average, indicating a significant contribution to personal asset generation, and hence improvements in living standards. Average ROCE

and ROA were 80% and 74%, respectively. Average asset turnover was 1.4 times indicating that each rupee employed as an asset generated sales of PKR 1.4.

Individual indicators for each sugarcane business analyzed are presented in TABLE 12.

Monthly incomes were reasonable, and gross and net profit margins were high. Interest coverage was also high and when analyzed along with ROA, made a strong case of affordability of financial costs charged.

TABLE 12: Snapshot of Sugarcane Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	405,000	400,000	240,000	260,000	405,000	342,000	
B	Cost of sales	171,300	82,667	75,900	138,000	130,500	119,673	
C	Gross profit	=A-B	233,700	317,333	164,100	122,000	274,500	222,327
D	Operating expenses	82,830	34,030	25,520	27,140	63,800	46,664	
E	Net profit	=C-D	150,870	283,303	138,580	94,860	210,700	175,663
Balance Sheet (PKR)								
F	Total assets	50,500	70,500	710,000	393,000	1,000	245,000	
G	Total liabilities	22,800	0	32,500	9,450	28,500	18,650	
H	Equity	=F-G	27,700	70,500	677,500	383,550	(27,500)	226,350
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	174,450	236,430	181,830	106,193	240,550	187,891	
J	Net household cash flows (annual/period)	95,796	303,830	90,030	62,193	32,462	116,862	
Other Information (PKR)								
K	Loan amount	20,000	39,000	25,000	22,000	25,000	26,200	
L	Financial costs	3,300	12,270	8,200	4,233	4,000	6,401	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	12,573	23,609	11,548	7,905	17,558	14,639
N	Gross profit margin (%)	=C/A	58	79	68	47	68	65
O	Net profit margin (%)	=(E+L)/A	38	74	61	38	53	53
P	Financial cost as percentage of operating expenses (%)	=L/D	4	36	32	16	6	14
Q	Interest coverage ratio (times)	=(E+L)/L	47	24	18	23	54	28
R	Loan coverage ratio (times)	=(E+L)/K	7	6	4	4	7	6
S	ROCE (%)	=(E+L)/H	557	419	22	26	- 781	80
T	ROA (%)	=(E+L)/F	305	419	21	25	21,470	74
U	ROA (PKR)	=F*T	154,170	295,573	146,780	99,093	214,700	182,063
V	Asset turnover (times)	=A/F	8	6	0	1	405	1

Vegetable Growing

The monthly income for vegetable growing businesses varied between PKR 6,000 and PKR 19,000 with a category average of PKR 14,000. The average gross profit margin and net profit margin were 55% and 51%, respectively, which means a 55 paisa gross profit and a 51 paisa net profit on each rupee of sales. Average interest coverage was 28 times, the lowest being nine times and the highest around 173 times. The average financial cost was around 32% of total operating expenses. Net business cash flows were approximately PKR 193,000 whereas net household cash flows were PKR 130,000 on average, indicating a significant contribution to personal asset generation, and hence improvements in living standards. Average ROCE

and ROA were 1,031% and 471%, respectively. Average asset turnover was nine times indicating that each rupee employed as an asset generated nine rupees in sales.

Individual indicators for each vegetable growing business analyzed are presented in **TABLE 13**.

On the basis of monthly incomes, exceptionally high margins, interest coverage and returns, businesses in this sector appear to be capable of bearing financial costs.

TABLE 13: Snapshot of Vegetable Growing Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		601,000	511,000	197,500	294,500	126,750	346,150
B	Cost of sales		412,500	252,800	32,200	54,350	34,000	157,170
C	Gross profit	=A-B	188,500	258,200	165,300	240,150	92,750	188,980
D	Operating expenses		33,990	25,795	17,127	9,262	12,438	19,722
E	Net profit	=C-D	154,510	232,405	148,173	230,888	80,312	169,258
Balance Sheet (PKR)								
F	Total assets		43,000	26,000	44,000	27,800	45,500	37,260
G	Total liabilities		5,000	0	0	45,600	50,567	20,233
H	Equity	=F-G	38,000	26,000	44,000	(17,800)	(5,067)	17,027
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		147,210	232,075	159,213	279,848	146,836	193,036
J	Net household cash flows (annual/period)		98,210	113,875	144,013	218,648	73,836	129,716
Other Information (PKR)								
K	Loan amount		10,000	10,000	40,000	40,000	41,000	28,200
L	Financial costs		900	1,500	12,570	6,170	10,137	6,255
Financial Ratios								
M	Average monthly income (PKR)	=E/12	12,876	19,367	12,348	19,241	6,693	14,105
N	Gross profit margin (%)	=C/A	31	51	84	82	73	55
O	Net profit margin (%)	=(E+L)/A	26	46	81	80	71	51
P	Financial cost as percentage of operating expenses (%)	=L/D	3	6	73	67	82	32
Q	Interest coverage ratio (times)	=(E+L)/L	173	156	13	38	9	28
R	Loan coverage ratio (times)	=(E+L)/K	14	20	3	5	2	5
S	ROCE (%)	=(E+L)/H	409	900	365	- 1,332	- 1,785	1,031
T	ROA (%)	=(E+L)/F	361	900	365	853	199	471
U	ROA (PKR)	=F*T	155,410	233,905	160,743	237,058	90,449	175,513
V	Asset turnover (times)	=A/F	14	20	4	11	3	9

Wheat Crop

The monthly income for wheat crop businesses varied between PKR 2,000 and PKR 7,000 with a category average of PKR 4,000. The average gross profit margin and net profit margin were 47% and 33%, respectively, which means a 47 paise gross profit and a 33 paise net profit on each rupee of sales. Average interest coverage was 17 times, the lowest being nine times and the highest around 25 times. The average financial cost was around 12% of total operating expenses. Net business cash flows were approximately PKR 61,000 whereas net household cash flows were PKR 34,000 on average, indicating a significant contribution towards personal asset generation and hence improvements in living standards. Both average

ROCE and ROA were 41%. Average asset turnover was 1.2 times indicating that each rupee employed as an asset generated PKR 1.2 in sales.

Individual indicators for each wheat crop business analyzed are presented in **TABLE 14**.

Based on this data, businesses in this category appear to have the ability to bear financial costs. However, in the case of tenancy-based operations, operational cost rises drastically, therefore putting such enterprises in a vulnerable position.

TABLE 14: Snapshot of Wheat Crop Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	44,850	258,750	299,250	130,000	150,000	176,570	
B	Cost of sales	6,050	157,575	204,320	47,925	49,696	93,113	
C	Gross profit	=A-B	38,800	101,176	94,931	82,075	100,304	83,457
D	Operating expenses	3,300	70,158	51,370	6,941	11,011	28,556	
E	Net profit	=C-D	35,500	31,018	43,561	75,134	89,293	54,901
Balance Sheet (PKR)								
F	Total assets	418,900	108,750	109,000	41,000	35,800	142,690	
G	Total liabilities	5,500	0	0	0	0	1,100	
H	Equity	=F-G	413,400	108,750	109,000	41,000	35,800	141,590
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	40,850	41,018	58,561	76,134	90,093	61,331	
J	Net household cash flows (annual/period)	17,750	24,568	29,061	46,034	55,493	34,581	
Other Information (PKR)								
K	Loan amount	15,000	22,000	25,000	20,000	25,000	21,400	
L	Financial costs	1,500	3,780	4,200	3,310	4,010	3,360	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	2,958	2,585	3,630	6,261	7,441	4,575
N	Gross profit margin (%)	=C/A	87	39	32	63	67	47
O	Net profit margin (%)	=(E+L)/A	82	13	16	60	62	33
P	Financial cost as percentage of operating expenses (%)	=L/D	45	5	8	48	36	12
Q	Interest coverage ratio (times)	=(E+L)/L	25	9	11	24	23	17
R	Loan coverage ratio (times)	=(E+L)/K	2	1	2	3	3	2
S	ROCE (%)	=(E+L)/H	9	32	44	191	261	41
T	ROA (%)	=(E+L)/F	9	32	44	191	261	41
U	ROA (PKR)	=F*T	37,000	34,798	47,761	78,444	93,303	58,261
V	Asset turnover (times)	=A/F	0	2	3	3	4	1

4.3 LIVESTOCK/POULTRY

The top five business categories for the livestock/poultry sector are “livestock milking”, “livestock trading”,

“hatcheries/poultry,” and “animal rearing and fattening”. Each business category is discussed in detail and **TABLE 15** and **FIGURES 13** and **14** provide a snapshot of each business category in the sector.

TABLE 15: Key Data — Livestock/poultry

	Formula	Livestock Milking	Livestock Trading	Hatcheries/poultry	Animal Rearing and Fattening
Financial Ratios					
A	Effective APR-industry (%)		35.9	35.9	35.9
B	ROA (%)	$=(G+H)/I$	23	122	126
C	Interest coverage ratio (times)	$=(G+H)/H$	22	47	61
D	Effective financial cost-industry (PKR)	$=A*J$	8,195	6,092	6,812
E	ROA (PKR)	$=I*B$	79,256	160,452	187,132
F	Standard deviation in ROA (%)	$=K/E$	52	55	65
Data (PKR)					
G	Net profit		75,706	157,037	184,052
H	Financial cost		3,550	3,415	3,080
I	Total assets		348,743	131,657	148,156
J	Loan size		22,857	16,991	19,000
K	Standard deviation in ROA (PKR)		40,935	87,920	120,967

FIGURE 13: Effective APR vs. ROA of the Livestock/poultry Sector

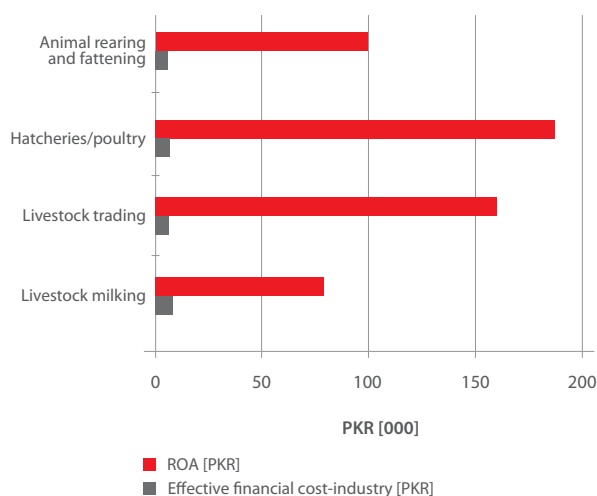
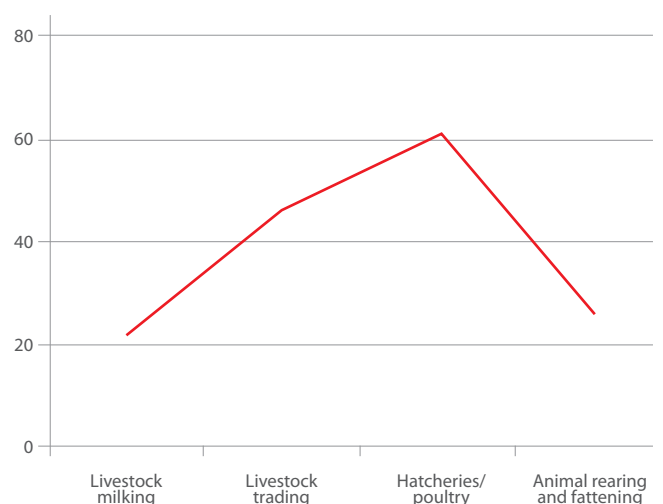


FIGURE 14: Interest Coverage Ratio of the Livestock/poultry Sector



Livestock Milking

The monthly income for livestock milking businesses varied between PKR 2,000 and PKR 12,000 with a category average of PKR 6,000. The average gross profit margin and net profit margin were 84% and 39%, respectively, which means an 84 paisa gross profit and a 39 paisa net profit on each rupee of sales. Average interest coverage was 22 times, the lowest being nine times and the highest around 51 times. The average financial cost was around four percent of total operating expenses. Net business cash flows were approximately PKR 88,000 whereas net household cash flows were PKR 27,000 on average, indicating a significant contribution towards personal asset generation and hence improvements in living standards. Average

ROCE and ROA were 26% and 23%, respectively. Average asset turnover was 0.58 times indicating that each rupee employed as an asset utilized generates sales of PKR 0.58.

Individual indicators for each livestock milking business analyzed are presented in TABLE 16.

The gross and net profit margins were significantly high and interest coverage was also appropriate, which means that businesses are able to afford financial costs. However there are concerns as to whether or not they qualify as micro-business, as they have high asset bases.

TABLE 16: Snapshot of Livestock Milking Businesses

Indicators		Formula	Bus. 1	Bus. 2	Bus. 3	Bus. 4	Bus. 5	Bus. 6	Bus. 7	Category Average
Profit and Loss (PKR)										
A	Sales		264,000	123,600	93,600	86,400	669,000	99,000	75,600	201,600
B	Cost of sales		147,600	26,400	27,780	28,940	0	0	0	32,960
C	Gross profit	=A-B	116,400	97,200	65,820	57,460	669,000	99,000	75,600	168,640
D	Operating expenses		10,725	12,650	9,864	11,916	520,300	37,510	47,570	92,934
E	Net profit	=C-D	105,675	84,550	55,956	45,544	148,700	61,490	28,030	75,706
Balance Sheet (PKR)										
F	Total assets		786,000	247,500	211,150	79,200	893,500	100,450	123,400	348,743
G	Total liabilities		30,000	12,000	23,333	7,500	176,000	10,000	22,800	40,233
H	Equity	=F-G	756,000	235,500	187,817	71,700	717,500	90,450	100,600	308,510
Cash Flows (PKR)										
I	Net business cash flows (annual/period)		99,175	81,550	67,123	78,277	176,700	61,940	50,930	87,956
J	Net household cash flows (annual/period)		37,675	52,350	11,923	21,377	60,900	1,440	1,528	26,742
Other Information (PKR)										
K	Loan amount		25,000	20,000	20,000	15,000	30,000	30,000	20,000	22,857
L	Financial costs		3,750	4,300	4,167	3,333	3,000	3,000	3,300	3,550
Financial Ratios										
M	Average monthly income (PKR)	=E/12	8,806	7,046	4,663	3,795	12,392	5,124	2,336	6,309
N	Gross profit margin (%)	=C/A	44	79	70	67	100	100	100	84
O	Net profit margin (%)	=(E+L)/A	41	72	64	57	23	65	41	39
P	Financial cost as percentage of operating expenses (%)	=L/D	35	34	42	28	1	8	7	4
Q	Interest coverage ratio (times)	=(E+L)/L	29	21	14	15	51	21	9	22
R	Loan coverage ratio (times)	=(E+L)/K	4	4	2	3	5	2	1	3
S	ROCE (%)	=(E+L)/H	14	38	32	68	21	71	31	26
T	ROA (%)	=(E+L)/F	14	36	28	62	17	64	25	23
U	ROA (PKR)	=F*T	109,425	88,850	60,123	48,877	151,700	64,490	31,330	79,256
V	Asset turnover (times)	=A/F	0	0	0	1	1	1	1	1

Bus. = Business

Livestock Trading

The monthly income for livestock trading businesses varied between PKR 5,000 and PKR 26,000 with a category average of PKR 13,000. The average gross profit margin and net profit margin were 11% and nine percent, respectively, which means an 11 paisa gross profit and a nine paisa net profit on each rupee of sales. Average interest coverage was 47 times, the lowest being 12 times and the highest around 91 times. The average financial cost was around seven percent of total operating expenses. Net business cash flows were approximately PKR 201,000 whereas net household cash flows were PKR 133,000 on average, indicating a significant contribution towards personal asset generation and hence

improvements in living standards. Average ROCE and ROA were 133% and 122%, respectively. Average asset turnover was 14 times indicating that each rupee employed as an asset generated PKR 14 in sales.

Individual indicators for each livestock trading business analyzed are presented in **TABLE 17**.

For most businesses in this category, monthly income levels were fair and interest coverage was commendably high, making them very comfortable with financial cost burdens. ROA, net cash flows, and asset turnover were also sufficient, contributing to the overall growth of businesses and households in this category.

TABLE 17: Snapshot of Livestock Trading Businesses

Indicators		Formula	Bus. 1	Bus. 2	Bus. 3	Bus. 4	Bus. 5	Bus. 6	Bus. 7	Category Average
Profit and Loss (PKR)										
A	Sales		3,565,000	192,000	1,850,000	2,910,000	1,620,000	1,493,500	1,100,000	1,818,643
B	Cost of sales		3,300,000	48,250	1,613,000	2,550,000	1,536,000	1,351,500	900,000	1,614,107
C	Gross profit	=A-B	265,000	143,750	237,000	360,000	84,000	142,000	200,000	204,536
D	Operating expenses		62,627	21,714	42,893	47,960	12,430	80,520	64,350	47,499
E	Net profit	=C-D	202,373	122,036	194,107	312,040	71,570	61,480	135,650	157,037
Balance Sheet (PKR)										
F	Total assets		80,500	60,500	88,500	32,500	230,000	19,100	410,500	131,657
G	Total liabilities		27,500	60,000	0	0	34,500	0	18,000	11,429
H	Equity	=F-G	53,000	500	88,500	32,500	195,500	19,100	392,500	120,229
Cash Flows (PKR)										
I	Net business cash flows (annual/period)		207,457	173,511	244,107	324,540	256,520	63,230	136,150	200,788
J	Net household cash flows (annual/period)		150,357	129,511	104,340	101,740	239,920	121,910	83,450	133,033
Other Information (PKR)										
K	Loan amount		25,000	12,000	11,935	20,000	30,000	10,000	10,000	16,991
L	Financial costs		5,334	2,640	2,633	5,000	5,300	1,500	1,500	3,415
Financial Ratios										
M	Average monthly income (PKR)	=E/12	16,864	10,170	16,176	26,003	5,964	5,123	11,304	13,086
N	Gross profit margin (%)	=C/A	7	75	13	12	5	10	18	11
O	Net profit margin (%)	=(E+L)/A	6	65	11	11	5	4	12	9
P	Financial cost as percentage of operating expenses (%)	=L/D	9	12	6	10	43	2	2	7
Q	Interest coverage ratio (times)	=(E+L)/L	39	47	75	63	15	42	91	47
R	Loan coverage ratio (times)	=(E+L)/K	7	9	14	13	2	5	12	8
S	ROCE (%)	=(E+L)/H	392	24935	222	976	39	330	35	133
T	ROA (%)	=(E+L)/F	258	206	222	976	33	330	33	122
U	ROA (PKR)	=F*T	207,707	124,676	196,740	317,040	76,870	62,980	137,150	160,452
V	Asset turnover (times)	=A/F	44	3	21	90	7	78	3	14

Bus. = Business

Hatcheries/poultry

The monthly income for hatcheries/poultry businesses varied between PKR 5,000 and PKR 26,000 with a category average of PKR 15,000. The average gross profit margin and net profit margin were 65% and 11%, respectively, which means a 65 paise gross profit and an 11 paise net profit on each rupee of sales. Average interest coverage was 61 times, the lowest being 39 times and the highest around 71 times. The average financial cost was around one percent of total operating expenses. Net business cash flows were approximately PKR 213,000 whereas net household cash flows were PKR 125,000 on average, indicating a significant contribution towards personal asset generation and hence improvements in living

standards. Average ROCE and ROA were 146% and 126%, respectively. Average asset turnover was eight times indicating that each rupee employed as an asset generated PKR 8 in sales.

Individual indicators for each hatchery/poultry business analyzed are presented in **TABLE 18**.

The overall health of indicators in this category suggests that these businesses can comfortably afford the financial costs charged.

TABLE 18: Snapshot of Hatcheries/poultry Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	537,500	1,254,000	1,310,000	688,250	2,366,500	1,231,250	
B	Cost of sales	148,000	372,000	800,000	200,000	660,000	436,000	
C	Gross profit	=A-B	389,500	882,000	510,000	488,250	1,706,500	795,250
D	Operating expenses		100,187	825,330	432,850	168,905	1,528,720	611,198
E	Net profit	=C-D	289,313	56,670	77,150	319,345	177,780	184,052
Balance Sheet (PKR)								
F	Total assets		151,000	124,680	94,500	245,000	125,600	148,156
G	Total liabilities		28,750	11,500	10,000	28,750	22,800	20,360
H	Equity	=F-G	122,250	113,180	84,500	216,250	102,800	127,796
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		319,063	68,670	89,650	386,470	201,180	213,007
J	Net household cash flows (annual/period)		279,813	4,270	16,350	324,670	295	125,080
Other Information (PKR)								
K	Loan amount		25,000	15,000	10,000	25,000	20,000	19,000
L	Financial costs		4,550	1,500	1,500	4,550	3,300	3,080
Financial Ratios								
M	Average monthly income (PKR)	=E/12	24,109	4,723	6,429	26,612	14,815	15,338
N	Gross profit margin (%)	=C/A	72	70	39	71	72	65
O	Net profit margin (%)	=(E+L)/A	55	5	6	47	8	15
P	Financial cost as percentage of operating expenses (%)	=L/D	5	0	0	3	0	1
Q	Interest coverage ratio (times)	=(E+L)/L	65	39	52	71	55	61
R	Loan coverage ratio (times)	=(E+L)/K	10	4	7	11	8	8
S	ROCE (%)	=(E+L)/H	240	51	93	150	176	146
T	ROA (%)	=(E+L)/F	195	47	83	132	144	126
U	ROA (PKR)	=F*T	293,863	58,170	78,650	323,895	181,080	187,132
V	Asset turnover (times)	=A/F	4	10	14	3	19	8

Animal Rearing and Fattening

The monthly income for animal rearing and fattening businesses varied between PKR 3,000 and PKR 11,000 with a category average of PKR 8,000. The average gross profit margin and net profit margin were 47% and 32%, respectively, which means a 47 paisa gross profit and a 32 paisa net profit on each rupee of sales. Average interest coverage was 26 times, the lowest being five times and the highest around 90 times. The average financial cost was around seven percent of total operating expenses. Net business cash flows were approximately PKR 125,000 whereas net household cash flows were PKR 80,000 on average, indicating a significant contribution towards personal asset generation and hence improvements in

living standards. Average ROCE and ROA were 52% and 45%, respectively. Average asset turnover was 1.42 times indicating that each rupee employed as an asset generated PKR 1.42 in sales.

Individual indicators for each animal rearing and fattening business analyzed are presented in TABLE 19.

In this category, businesses that operate at a smaller scale, have high operation costs, significantly lower margins, interest coverage, and returns, can become vulnerable. Nevertheless, indicators of all other businesses analyzed suggest that financial cost was not a significant burden.

TABLE 19: Snapshot of Animal Rearing and Fattening Businesses

Indicators		Formula	Bus. 1	Bus. 2	Bus. 3	Bus. 4	Bus. 5	Bus. 6	Category Average
Profit and Loss (PKR)									
A	Sales		200,000	56,000	225,000	524,000	590,000	274,000	311,500
B	Cost of sales		90,000	5,600	50,000	374,000	405,000	60,000	164,100
C	Gross profit	=A-B	110,000	50,400	175,000	150,000	185,000	214,000	147,400
D	Operating expenses		95,420	13,460	55,815	18,700	51,150	75,690	51,706
E	Net profit	=C-D	14,580	36,940	119,185	131,300	133,850	138,310	95,694
Balance Sheet (PKR)									
F	Total assets		51,500	248,500	266,000	248,000	252,550	250,000	219,425
G	Total liabilities		22,800	83,800	25,600	8,000	6,000	30,720	29,487
H	Equity	=F-G	28,700	164,700	240,400	240,000	246,550	219,280	189,938
Cash Flows (PKR)									
I	Net business cash flows (annual/period)		47,380	55,740	147,785	169,300	159,850	172,030	125,348
J	Net household cash flows (annual/period)		49,454	45,140	67,975	97,550	107,550	113,830	80,250
Other Information (PKR)									
K	Loan amount		20,000	12,000	20,000	10,000	10,000	24,000	16,000
L	Financial costs		3,300	2,600	6,300	1,500	1,500	7,420	3,770
Financial Ratios									
M	Average monthly income (PKR)	=E/12	1,215	3,078	9,932	10,942	11,154	11,526	7,975
N	Gross profit margin (%)	=C/A	55	90	78	29	31	78	47
O	Net profit margin (%)	=(E+L)/A	9	71	56	25	23	53	32
P	Financial cost as percentage of operating expenses (%)	=L/D	3	19	11	8	3	10	7
Q	Interest coverage ratio (times)	=(E+L)/L	5	15	20	89	90	20	26
R	Loan coverage ratio (times)	=(E+L)/K	1	3	5	12	12	5	5
S	ROCE (%)	=(E+L)/H	62	24	52	55	55	66	52
T	ROA (%)	=(E+L)/F	35	16	47	54	54	58	45
U	ROA (PKR)	=F*T	17,880	39,540	125,485	132,800	135,350	145,730	99,464
V	Asset turnover (times)	=A/F	4	0	1	2	2	1	1

Bus. = Business

4.4 SERVICES

The top five business categories for the services sector are tailor shops, barber shops, *zari* work, restaurants/eateries,

and beauty parlour shops. Each business category is discussed in detail and TABLE 20 and FIGURES 15 and 16 provide a snapshot of each business category in the services sector.

TABLE 20: Key Data — Services

	Formula	Tailor Shops	Barber Shops	Zari Work	Restaurants/ eateries	Beauty Parlour Shops	
Financial Ratios							
A	Effective APR-industry (%)	35.9	35.9	35.9	35.9	35.9	
B	ROA (%)	= $(G+H)/I$	436	110	225	195	164
C	Interest coverage ratio (times)	= $(G+H)/H$	46	38	26	18	63
D	Effective financial cost-industry (PKR)	= $A*J$	7,243	6,454	13,410	21,513	8,748
E	ROA (PKR)	= $I*B$	188,457	117,485	226,650	213,622	187,158
F	Standard deviation in ROA (%)	= K/E	53	33	22	44	60
Data (PKR)							
G	Net profit	184,378	114,392	217,901	201,538	184,207	
H	Financial cost	4,079	3,092	8,749	12,084	2,951	
I	Total assets	43,191	106,585	100,924	109,524	114,094	
J	Loan size	20,200	18,000	37,400	60,000	24,400	
K	Standard deviation in ROA (PKR)	100,277	38,847	49,689	93,518	112,524	

FIGURE 15: Effective APR vs. ROA of the Services Sector

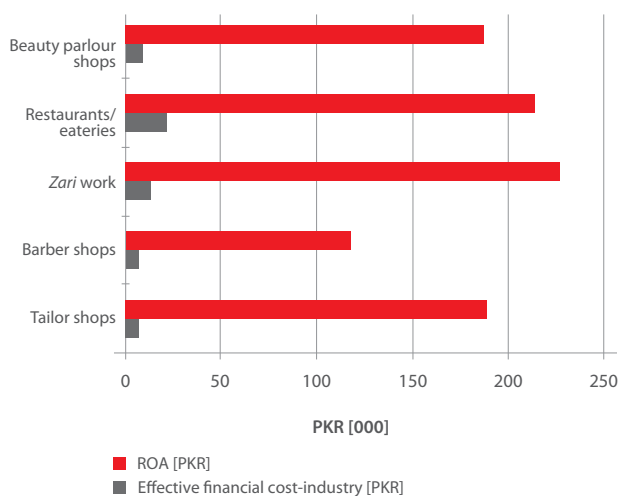


FIGURE 16: Interest Coverage Ratio of the Services Sector



Tailor Shops

The monthly income for tailor shop businesses varied between PKR 6,000 and PKR 26,000 with a category average of approximately PKR 15,000. The average gross profit margin and net profit margin was 46% and 30%, respectively, meaning a 46 paisa gross profit and a 30 paisa net profit on each rupee of sales. Average interest coverage was 46 times, with the lowest being 12 times and the highest around 160 times. The average financial cost was four percent of total operating expenses. Net business cash flows were approximately PKR 223,000 whereas net household cash flows were PKR 166,000 on average, indicating a high contribution towards personal asset generation, and hence improvements in living

standards. Average ROCE and ROA were 1,297% and 436%, respectively. Average asset turnover was 14 times indicating that each rupee employed as an asset generated sales of PKR 14.

Individual indicators for each tailoring shop business analyzed are presented in **TABLE 21**.

Margins in tailor shop businesses were sufficient; all other indicators presented a reasonable picture as well. ROAs are also commendable confirming that loans are easily affordable. Two of five businesses in the sample were relying entirely on credit funding for their operations.

TABLE 21: Snapshot of Tailoring Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		759,000	364,500	292,500	1,110,000	588,000	622,800
B	Cost of sales		387,660	97,200	176,800	650,496	361,860	334,803
C	Gross profit	=A-B	371,340	267,300	115,700	459,504	226,140	287,997
D	Operating expenses		65,492	51,645	36,637	220,770	143,550	103,619
E	Net profit	=C-D	305,848	215,655	79,063	238,734	82,590	184,378
Balance Sheet (PKR)								
F	Total assets		16,260	32,705	17,688	122,200	27,100	43,191
G	Total liabilities		82,104	16,800	33,393	6,000	5,000	28,659
H	Equity	=F-G	(65,844)	15,905	(15,705)	116,200	22,100	14,531
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		352,715	266,895	161,563	247,734	87,990	223,379
J	Net household cash flows (annual/period)		58,715	92,895	11,763	64,334	153,990	166,339
Other Information (PKR)								
K	Loan amount		30,000	21,000	30,000	10,000	10,000	20,200
L	Financial costs		5,538	4,950	6,906	1,500	1,500	4,079
Financial Ratios								
M	Average monthly income (PKR)	=E/12	25,487	17,971	6,589	19,895	6,883	15,365
N	Gross profit margin (%)	=C/A	49	73	40	41	39	46
O	Net profit margin (%)	=(E+L)/A	41	61	29	22	14	30
P	Financial cost as percentage of operating expenses (%)	=L/D	9	10	19	0.7	1	4
Q	Interest coverage ratio (times)	=(E+L)/L	56	45	12	160	56	46
R	Loan coverage ratio (times)	=(E+L)/K	9	9	2	21	7	8
S	ROCE (%)	=(E+L)/H	- 473	1,387	- 547	207	380	1297
T	ROA (%)	=(E+L)/F	1,915	675	486	197	310	436
U	ROA (PKR)	=F*T	311,386	220,605	85,969	240,234	84,090	188,457
V	Asset turnover (times)	=A/F	47	11	17	9	22	14

Barber Shops

The monthly income for barber shop businesses varied between PKR 6,000 and PKR 15,000 with a category average of approximately PKR 9,500. The average gross profit margin and net profit margin were 75% and 47%, respectively, which means a 75 paisa gross profit and a 47 paisa net profit on each rupee of sales. Average interest coverage was 38 times, the lowest being 15 times and the highest around 121 times. The average financial cost was around two percent of total operating expenses. Net business cash flows were approximately PKR 119,000 whereas net household cash flows were PKR 57,000 on average, indicating a modest contribution to personal asset generation and hence improvements in living standards. Average ROCE and ROA were 118% and 110%, respectively. Average asset turnover was two times indicating that each rupee employed as an asset

generated PKR 2 in sales.

Individual indicators for each barber shop business analyzed are presented in **TABLE 22**.

Although margins (gross profit and net profit) were significant, there was enormous fluctuation in ROA across the sample. However, a closer look revealed that businesses with high returns had lower asset bases compared to ones with low returns. For example, Business 5 had an ROA of 805% on total assets of PKR 22,565 which translated into a net profit of PKR 182,000. Business 1 had an ROA of 26% on total assets of PKR 322,350 which translated into a net profit of PKR 84,000. Both businesses have sufficient capability to bear their respective financial costs. However, in percentage terms, the gap appears to be enormous. Thus, it is concluded that these businesses have the ability to pay for their financial costs.

TABLE 22: Snapshot of Barber Shop Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	302,400	308,880	141,960	240,000	252,000	249,048	
B	Cost of sales	96,000	151,680	3,840	52,800	10,620	62,988	
C	Gross profit	=A-B	206,400	157,200	138,120	187,200	241,380	186,060
D	Operating expenses		128,241	72,141	19,470	77,286	61,200	71,668
E	Net profit	=C-D	78,159	85,059	118,650	109,914	180,180	114,392
Balance Sheet (PKR)								
F	Total assets		322,350	30,700	76,540	80,770	22,565	106,585
G	Total liabilities		12,000	0	0	5,000	18,000	7,000
H	Equity	=F-G	310,350	30,700	76,540	75,770	4,565	99,585
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		78,859	86,159	119,000	115,214	197,680	119,382
J	Net household cash flows (annual/period)		124,940	6,540	45,400	(8,186)	47,680	56,715
Other Information (PKR)								
K	Loan amount		25,000	25,000	10,000	10,000	20,000	18,000
L	Financial costs		5,481	5,481	1,500	1,500	1,500	3,092
Financial Ratios								
M	Average monthly income (PKR)	=E/12	6,513	7,088	9,888	9,160	15,015	9,533
N	Gross profit margin (%)	=C/A	68	51	97	78	96	75
O	Net profit margin (%)	=(E+L)/A	28	29	85	46	72	47
P	Financial cost as percentage of operating expenses (%)	=L/D	4	8	8	2	3	4
Q	Interest coverage ratio (times)	=(E+L)/L	15	17	80	74	121	38
R	Loan coverage ratio (times)	=(E+L)/K	3	3	10	10	8	6
S	ROCE (%)	=(E+L)/H	27	295	157	147	3,980	118
T	ROA (%)	=(E+L)/F	26	2,95	157	138	805	110
U	ROA (PKR)	=F*T	83,640	90,540	120,150	111,414	181,680	117,485
V	Asset turnover (times)	=A/F	1	10	2	3	11	2

Zari Work

The monthly income for *zari* work businesses varied between PKR 12,000 and PKR 22,000 with a category average of approximately PKR 18,000. The average gross profit margin and net profit margin were 44% and 34% respectively, which means a 44 paisa gross profit and a 34 paisa net profit on each rupee of sales. Average interest coverage was 26 times, the lowest being 13 times and the highest around 64 times. The average financial cost was around 12% of total operating expenses. Net business cash flows were approximately PKR 225,000 whereas net household cash flows were PKR 125,000 on average, indicating a high contribution towards personal asset generation and hence improvements in living standards.

Average ROCE and ROA were 276% and 225%, respectively. Average asset turnover was seven times indicating that each rupee employed as an asset generated PKR 7 in sales.

Individual indicators for each *zari* work business analyzed are presented in TABLE 23.

Monthly incomes in this business category were high. This was also evident from the higher trend line of net cash flows. ROA were also high, showing that businesses in the category would be able to bear financial costs.

TABLE 23: Snapshot of Zari Work Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		1,112,000	460,800	378,000	300,000	1,040,000	658,160
B	Cost of sales		695,000	176,640	84,000	70,000	811,200	367,368
C	Gross profit	=A-B	417,000	284,160	294,000	230,000	228,800	290,792
D	Operating expenses		186,330	22,968	24,409	78,277	52,470	72,891
E	Net profit	=C-D	230,670	261,192	269,591	151,724	176,330	217,901
Balance Sheet (PKR)								
F	Total assets		198,500	17,220	44,500	213,400	31,000	100,924
G	Total liabilities		0	50,026	15,400	0	28,600	18,805
H	Equity	=F-G	198,500	(32,806)	29,100	213,400	2,400	82,119
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		350,670	294,180	220,591	159,324	102,270	225,407
J	Net household cash flows (annual/period)		167,270	128,180	108,091	65,724	157,270	125,307
Other Information (PKR)								
K	Loan amount		45,000	30,000	27,000	55,000	30,000	37,400
L	Financial costs		13,300	5,880	4,250	12,215	8,100	8,749
Financial Ratios								
M	Average monthly income (PKR)	=E/12	19,223	21,766	22,466	12,644	14,694	18,158
N	Gross profit margin (%)	=C/A	38	62	78	77	22	44
O	Net profit margin (%)	=(E+L)/A	22	58	72	55	18	34
P	Financial cost as percentage of operating expenses (%)	=L/D	7	26	17	16	15	12
Q	Interest coverage ratio (times)	=(E+L)/L	18	45	64	13	23	26
R	Loan coverage ratio (times)	=(E+L)/K	4	7	9	2	5	5
S	ROCE (%)	=(E+L)/H	123	- 814	941	77	7,685	276
T	ROA (%)	=(E+L)/F	123	1,551	615	77	595	225
U	ROA (PKR)	=F*T	243,970	267,072	273,841	163,939	184,430	226,650
V	Asset turnover (times)	=A/F	6	27	8	1	34	7

Restaurants/eateries

The monthly income for restaurants/eatery businesses varied between PKR 8,000 and PKR 25,000 with a category average of PKR 17,000. The average gross profit margin and net profit margin were 16% and nine percent, respectively, which means a 16 paise gross profit and a nine paise net profit on each rupee of sales. Average interest coverage was 18 times, the lowest being seven times and the highest around 35 times. The average financial cost was around seven percent of total operating expenses. Net business cash flows were approximately PKR 225,000 whereas net household cash flows were PKR 75,000 on average, indicating a modest contribution towards personal asset generation and hence improvements in living standards. Average ROCE and

ROA were 344% and 195%, respectively. Average asset turnover was 20 times indicating that each rupee employed as an asset generated sales of PKR 20.

Individual indicators for each restaurant/eatery analyzed are presented in TABLE 24.

The businesses analysed for this category showed high variance in income and ease of bearing financial costs. At one end, businesses had high monthly income, very high ROAs and sound interest coverage. At the other end, businesses had low monthly incomes, higher assets bases, and low ROA. Although businesses at the other end can afford the financial cost burden, they can slip into difficulties if faced with a shock. However, in their current position, these businesses will be able to meet their financial costs.

TABLE 24: Snapshot of Restaurant/eatery Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	3,472,800	3,978,000	1,556,280	900,000	1,800,000	2,341,416	
B	Cost of sales	3,046,416	3,526,200	999,240	745,200	1,548,000	1,973,011	
C	Gross profit	=A-B	426,384	451,800	557,040	154,800	252,000	368,405
D	Operating expenses		179,410	148,544	294,030	59,406	146,346	166,867
E	Net profit	=C-D	246,974	303,256	263,010	95,394	105,654	201,538
Balance Sheet (PKR)								
F	Total assets		42,722	16,200	12,300	301,100	175,300	109,524
G	Total liabilities		112,500	0	85,900	14,000	25,000	47,480
H	Equity	=F-G	(69,778)	16,200	(73,600)	287,100	150,300	62,044
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		322,974	287,256	310,500	97,498	124,021	224,583
J	Net household cash flows (annual/period)		117,574	85,656	126,060	28,598	18,921	75,362
Other Information (PKR)								
K	Loan amount		100,000	30,000	45,000	50,000	75,000	60,000
L	Financial costs		13,100	9,040	9,600	12,006	16,675	12,084
Financial Ratios								
M	Average monthly income (PKR)	=E/12	20,581	25,271	21,918	7,949	8,805	16,795
N	Gross profit margin (%)	=C/A	12	11	36	17	14	16
O	Net profit margin (%)	=(E+L)/A	8	8	18	12	7	9
P	Financial cost as percentage of operating expenses (%)	=L/D	7	6	3	20	11	7
Q	Interest coverage ratio (times)	=(E+L)/L	20	35	28	9	7	18
R	Loan coverage ratio (times)	=(E+L)/K	2	8	5	2	1	3
S	ROCE (%)	=(E+L)/H	- 373	1,928	- 370	37	81	344
T	ROA (%)	=(E+L)/F	609	1,928	2,216	36	70	195
U	ROA (PKR)	=F*T	260,074	312,296	272,610	107,400	122,329	213,622
V	Asset turnover (times)	=A/F	81	246	127	3	10	21

Beauty parlour Shops

The monthly income for beauty parlour shop businesses varied between PKR 6,000 and PKR 27,000 with a category average of PKR 15,000. The average gross profit margin and net profit margin were 56% and 43%, respectively, which means a 56 paisa gross profit and a 43 paisa net profit on each rupee of sales. Average interest coverage was 63 times, the lowest being 34 times and the highest around 284 times. The average financial cost was around five percent of total operating expenses. Net business cash flows were approximately PKR 187,000 whereas net household cash flows were PKR 106,000 on average, indicating a significantly high contribution towards personal asset generation and hence improvements in

living standards. Average ROCE and ROA were 177% and 164%, respectively. Average asset turnover was four times indicating that each rupee employed as an asset generated PKR 4 in sales.

Individual indicators for each beauty parlour shop business analyzed are presented in **TABLE 25**.

For this business category, margins were high and interest coverage was commendable. ROA was also satisfactory so it can be said that affordability of financial costs is not a problem. However, some businesses with higher asset bases yielded lower monthly incomes – explained through their higher operating costs when compared to businesses of a similar scale.

TABLE 25: Snapshot of Beauty Parlour Shop Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		523,000	724,800	128,400	135,000	675,000	437,240
B	Cost of sales		162,460	318,220	24,000	50,004	414,000	193,737
C	Gross profit	=A-B	360,540	406,580	104,400	84,996	261,000	243,503
D	Operating expenses		89,430	79,811	13,530	12,210	101,500	59,296
E	Net profit	=C-D	271,110	326,769	90,870	72,786	159,500	184,207
Balance Sheet (PKR)								
F	Total assets		48,520	76,650	103,600	147,500	194,200	114,094
G	Total liabilities		9,600	25,200	1,000	7,000	0	8,560
H	Equity	=F-G	38,920	51,450	102,600	140,500	194,200	105,534
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		273,470	313,645	92,670	74,286	182,000	187,214
J	Net household cash flows (annual/period)		175,970	144,445	140,770	45,486	22,400	105,814
Other Information (PKR)								
K	Loan amount		30,000	22,000	10,000	10,000	50,000	24,400
L	Financial costs		8,100	1,155	1,500	1,500	2,500	2,951
Financial Ratios								
M	Average monthly income (PKR)	=E/12	22,593	27,231	7,573	6,066	13,292	15,351
N	Gross profit margin (%)	=C/A	69	56	81	63	39	56
O	Net profit margin (%)	=(E+L)/A	53	45	72	55	24	43
P	Financial cost as percentage of operating expenses (%)	=L/D	9	1	11	12	2	5
Q	Interest coverage ratio (times)	=(E+L)/L	34	284	62	50	65	63
R	Loan coverage ratio (times)	=(E+L)/K	7	14	8	6	3	7
S	ROCE (%)	=(E+L)/H	717	637	90	53	83	177
T	ROA (%)	=(E+L)/F	575	428	89	50	83	164
U	ROA (PKR)	=F*T	279,210	327,924	92,370	74,286	162,000	187,158
V	Asset turnover (times)	=A/F	11	9	1	1	3	4

4.5 MANUFACTURING

The top five business categories for the manufacturing sector are jewellery making, shoe making, embroidery

and handicrafts making, garment making, and iron works. Each business category is discussed in detail and TABLE 26 and FIGURES 17 and 18 provide a snapshot of each business category in the manufacturing sector.

TABLE 26: Key Data — Manufacturing

	Formula	Jewellery Making	Shoe Making	Embroidery/ Handicraft Making	Garment Making	Iron Works	
Financial Ratios							
A	Effective APR-industry (%)	35.9	35.9	35.9	35.9	35.9	
B	ROA (%)	$=(G+H)/I$	233	173	282	40	41
C	Interest coverage ratio (times)	$=(G+H)/H$	32	33	74	22	18
D	Effective financial cost-industry (PKR)	$=A*J$	9,322	8,318	5,880	10,398	13,553
E	ROA (PKR)	$=I*B$	208,003	166,290	136,159	132,467	156,076
F	Standard deviation in ROA (%)	$=K/E$	81	34	56	75	31
Data (PKR)							
G	Net profit	201,516	161,194	134,310	126,393	147,553	
H	Financial cost	6,487	5,095	1,849	6,073	8,523	
I	Total assets	89,282	96,372	48,366	328,190	385,165	
J	Loan size	26,000	23,200	16,400	29,000	37,800	
K	Standard deviation in ROA (PKR)	168,908	56,323	75,761	98,726	48,075	

FIGURE 17: Effective APR vs. ROA of the Manufacturing Sector

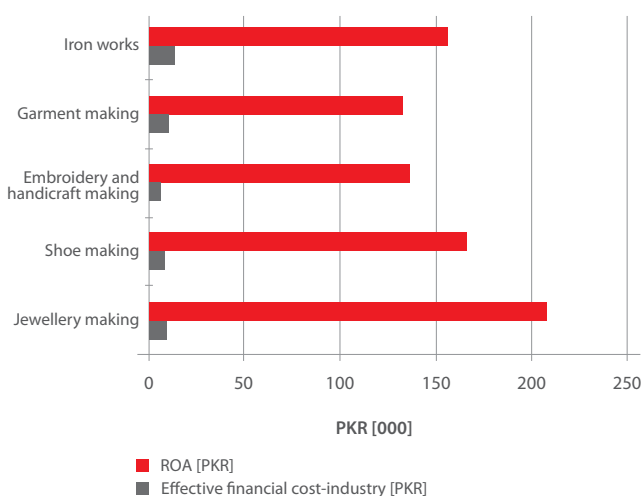
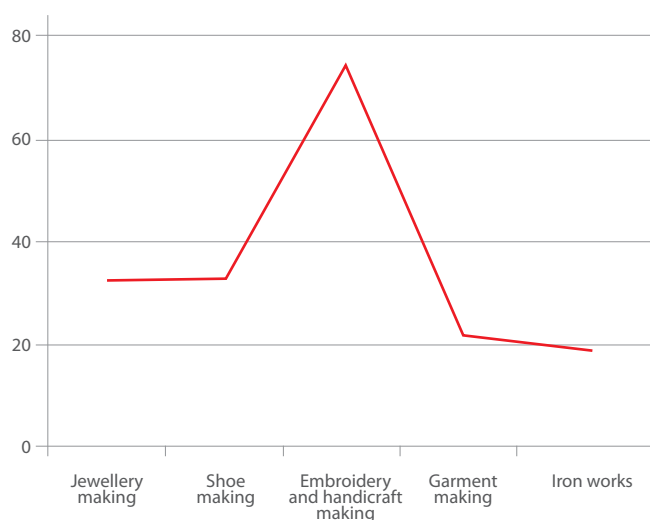


FIGURE 18: Interest Coverage Ratio of the Manufacturing Sector



Jewellery Making

The monthly income for jewellery making businesses varied between PKR 3,000 and PKR 33,500 depending on the size of the business (assets) and scale of operations. The category average was PKR 16,793. The average gross profit margin and net profit margin were 18.5% and 16.2%, respectively, which means an 18.5 paisa gross profit and a 16.2 paisa net profit on each rupee of sales. Average interest coverage was 32 times, the lowest being five times and the highest around 91 times. This indicates that businesses in this category generated sufficient profits to sustain their financial costs. Financial cost was around 18% of total operating expenses on average, which made it one of the major operating cost components. Net business cash flows averaged PKR

121,329 whereas average net household cash flows were PKR 7,120 which means that households benefiting through these business were mostly self sufficient and some were even able to contribute a little towards their personal development. Average ROCE and ROA were 451% and 233%, respectively, which are significantly high, primarily because some businesses in the category had a lower asset base and higher margins. Average asset turnover was 14 times indicating that each rupee employed as an asset generated sales of PKR 14. For example, if assets worth PKR 10,000 acquired through a loan were utilized in the business, it would generate PKR 140,000 in sales.

Individual indicators for each jewellery making business analyzed are presented in **TABLE 27**.

TABLE 27: Snapshot of Jewellery Making Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		3,600,000	129,600	92,004	323,300	2,280,000	1,284,981
B	Cost of sales		3,136,800	77,280	28,680	134,604	1,856,000	1,046,673
C	Gross profit	=A-B	463,200	52,320	63,324	188,696	424,000	238,308
D	Operating expenses		103,373	15,296	11,380	29,157	24,757	36,792
E	Net profit	=C-D	359,828	37,025	51,945	159,539	399,243	201,516
Balance Sheet (PKR)								
F	Total assets		226,050	22,720	27,580	120,946	49,115	89,282
G	Total liabilities		61,150	21,346	12,200	68,200	53,143	43,208
H	Equity	=F-G	164,900	1,374	15,380	52,746	(4,028)	46,074
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		247,403	55,525	62,245	127,487	142,243	121,329
J	Net household cash flows (annual/period)		7,703	22,425	(12,756)	5,987	12,243	7,120
Other Information (PKR)								
K	Loan amount		15,000	35,000	20,000	30,000	30,000	26,000
L	Financial costs		3,975	9,105	5,545	6,906	6,906	6,487
Financial Ratios								
M	Average monthly income (PKR)	=E/12	29,986	3,085	4,329	13,295	33,270	16,793
N	Gross profit margin (%)	=C/A	139	40	69	58	19	18.5
O	Net profit margin (%)	=(E+L)/A	10	36	635	51	18	16.2
P	Financial cost as percentage of operating expenses (%)	=L/D	4	60	49	24	28	17.6
Q	Interest coverage ratio (times)	=(E+L)/L	92	5	10	24	59	32
R	Loan coverage ratio (times)	=(E+L)/K	19	1	2	5	11	6
S	ROCE (%)	=(E+L)/H	221	3,357	374	316	- 10,083	451.5
T	ROA (%)	=(E+L)/F	161	203	208	138	827	233.0
U	ROA (PKR)	=F*T	363,803	46,130	57,490	166,445	406,149	208,003
V	Asset turnover (times)	=A/F	16	6	3	3	46	14

In **TABLE 27**, one can see that margins (gross and net) for some of the businesses in this category were significantly higher. There are many reasons for this variation i.e. small size of business, lower expenses (business efficiencies), and different markets (rural urban). The data shows two abnormalities: negative net household cash flows for Business 3, which indicates that the household was having difficulties in managing cash flows; and negative ROCE for Business 5, primarily because data provided by the business showed negative equity (i.e. greater liabilities compared with assets) meaning that business assets were wholly sponsored from external sources (credit). Some of this credit was also going into self-consumption as it was not representing any assets.

Returns (net profit) that each of the businesses above were earning on their capital employed, or, for that matter, even total assets (that included assets obtained from loans as well as equity) were much more than the financial cost they would have to bear.

To illustrate this point, take the example of Business 1: Business 1 had obtained a loan of PKR 15,000 for which the total financial cost was PKR 3,975. In simple percentage terms, it was around 27%, whereas ROA (including assets sponsored through this loan) was 161%, meaning that PKR 15,000 would yield a return (net profit) of 161% and would bear a cost of 27% only. Even if compared to 35.9% i.e. average effective APR of MFPs that participated in this research, it is not exorbitant. Therefore, it is concluded that all businesses analyzed in this category are capable of paying financial costs on the basis of their profitability and cash flows.

Shoe Making

The monthly income for shoe making businesses varied between PKR 7,000 and PKR 21,000 with a category average of approximately PKR 13,000. The average gross profit margin and net profit margin were 25.5% and 19.6%, respectively, meaning a 25.5 paisa gross profit and a 19.6 paisa net profit for each rupee of sale. Average interest coverage was 33 times, the lowest being ten times and the highest around 172 times. The financial cost was around nine percent of total operating expenses on an average. Net business cash flows were approximately PKR 167,000 whereas net household cash flows were PKR 55,000 on average, indicating a significant contribution towards personal asset generation and hence improvements in living standards. Average ROCE and ROA were 220% and 173%, respectively. Average

asset turnover was nine times indicating that each rupee employed as an asset generated PKR 9 in sales.

Individual indicators for each shoe making business analyzed are presented in **TABLE 28** (page 39).

Gross and net profit margins for shoe making businesses had lesser horizontal variation, however, when looking at it in a vertical direction, some businesses were certainly more efficient than others, hence closing the gap between gross and net margin. The negative ROCE for Business 4 can be attributed to negative owner's equity revealing that business assets were wholly sponsored through credit from external sources and some of this credit was also going into self-consumption. ROA for all businesses except Business 3 was high. Business 3 had the highest asset base which means that ROA may be lower in percentage terms, but is sufficient in terms of rupee value. Nevertheless, all businesses observed are capable of bearing microfinance interest costs.

Embroidery/handicraft Making

The monthly income for embroidery/handicraft making businesses varied between PKR 5,000 and PKR 21,000 with a category average of approximately PKR 11,000. The average gross profit margin and net profit margin were 23% and 19%, respectively, which means a 23 paisa gross profit and a 19 paisa net profit on each rupee of sales. Average interest coverage was 74 times which was very high, even the lowest was as high as 30 times and highest around 116 times. The average financial cost was around six percent of total operating expenses. Net business cash flows were approximately PKR 154,000 whereas net household cash flows were PKR 62,000 on average, indicating a positive contribution towards personal asset generation and hence improvements in living standards. Average ROCE and ROA were 571% and 282%, respectively. Average asset turnover was 15 times indicating that each rupee employed as an asset generated PKR 15 in sales.

Individual indicators for each embroidery/handicraft making business analyzed are presented in **TABLE 29** (page 39).

Cash flows (both business and household) were comparatively high for this business category indicating reasonable personal development and sound ability to pay financial costs. Overall indicators in the table show reasonable gross and net profit margins and significantly high ROA and ROCE figures.

TABLE 28: Snapshot of Shoe Making Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	1,040,000	750,000	703,100	288,000	1,460,000	848,220	
B	Cost of sales	780,000	540,000	509,540	176,000	1,156,000	632,308	
C	Gross profit	=A-B	260,000	210,000	193,560	304,000	215,912	
D	Operating expenses	118,448	29,939	38,148	28,710	58,344	54,718	
E	Net profit	=C-D	141,552	180,061	155,412	83,290	245,656	161,194
Balance Sheet (PKR)								
F	Total assets	98,550	53,610	182,325	25,000	122,375	96,372	
G	Total liabilities	6,026	2,000	37,230	38,700	19,200	20,631	
H	Equity	=F-G	92,524	51,610	145,095	- 13,700	103,175	75,741
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	51,452	294,528	122,348	69,690	297,256	167,055	
J	Net household cash flows (annual/period)	6,652	135,528	11,548	27,590	95,256	55,315	
Other Information (PKR)								
K	Loan amount	30,000	20,000	24,000	30,000	12,000	23,200	
L	Financial costs	5,880	4,417	4,440	9,300	1,440	5,095	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	11,796	15,005	12,951	6,941	20,471	13,433
N	Gross profit margin (%)	=C/A	25	28	28	39	21	25
O	Net profit margin (%)	=(E+L)/A	14	25	23	32	17	20
P	Financial cost as percentage of operating expenses (%)	=L/D	5	15	12	32	2	9
Q	Interest coverage ratio (times)	=(E+L)/L	25	42	36	10	172	33
R	Loan coverage ratio (times)	=(E+L)/K	4	8	6	2	18	6
S	ROCE (%)	=(E+L)/H	159	357	110	- 676	239	220
T	ROA (%)	=(E+L)/F	150	344	88	370	202	173
U	ROA (PKR)	=F*T	147,432	184,478	159,852	92,590	247,096	166,290
V	Asset turnover (times)	=A/F	11	14	4	12	12	9

TABLE 29: Snapshot of Embroidery/handicraft Making Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	326,400	126,000	874,000	639,600	1,604,000	714,000	
B	Cost of sales	172,800	33,120	678,000	529,200	1,328,000	548,224	
C	Gross profit	=A-B	153,600	92,880	196,000	110,400	276,000	165,776
D	Operating expenses	34,650	24,090	39,930	36,426	22,235	31,466	
E	Net profit	=C-D	118,950	68,790	156,070	73,974	253,765	134,310
Balance Sheet (PKR)								
F	Total assets	114,000	5,430	63,850	3,250	55,300	48,366	
G	Total liabilities	6,000	0	40,000	30,100	46,475	24,515	
H	Equity	=F-G	108,000	5,430	23,850	(26,850)	8,825	23,851
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	142,430	69,790	143,920	124,957	289,574	154,134	
J	Net household cash flows (annual/period)	131,730	8,790	30,820	33,857	103,174	61,674	
Other Information (PKR)								
K	Loan amount	10,000	10,000	10,000	30,000	22,000	16,400	
L	Financial costs	1,500	1,500	1,500	2,533	2,214	1,849	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	9,913	5,733	13,006	6,165	21,147	11,192
N	Gross profit margin (%)	=C/A	47	74	22	17	17	23
O	Net profit margin (%)	=(E+L)/A	37	56	18	12	16	19
P	Financial cost as percentage of operating expenses (%)	=L/D	4	6	4	7	10	6
Q	Interest coverage ratio (times)	=(E+L)/L	80	47	105	30	116	74
R	Loan coverage ratio (times)	=(E+L)/K	10	6	14	2	11	7
S	ROCE (%)	=(E+L)/H	112	1,294	661	- 285	2,901	571
T	ROA (%)	=(E+L)/F	106	1,294	247	2,354	463	282
U	ROA (PKR)	=F*T	120,450	70,290	157,570	76,507	255,979	136,159
V	Asset turnover (times)	=A/F	3	23	14	197	29	15

Garment Making

The monthly income for garment making businesses varied between PKR 2,500 and PKR 14,000 with a category average of PKR 10,500. The average gross profit margin and net profit margin were 16% and seven percent, respectively, which means a 16 paisa gross profit and a seven paisa net profit on each rupee of sales. Average interest coverage was 22 times, the lowest being seven times and the highest around 186 times. The average financial cost was around three percent of total operating expenses. Net business cash flows were approximately PKR 148,000 whereas net household cash flows were PKR 6,400 on average, indicating a very low contribution towards personal asset generation. Average ROCE and ROA were 51% and 40%, which are the lowest in the sector primarily because this category has a higher asset base compared to jewellery making, shoe making and

embroidery/handicraft making. Average asset turnover was six times indicating that each rupee employed as an asset generated PKR 6 in sales.

Individual indicators for each garment making business analyzed are presented in **TABLE 30**.

Margins for garment making businesses were lower compared to other businesses in the manufacturing sector, so they require higher turnover (sales) to make adequate earnings. In general, ROA was low in percentage terms but satisfactory in terms of rupees due to the higher asset base. Business 3 had negative household cash flows although all other indicators were on the high side indicating that households were either overspending by liquidating assets or under-reporting income. It can be concluded that with appropriate turnover, businesses in this sector have the ability to bear the current level of financial costs.

TABLE 30: Snapshot of Garment Making Businesses

Indicators	Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average	
Profit and Loss (PKR)								
A	Sales	366,000	2,733,600	2,616,600	435,600	3,600,000	1,950,360	
B	Cost of sales	313,200	2,238,000	2,271,000	336,600	3,000,000	1,631,760	
C	Gross profit	=A-B	52,800	495,600	345,600	99,000	600,000	318,600
D	Operating expenses		22,770	411,400	67,650	28,710	430,503	192,207
E	Net profit	=C-D	30,030	84,200	277,950	70,290	169,497	126,393
Balance Sheet (PKR)								
F	Total assets	68,750	568,700	349,500	66,000	588,000	328,190	
G	Total liabilities	30,000	165,000	10,500	50,000	85,340	68,168	
H	Equity	=F-G	38,750	403,700	339,000	16,000	502,660	260,022
Cash Flows (PKR)								
I	Net business cash flows (annual/period)	31,030	247,500	193,350	177,410	90,163	147,891	
J	Net household cash flows (annual/period)	22,230	9,700	- 33,750	23,910	10,163	6,451	
Other Information (PKR)								
K	Loan amount	15,000	15,000	15,000	50,000	50,000	29,000	
L	Financial costs	1,500	1,500	1,500	12,500	13,366	6,073	
Financial Ratios								
M	Average monthly income (PKR)	=E/12	2,503	7,017	23,163	5,858	14,125	10,533
N	Gross profit margin (%)	=C/A	14	18	13	23	17	16
O	Net profit margin (%)	=(E+L)/A	9	3	11	19	5	7
P	Financial cost as percentage of operating expenses (%)	=L/D	7	0	2	44	3	3
Q	Interest coverage ratio (times)	=(E+L)/L	21	57	186	7	14	22
R	Loan coverage ratio (times)	=(E+L)/K	2	5	17	1	3	4
S	ROCE (%)	=(E+L)/H	81	21	82	517	36	51
T	ROA (%)	=(E+L)/F	46	15	80	125	31	40
U	ROA (PKR)	=F*T	31,530	85,700	279,450	82,790	182,863	132,467
V	Asset turnover (times)	=A/F	5	5	7	7	6	6

Iron Works

The monthly income for iron works businesses varied between PKR 6,000 and PKR 17,000 with a category average of PKR 12,000. The average gross profit margin and net profit margin were 20% and seven percent, respectively, meaning a 20 paisa gross profit and a seven paisa net profit on each rupee of sales. Average interest coverage was 18 times, which is the lowest within the manufacturing sector. The average financial cost was around three percent of total operating expenses. Net business cash flows were approximately PKR 182,000 whereas net household cash flows were PKR 84,000 on average, indicating a reasonable contribution towards personal asset generation and hence improvements in living standards. Average ROCE and ROA were 53% and

41%, respectively, which were the second lowest in the sector as this category had the highest asset base. Average asset turnover was five times indicating that each rupee employed as an asset generated PKR 5 in sales.

Individual indicators for each iron works business analyzed are presented in **TABLE 31**.

Iron works businesses showed a very wide gap between their gross and net profit margins as compared to other categories in the sector, indicating higher operating costs. The interest coverage of iron works businesses was the lowest across categories in the manufacturing sector generally because loan sizes were higher; however, this does not imply that businesses are risky or incapable of bearing financial costs as they were seen to have sufficient cash flows as well as margins and returns.

TABLE 31: Snapshot of Iron Works Businesses

Indicators		Formula	Business 1	Business 2	Business 3	Business 4	Business 5	Category Average
Profit and Loss (PKR)								
A	Sales		480,000	2,700,000	3,180,000	1,750,000	2,304,000	2,082,800
B	Cost of sales		249,600	2,400,000	2,376,000	1,366,000	1,960,000	1,670,320
C	Gross profit	=A-B	230,400	300,000	804,000	384,000	344,000	412,480
D	Operating expenses		103,758	132,798	600,468	304,794	182,820	264,927
E	Net profit	=C-D	126,643	167,203	203,532	79,206	161,180	147,553
Balance Sheet (PKR)								
F	Total assets		371,000	489,000	348,400	162,425	555,000	385,165
G	Total liabilities		13,500	14,640	90,280	43,890	285,600	89,582
H	Equity	=F-G	357,500	474,360	258,120	118,535	269,400	295,583
Cash Flows (PKR)								
I	Net business cash flows (annual/period)		147,893	184,403	146,432	412,246	20,180	182,231
J	Net household cash flows (annual/period)		92,168	60,439	30,432	190,246	46,480	83,953
Other Information (PKR)								
K	Loan amount		15,000	24,000	45,000	60,000	45,000	37,800
L	Financial costs		4,325	6,725	11,880	9,485	10,200	8,523
Financial Ratios								
M	Average monthly income (PKR)	=E/12	10,554	13,934	16,961	6,601	13,432	12,296
N	Gross profit margin (%)	=C/A	48	11	25	22	15	20
O	Net profit margin (%)	=(E+L)/A	27	6	7	5	7	7
P	Financial cost as percentage of operating expenses (%)	=L/D	4	5	2	3	6	3
Q	Interest coverage ratio (times)	=(E+L)/L	30	26	18	9	17	18
R	Loan coverage ratio (times)	=(E+L)/K	7	6	4	1	3	3
S	ROCE (%)	=(E+L)/H	37	37	83	75	64	53
T	ROA (%)	=(E+L)/F	35	36	62	55	31	41
U	ROA (PKR)	=F*T	130,968	173,928	215,412	88,691	171,380	156,076
V	Asset turnover (times)	=A/F	1	6	9	11	4	5

5. Conclusion

This research was conducted primarily to assess the ability of micro-businesses to pay interest rates charged by microfinance providers. However, in addition to the primary objective, the study led to valuable insights that may not directly relate to the core analysis, but provide strength to it nonetheless. First, across all sectors, there is a need of financing at the micro-level, and businesses that have availed microcredit have indeed benefited. Second, although there is a view amongst those who utilize micro-loans that the interest rates charged are generally high, they consider the charges within their affordability curve. Furthermore, these micro-businesses either do not have access to alternative sources of credit or can only access ones that are prohibitively expensive (mostly moneylenders and credit suppliers).

The core analysis in this study involved an in-depth look at the financials of 124 businesses across the five main sectors that microfinance providers lend to. We can safely conclude on the basis of this data, that micro-businesses are able to afford the financial costs currently being charged quite comfortably. This affordability rests upon high turnovers and extraordinarily high returns on assets. The average asset turnover was as high as 47 times in certain business categories, which highlights the potential of such businesses to generate exceptionally high sales over a relatively small asset base. The average ROA data across the sectors also puts forth a very

promising picture, as in certain categories, ROA was calculated to be as high as 1,915%; seemingly unbelievable, but true. Table 32 provides a snapshot of the highest and lowest ROAs and interest coverage ratios along with business categories for each of the sectors.

Keeping the quantitative findings aside, qualitative analysis during the course of our research brought forth interesting dynamics of these businesses that complement our conclusions. One key feature of some businesses was innovation – micro-entrepreneurs have developed innovative products (such as Liquid Petroleum Gas fans and heaters) that have the potential to generate considerable incomes when provided with adequate financing. Furthermore, the market segments in which these businesses usually operate are shielded from competition from large-scale commercial businesses, thus allowing them a small but adequate market share to cover all expenses and generate savings.

Therefore, taking all the previous analysis into account, there is sufficient evidence to conclude that although the average interest rates charged by microfinance providers appear to be high, the businesses that ultimately bear the burden of the financial costs have sufficient potential not only to bear the financial costs, but to generate savings after taking into account all the costs that accrue to the business.

TABLE 32: Snapshot of the Highest and Lowest ROA and Interest Coverage Ratios

	Trading		Agriculture		Livestock/ poultry		Services		Manufacturing	
	Business Category	Ratio	Business Category	Ratio	Business Category	Ratio	Business Category	Ratio	Business Category	Ratio
Highest ROA (%)	Cloth shops	133	Vegetable growing	471	Hatcheries/ poultry	126	Tailor shops	436	Embroidery and handicraft making	282
Highest Interest Coverage (times)	Fruit/ vegetable shops	50	Cotton crop	32	Hatcheries/ poultry	61	Beauty parlour shops	63	Embroidery and handicraft making	74
Lowest ROA (%)	Agricultural input supplies/ fertilizer shops	29	Wheat crop	41	Livestock milking	23	Barber shops	110	Garment making	40
Lowest Interest Coverage (times)	Garment shops	13	Rice crop	8	Livestock milking	22	Restaurants/ eateries	18	Iron works	18





6. Annexures



6. Annexures

6.1 ADDITIONAL RATIO CALCULATIONS

The **Gross Profit Margin** reveals how much profit remains after covering direct costs (cost of goods sold) from each rupee of sales. For example, a gross profit margin of 0.23 (23%) means 23 paises are obtained as gross profit from one rupee of sales.

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales (revenue)}}$$

Similarly, the Net Profit Margin measures how much net profit is earned by a business from each rupee sales after all expenses are covered. The net profit margin is a good way of comparing businesses in the same sector since such companies are generally subject to similar business conditions.

$$\text{Net profit margin} = \frac{\text{PBIT}^*}{\text{Sales (revenue)}}$$

**PBIT is profit before interest and tax. In our analysis, interest includes interest, processing and other fees, and incidental costs (e.g. insurance) and are collectively called "financial costs."*

The **Financial Cost as a Percentage of Total Operating Expenses** is an indicator used in our research to analyze the magnitude of financial cost in relation to the total operating expenses of the business. The outcome of this indicator is used to determine the burden of financial costs on business profits and losses.

$$\text{Financial cost as a percentage of total operating expenses} = \frac{\text{Financial cost}}{\text{Total operating expenses}}$$

The **Asset Turnover Ratio** simply compares sales revenue with assets used to generate those sales i.e., how many times assets have been converted into sales. In its simplest terms, it just means sales revenues of PKR 'n' for every one rupee of assets. Higher turnover means higher sales translating into higher profits.

$$\text{Asset turnover ratio} = \frac{\text{Revenue}}{\text{Total assets}}$$

The **Net Business Cash Flow** is an indicator used to understand the financial health of a business. For the purpose of this indicator, net cash flows of business means total cash receipts minus total payments, including financial cost for the period (usually a year for manufacturing, services, trading and livestock; and depending on crop/business cycles for agriculture). In micro-businesses, it is the net cash flows that are utilized at the outset to meet household expenses; remaining cash flows are reinvested in the business. Lower net cash flows would either translate into suppressed household spending, meaning deterioration in the living standards of the entrepreneur and his household, or, lesser reinvestment in the business, meaning a decrease in the scale of business operations and/or assets which would ultimately result in declining future profits.

The intention of this research was to determine the ability of micro-businesses to pay interest costs. However, it is often believed that micro-businesses are inseparable from their households. Therefore, the research takes a step further and

tries to understand the financial health of the households dependent on these micro-businesses, using the **Net Household Cash Flows** indicator. Net cash flows of household for the purpose of this indicator means total cash receipts of a household (including incomes from all sources) less total household expenses on an annual basis. Positive household cash flows indicate savings and hence personal asset generation, whereas negative household cash flows mean that households are unable to make ends meet which can ultimately have an impact on the business e.g. liquidation of assets to pay for expenses.

6.2 DESCRIPTIONS OF MICRO-BUSINESS TYPES

6.2.1 Trading

Garment Shops

Businesses observed in this category of the trading sector included garment shops (all wares for men, women, and children), uniform shops, and hosiery shops. Generally, these businesses either purchase from wholesalers where they get reasonable prices and bulk discounts, or procure on order from individual manufacturing enterprises. As clients do not offer credit to these traders, they require loans to purchase their inventory and keep their business cycles running. These businesses only generate moderate margins, so they require considerable turnover to cover all of their expenses. Fortunately, due to considerably low prices, turnover is sufficiently high most of the year to generate a decent income.

Vegetable/fruit Shops

Vegetable/fruit shops located in rural and urban areas were analyzed in this category. These businesses purchase fruits and vegetables daily from wholesale markets (mandis) at wholesale rates and sell them at a fair margin in their shops located in city or village markets. Again, the wholesalers in mandis do not offer credit, so these businesses require loans. Loans are also utilized for setting up these shops. The margins that these entrepreneurs make are modest and considerable turnover is required to make ends meet. However, most of these businesses are able to generate sufficient turnovers and be economically viable as fruits and vegetables are essential items.

Cloth Shops

This business category includes shops that sell unstitched cloth of any or all varieties (e.g. plain, printed, textured, and embroidered) for men, women, and children. The individuals running these businesses purchase these items from wholesale markets or from markets in relatively low-income localities that are not only inaccessible to their targeted clients, but also have significantly lower prices compared to mainstream city markets. These businesses need loans for setups and inventory purchases as they do not have access to suppliers' credit. The margins these businesses make depend upon the type of product and location of the business: e.g. heavily embroidered material is generally sold at higher margins than plain cloth, and margins generated at urban locations are usually higher than those in rural areas. The cost of unstitched cloth has also been increasing steadily due to increasing cotton prices. These additional costs are eventually transferred to customers, hence putting an additional pressure on their spending capacities and ultimately affecting business sales.

General/grocery Shops

The businesses observed for our research included small grocery shops in urban and rural neighbourhoods. Grocery

shops generally sell everyday items such as flour, rice, sugar, lentils, Butter oil or ghee, tea, spices, soap, detergent, snacks, candy, blades, and, razors. These shops purchase their inventory from company distributors or wholesale markets at ex-factory or wholesale rates, and sell them at retail rates in their stores. Margins are generally low but they are compensated by high turnovers. These businesses have access to suppliers' credit but terms and conditions are steep; plus, if they avail credit facilities, they lose the benefit of hefty discounts offered on bulk cash purchases. Therefore, they utilize loans for inventory purchases. Loans are also sometimes utilized to increase product variety or to introduce a high-demand product line. Another use of loans is for capital investment e.g. purchase of refrigerators and deep freezers, and the addition or renovation of shelves, which indirectly augment sales. Since these businesses deal in commodities considered necessities, they are in a better position to survive through economic downturns.

Agricultural Input Supplies/fertilizers

The businesses observed in this category included enterprises that deal in various fertilizers (e.g. urea, organic manure), seeds, and pesticides for different agricultural products including cotton, pulses, vegetables, flour, and rice. These shops operate in rural and peri-urban areas with agricultural activity. Such traders purchase these products from company agencies located in cities and sell them in their respective areas according to demand, i.e. depending on the types of crops being grown there. These businesses avail loans for working capital management and inventory purchases as they usually lack finances to purchase expensive fertilizers, pesticides, or seeds that are required each season. These traders face relatively stable demand all year around as they deal in products that are fundamental for the agricultural sector. However, they do face the risk of crop failure. Damages are twofold, unsold stocks of pesticides or fertilizers, and loss of credit allowed to farmers.

6.2.2 Agriculture

Loan utilization and challenges that come across businesses in the agricultural sector are almost the same across different business categories. These can therefore be explained in generic terms for all businesses. Loans are required for a variety of reasons, starting from the purchase of input supplies (seeds, fertilizers, pesticides) to spending on operating expenses (electricity, labour, fuel, sowing, irrigation, harvesting). Since our target businesses operate on a micro scale, any savings after harvest and debt servicing are usually employed in asset creation (e.g. livestock, house) or cover expenses like weddings and medical bills). Consequently, they are not liquid enough to spend on input supplies and operating expenses during crop cycles, and require financing to fill gaps between harvests.

Contrary to others like them, micro-businesses in the agricultural sector do have access to credit in the form of input supplier shops in their villages and bigger landowners who are willing to provide input supplies and cash for other operating expenses. However, the terms and conditions are not favourable they are charged exorbitantly high prices. This undermines their bargaining power and they are compelled to buy less expensive or substandard inputs, ultimately affecting their yield. Credit suppliers also induce them to sell their produce to them at substantially lower prices than their fair market value as a prerequisite for providing credit. Another drawback for these micro-agriculture businesses is the involvement of middlemen in the disposal of their produce. Their small scale makes it cumbersome for them to take their produce to mainstream markets, factories, and mills especially when they are in remote areas.

Cotton Crop

Cotton, also known as 'white gold' locally, is an important crop for developing countries like Pakistan. Pakistan is the fifth largest producer of cotton in the world, the third largest exporter of raw cotton, and the fourth largest consumer of cotton. About 1.3 million farmers (out of a total of five million) cultivate cotton over three million hectares, covering 15% of the country's cultivable area. According to the Agriculture Statistics of Pakistan 2004–05, 50% of the area (i.e. 1.5 million hectares) under cotton cultivation is owned by micro-farmers (below subsistence farmers, owning less than 12.5

acres) which equals 82% of the total number of farms. Cotton is generally planted between April and June and harvested between September and December, depending on the time of sowing. The total crop cycle lasts six to seven months.

Rice Crop

Pakistan's rice crop is also among the top-tiered agricultural businesses that absorb micro-loans in the sector. Pakistan is the one of the largest producers of rice in the world. The crop occupies 2.9 million hectares (14 percent of the total cultivated area) with production of over five million tonnes. As per the Agricultural Statistics of Pakistan 2004–05, 55% of the rice cultivated area (1.6 million hectares) is owned by subsistence farmers. Rice is the second staple food source for the country and contributes about two million tonnes in national food requirements and serves as a big source of income for the rural population. Rice in Pakistan is grown under diverse climatic conditions and is divided into four distinct zones. In most cases, critical problems in rice production and protection are specific to a particular zone. However, common problems include water logging and salinity, shortage of irrigation water, zinc deficiencies, and cold damage from cool air temperatures and cold irrigation water. Zone-1 consists of the northern mountainous areas of the country where irrigated rice is grown either in flat valleys or terraced valley-sides. Cool air temperatures and cold irrigation water are major problems. Zone-2 lies in a broad strip of land between the Ravi and Chenab rivers where both canal and sub-soil water are used for irrigation. Zone-3 consists of the large tract of land on the west bank of the Indus River. It has an arid sub-tropical climate with an average rainfall of 100 millimetres, which is the main source of water. Lastly, Zone-4 is the Indus delta which consists of vast spill flats and basins; the latter are mostly irrigated. Rice is planted once a year between May and July and is harvested between October and November.

Sugarcane Crop

Pakistan ranks fifth in the world in cane acreage and production and almost fifteenth in sugar production. The area under cultivation is approximately 0.9 million hectares, with a production range of 45 to 55 million tonnes. As per the Agricultural Statistics of Pakistan 2004–05, 50% of the area (i.e. 0.4 million hectares) under sugarcane cultivation is owned by subsistence farmers which equals 76% of the total number of farms. There are two planting seasons, fall and spring. Fall planting starts in the first week of September and continues until mid October in Punjab and Sindh, while in Khyber-Pakhtunkhwa, planting is done between October and November. Spring planting starts from mid-February and lasts until the end of March in Punjab and Sindh. These planting times are strictly observed because late planting can reduce yields by as much as 30%. Sugarcane is an annual crop (10–12 months) in Pakistan. Harvesting starts in November and goes on until January for the late maturing crops.

Vegetable Growing

A large variety of vegetables are cultivated in Pakistan. More than 36 species are grown and consumed as winter and summer vegetables. The most commonly grown include potatoes, onions, tomatoes, chillies, gourds, and melons.

TABLE 33: Seasonal Vegetables Grown in Pakistan

Seasonal Vegetables			
Rabi		Kharif	
Onions	Radishes	Okra	Squash melons
Garlic	Carrots	Chillies	Cluster beans
Cabbages	Turnips	Brinjal	Cow peas
Cauliflowers	Spinach	Bitter gourd	Lotus roots
Tomatoes	Coriander	Sponge gourds	Wild cucumbers
Peas	Fenu greek	Round gourds	-

Farmers grow vegetables for their short growing seasons, for self-consumption, and for additional income generation. The area under cultivation is approximately 0.35 million hectares with production of over five million tonnes. In different parts of the country, vegetables are grown in the *kharif* or summer season and in the *rabi* or winter season. *Rabi* vegetables are grown in cool climates of the winter season, which completes their life cycle and produces mature seeds by the beginning of the summer. The seed of *rabi* vegetables are produced at maturity time in the months of April and May. *Kharif* vegetables are grown in the summer months and their seeds mature in the months of September and October. TABLE 33 lists some of the most common seasonal vegetables grown in Pakistan.

Wheat Crop

Wheat is Pakistan's main staple food item and the most important crop. It is cultivated on the largest acreages in almost every part of the country. The total area under production is around 9.5 million hectares with an approximate production of 23 million tonnes per annum. As per the Agricultural Statistics of Pakistan 2004–05, 55% of the area (i.e. 5.2 million hectares) under wheat cultivation is owned by subsistence farmers which equal 86% in terms of the total number of farms. The sowing time for wheat varies across the country, but begins as early as October 15 and goes up to December 15 in some regions. The crop is harvested when the grains harden and the straw becomes dry and brittle.

6.2.3 Livestock/poultry

Livestock Milking

This category includes micro-entrepreneurs involved in the sale of milk obtained from animals they own. Such enterprises are primarily concentrated in rural areas. Typically, animal owners are directly involved in milking and taking overall care of their livestock, which is their main income generating asset, and there are hardly any instances where a full-time worker is employed for assistance. The majority of sales are in cash and the milk is sold in nearby areas after retaining a small fraction for personal use. Businesses in this category take up loans primarily for the purchase of animals that eventually produce milk. The animals' maintenance costs are not high as fodder or chara is usually obtained from personal agricultural land holdings, or can be obtained elsewhere at low cost. Other costs include vaccinations, oil, and raw brown sugar or guruh. The product, milk, is a necessity, and maintains stable demand all year. Adverse economic impacts do not usually occur. However, due to hikes in overall price levels, animals are steadily slipping out of the affordability curve of micro-businesses in this category, thus creating hurdles in business expansion. In addition, loan amounts offered by microfinance institution only cater for a percentage of the purchase value of animals. Individuals are then forced to rely on pooling personal savings or other sources of credit for the entire purchase.

Livestock Trading

This category of business includes individuals involved in the trade of animals purchased at relatively low prices from mandis (wholesale markets) and sold at higher rates in other markets located in both urban and rural areas. They are included in the livestock trading category as traders do not add any value to the animals they purchase. Loans are used to purchase animals that are eventually sold. This is especially true of Eid-ul-Azha when traders make bulk purchases of animals which are sold for religious sacrifice or qurbani. Eid-ul-Azha alone is responsible for the bulk of their income. Apart from actually purchasing animals, the costs involved in conducting this business are not usually high enough to warrant an external line of credit. These costs include transportation, fodder, and rent of space where animals can be displayed for sale. Profit margins on smaller animals (goats/sheep) are not very high and vary from one market to another. Traders therefore require considerable turnover to generate savings after accounting for all operational expenses. Greater margins are made on the sale of larger animals like cows, although these animals are quite expensive and loan amounts contribute only a percentage of their purchase. Lastly, a great risk inherent in this business is the possibility of disease and death in animals prior to sale.

Hatcheries/poultry

Raising poultry in Pakistan has proven to be a profitable enterprise even at the micro level as it is a good source of cheap, palatable, and nutritious food protein. For the purposes of this research, the businesses observed in this category consisted mainly of small poultry farms located in rural settings. The investment required in setting up such poultry farms is relatively small when compared with commercial poultry farms, but due to the limited scale of operation, the returns are also not comparable to those of commercial farms. However, profit margins are sufficient to generate considerable savings. These businesses usually buy one to seven-day old chicks and feed them for up to 45 days, after which the grown chickens are sold to butchers. Chicks are purchased from hatcheries usually on a cash basis. Micro-loans in this category are thus usually for the purchase of chicks. The principal risk in this business is chicken mortality and viral diseases e.g. bird flu due to which the demand for chicken meat almost vanishes. Such calamities can ruin business overnight. Furthermore, a lack of finances means that such businesses cannot expand their operations to increase their turnover and profits.

Animal Rearing and Fattening

Animal rearing and fattening is different from livestock trading as these businesses purchase young animals (goats, sheep, cows, buffaloes) and raise them before their eventual sale. The ultimate objective is to sell nurtured animals either for their milk or meat. Most businesses raise their animals without building separate sheds. Work is divided and family members lend a hand in taking care of the animals. Purchases are generally made from mandis. Young animals are reared and fattened to ready them for sale at maturity. The animals are usually nourished on fodder (a major cost component) produced on self-owned land or fodder purchased from other sources. Other low-cost expenses include vaccination, ghee, and gurrh. Loans are utilized for the purchase of young animals, and in some instances, for the construction of animal sheds. Animals raised are sold in mandis or to butchers. Revenues receive a boost during Eid-ul-Azha. Since expenses incurred for raising animals are not on the high side, profit margins are quite robust and become more attractive during the Eid season. However, due to rising livestock prices, loans are becoming less useful for this business. Like other animal-related sectors, this category is at risk from animal diseases and mortality.

6.2.4 Services

Tailor Shops

Tailors providing stitching services to both male and female clients are included in this business category. The major material, cloth, is provided by clients and tailors only provide their stitching and sewing services. Supplementary materials such as thread, buttons, and collars are usually purchased by tailors themselves, but these items make up only a small percentage of the overall cost involved. Tailoring businesses operate from specific tailor shops in marketplaces as well as households where women provide these services from their homes. The mode of operation i.e. shop vs. home-based enterprise has an impact on profit margins. Tailor shops have greater expenses as they have to pay rent and utilities at commercial rates. However, they have access to the wider market as they can attract walk-in customers using shop window displays. On the other hand, home-based tailors do not have to pay rent and other expenses, but they are confined to a much smaller market, usually just their own neighbourhoods. Home-based businesses are generally run by household women who provide their services only part-time to augment family income. The tailoring business does not require a particularly high initial investment. Loans utilized are often for purchasing sewing machines (capital investment), setting-up a shop, employing workers for business expansion, and bulk purchases of supplementary materials. However, deteriorating economic conditions have led people to reduce their spending on clothes, which has had a trickle-down impact on tailoring businesses.

Barber Shops

Barber shops providing services such as haircuts, hair treatment, shaves, facials, and massages specifically to male clients were surveyed during this research. It is the second most popular business category for which micro-loans are provided in the services sector. Loans are utilized for different purposes including the purchase of seats, mirrors, counters, creams, blades, equipment, and air conditioners. An important factor that plays a pivotal role in the success of this type of business is the location of the shop. If barber shops are located in business centres and are well-maintained in terms of overall ambience (seats, air conditioning, cleanliness, trendy magazines), they are amongst the few businesses that are impervious to any sort of limitation or adverse economic impact. Haircuts and shaves are considered a necessity by almost everyone of any age, so the market served is sizable. The only barrier in the success of these businesses appears to be competition, as there are usually several barber shops in each locality.

Zari Work

Zari work in this category includes businesses providing zari services for female wear, e.g. shirts, *kurtas*, *dupattas*, frock sets, and *lehngas*. Designs and cloth are provided usually by clients running retail shops in city centres. Supplementary materials such as *nug* (diamantes), *moti* (beads), *sitara* (flat beads), and *tilla* (metallic thread) are provided by these service providers. Loans are utilized for the purchase of *addas* (large wooden/metal frames for cloth mounting), materials in bulk, and/or payment to part and full-time workers. This business category is amongst those having relatively sound demand throughout the year. Sales tend to increase considerably during the wedding and Eid seasons, thus turnovers and profit margins are usually healthy enough to generate decent incomes. However, due to scarce resources, most of these businesses can either cater for the relatively modest demand from their own neighbourhoods where margins are relatively low, or they can serve as outsourced service providers for mainstream boutiques in active city areas in which case the involvement of middlemen reduces their margins. Furthermore, financially weaker businesses are limited by their ability to hire larger workforces, or to expand their workspaces, as they usually work at their homes, which have to cater to both family and business needs.

Restaurants/eateries

Small roadside restaurants referred locally as 'hotels' that provide breakfast, lunch, dinner, and tea, were observed in this category. Such business need finances for their working capital needs i.e. the purchase of groceries and rations in bulk on cash. Utilizing credit granted by their suppliers would mean high rates, whereas cash purchases mean competitive rates and bulk discounts. Thus, the interest cost on loans is smaller compared to supplier credit granted in the market. Other reasons for taking out loans include renovation (furniture, utensils) and business expansion (e.g. brick ovens or *tandoors*). The nature of this business shields the category from direct adverse economic impact as customers are usually working class individuals for whom eating out is the most convenient option. Hence, if such a business is strategically located in an area where labour or commercial activity is located, the sales can be quite remarkable. Such businesses are not subject to major limitations other than a lack of finances to expand operations, as loan amounts on their own are not usually enough to finance business expansion.

Beauty Parlour Shops

Beauty parlours are the fifth most popular business type that utilize micro-loans in the services sector. They provide services including haircuts, hair treatment, facials, massages, hair removal, and makeup (bridal, party, casual) to female clients. These businesses require loans for their setups (seats, mirrors, counters, air conditioners, and other decor), and for the purchase of makeup materials (lipsticks, eyeshades, lotions, creams), and equipment (hair dryers, hair irons, steamers). These businesses earn a steady flow of income from certain services that are considered a necessity by clients. The greatest earnings are made from bridal makeup and hair/skin treatments, but these usually flourish only during the wedding and Eid seasons. If such businesses are able to develop a good reputation, the turnover is enough to generate ample earnings; makeup and personal grooming has become an important part of the female personality. However,

some proprietors operate such businesses part-time only as an extra source of income, and are unable to attend to their businesses properly, which naturally has an impact on their profit margins.

6.2.5 Manufacturing

Jewellery Making

The businesses observed in this sector included makers of jewellery boxes, jewellery stands, and artificial jewellery. These businesses are classified under manufacturing since owners use their own materials for assembling their products. The raw materials purchased by entrepreneurs in this sector vary depending upon the nature of product. For example, the assembly of jewellery stands requires cardboard, hardboard, wood, glass, and plastic. Artificial jewellery requires copper or taamba and brass or pital. Loans are used for purchasing these raw materials and for maintaining liquidity and managing working capital requirements. Limitations in this sector vary depending on the product. For example, jewellery box and jewellery stand makers are constrained by the fact that their products are mostly in demand during the wedding season. A point to note is that consistent hikes in the price of gold have decreased the demand for gold jewellery, especially in areas where these micro-entrepreneurs operate, thus indirectly affecting demand for their products which complement gold jewellery. Artificial jewellery makers, however, do experience year-round demand because their products are cheap and often of a flimsy make, so customers tend to purchase them more often. Although such jewellery is highly demanded, increases in the price of methane gas (used as fuel in the moulding of jewellery) have caused profit margins to fall.

Shoe Making

For the purposes of this research, shoe making includes businesses involved in manufacturing whole shoes, parts of shoes, *chappals*, embroidered toe box 'top straps,' and shoe heels. Major raw materials purchased by these businesses include soles, leather, sheets, glue, embroidery material (*moti, kora, dabka*). Loans are used for purchasing raw materials, maintaining liquidity, and, in some instances, hiring full or part-time labour. While examining challenges to this business category, it should be noted that these businesses are often located in areas that are not accessible to the average walk-in customer. Also, finances do not permit setting up display shops – a reason which compels owners to sell to shops in city centres. Hence, they end up charging only a modest percentage of profit over and above their total costs. In addition, some of these businesses depend on order-based production, which results in erratic demand. However, demand-based production also means that these businesses are in a position to cater to upcoming trends and local preferences, thus enabling them to earn reasonable profits. In general, this sector has been hit by the overall increase in prices in the country; that makes raw materials (especially leather) very expensive to purchase, which lowers net margins.

Embroidery/handicraft Making

Hand-crafted decoration item makers and embroidered item makers (ladies' shirts, girls' frocks, *lehngas, dupattas*, shawls, bedspreads) are classified in this business category for this research. The raw materials purchased by these businesses depend upon the nature of the product but most commonly includes cloth, *tilla, moti, sitara, nug*, thread, *nalli*, paper, pipes, and colour. Loan utilization is primarily for the purchase of raw material. Businesses in this category face a variety of challenges. Due to seasonality effects (manufacture of decoration items used in weddings), profit margins are not high enough to generate savings for an entire year. Thus, these individuals require considerable turnovers each season to make ends meet. Also, consumers have been cutting back on items not considered essential due to increasing inflation. Consequently, decoration item sales have suffered. Lastly, the involvement of middlemen (due to a lack of finances and cultural limitations that restrict female manufacturers' from directly accessing end-users) reduces profit margins. Embroidered cloth manufacturing has relatively stable demand throughout the year (apart from the months of Muharram and Safar in the Islamic lunar calendar). Such businesses are usually owned by women, who due to social and

cultural limitations, cannot move around freely and must rely on middlemen (e.g. shopkeepers) to sell their crafts. Even the few who face no such restrictions are limited by the lack of access to amounts of capital large enough to set up their own display centres in commercial areas.

Garment Making

Businesses studied in this category consisted of makers of stitched garments (ladies/gentlemen suits, shirts, children's garments, school uniforms). The main raw material inputs purchased by these businesses include cloth, buttons, collars, zips, thread, and hooks. Loans were used to purchase raw materials (mostly cloth) and manage liquidity between business cycles as input suppliers (retail cloth sellers) do not generally give credit terms. Their customers do not pay for orders in advance, which make a loan useful for financing initial cloth purchases. The most common limitation encountered by businesses in this category is that the entrepreneurs manufacturing these clothes do not usually sell to mainstream customers; rather they sell to shops based on orders. Hence, profit margins hardly justify the efforts involved, and middlemen make the bulk of the profits. However, demand is stable throughout the year in most instances, so earnings are sufficient to cover expenses. However, a setback that these businesses are facing is rising cloth prices due to the increased cost of cotton in the country. Although a large portion of this price increase is transferred to the end customer, the push and pull between demand and supply brings profit margins down.

Iron Works

The businesses examined in this category manufacture iron and steel furniture, decorative lamps, and windows and doors. Raw materials purchased include iron, cables or sariya, angles, pipes, and paint. Loans are generally utilized by these businesses for the purchase of raw material (mostly iron). These businesses require heavy investments to purchase the raw material, which is not easily available. As a result, they rely on order-based production systems instead of retail selling. In addition, entrepreneurs in this sector cannot afford to have display shops where they can showcase products and earn higher profits. Although this business has low sales during the rainy season, sales remain stable the rest of the year. However, like many other sectors, the overall slump in the economy has decreased demand and hurt their profits.

6.3 CASE STUDIES

Manufacturing: Artificial jewellery making

Ms. Qamar Jahan lives with her old father and brother in the Landhi area of Karachi. Her father is a retired government servant, and until recently, was the main bread winner for the family. After his retirement, he is unable to contribute to the family income due to his old age and ill-health.

Artificial jewellery making is an easily accessible option for urban low-income women with little or no education, and those who observe purdah and cannot work outside their homes. Qamar also knew that she could not leave her aged father alone for too long, so she learned artificial jewellery-making and started working from home.

She has been running her own business for the last four years. As the business grew, she needed finances to buy more raw materials, which she could not afford. She convinced a relative to partner with her and pool money together. She also availed a micro-loan to expand her operations. Qamar borrowed PKR 15,000 in the first loan cycle and invested it in raw material for the business. She paid a flat service charge of 22% (PKR 300) as processing fee and PKR 375 as an insurance fee to the bank.

She prepares 1,000 sets of earrings weekly and sells them on the wholesale market at PKR 75 per set. Her manufacturing

cost per set comes to PKR 65.35, leaving a 13% gross margin per set. Her monthly operating cost is PKR 7,500, giving her a monthly net income of approximately PKR 30,000. Her ROCE is 221% and her interest coverage is approximately 92 times which means that she generates more than sufficient revenues to satisfy her financial cost burden. The profit is divided equally between the two partners. Her partner takes orders from the wholesale market and buys raw materials. They earn enough income from the business to be able to pay off loan instalments on a regular basis. Now Qamar lives comfortably with her family and even supports her low-income married sister on a monthly basis. From the disposable cash flow generated from her business, she has purchased dowry for her marriage that is expected soon, and contributes to three committees to save for rainy days.

Manufacturing: Iron works

'Geo Rod Furniture' on Shah Kamal Road, an active business area in Lahore, is a small iron works shop run by Irfan Javed and his father. They manufacture iron beds, dining tables, *singhar maize* (dressing tables), lamps, and sofa sets. Irfan's father, Mr. Javed, has been in the iron works business for the last forty-five years, and has massive experience in this field. They have two hired employees. Their business depends entirely on orders from acquaintances and other business contacts and there is no sale of readymade products as they do not possess the finances to provide readymade products that hold a risk of not being sold. They do not have a display centre either. Most of their sales are on cash, but advance payments are sometimes received from clients for the purchase of iron that is used in manufacturing.

Their profit margins are not very high. However, if the turnover is good, their profits are enough to provide sufficient savings after accounting for all costs involved. Their ROCE is 67% and their interest coverage ratio is nine times. The table below lists profit margins for each product line.

Item	Sales Price	Direct Cost	Gross Profit Margin
	PKR		
Beds	10,000	8,000	20%
<i>Singhar maize</i>	6,000	4,500	25%
Dining tables	14,000	11,000	21%
Lamps	800	500	37.5%
Sofa sets	15,000	12,000	20%

When business conditions are favourable, they are able to sell about 25 items a month, which is enough to support their family. However, during business slumps (which Irfan and his father have been experiencing over the last few months), it becomes difficult to make ends meet.

They have taken out a two-year loan of PKR 60,000 from an MFP at a flat rate of about 20%. Originally, the purpose of the loan was to purchase raw materials, but sluggish demand meant that they were unable to utilize the loan effectively, and ended up using a significant portion of it to cover personal expenses. Both of them were of the view that the interest rate charged was unaffordable, given current economic conditions. However, Irfan's father stated that the interest rate charged becomes affordable when demand is high. He said "*when the business is running smoothly and there is sound demand in the market as it used to be, I can repay entire loans from the proceeds of only one deal.*"

This business is their primary source of income, so when demand is high, interest rates do not seem exorbitant. When asked about alternative sources of credit, they stated that they had not yet explored any sources of credit other than the MFP that gave them their loan. They said they were looking for a larger loan amount after the repayment of their current loan to set up a display centre and benefit from walk-in sales. They are confident that this will raise business turnover and profit margins considerably.

Services: Zari work

In Mohala Afzal Town, Ladhay Wala, Gujranwala, Muhammad Arshad has been running a small, successful business of providing embroidery or *zari* services to clients who order different types of women's outfits (*kurtas*, *lehngas*). Arshad and his four part-time workers provide their services to boutiques in Lahore and Gujranwala who provide cloth and designs. The materials used in designing are purchased from Gujranwala and Lahore.

The profits that Arshad is able to make on each of his three product lines are remarkable as the cost of materials used is relatively low in comparison to their sales price. Labour is a major cost component, but remains low for Arshad as his workers are part-time.

In the normal course of business, he is able to sell six to seven *kurtas*, six to seven frock sets, and two to three *lehngas* per month, which results in considerable savings. As a *lehnga* set requires more skill and time, Arshad designs them himself, saving on labour costs, and benefitting from an 83% gross profit margin.

He is currently in his fourth loan-cycle with an MFP, utilizing a loan of PKR 30,000 and paying a monthly instalment of PKR 3,013. The flat interest rate charged is about 21% per annum. His loan interest coverage is about 93 times and the ROCE is 421%. He initially designed only *kurtas*, but the availability of credit allowed him to extend his work to frock sets and *lehngas*, which require more capital because of expensive materials and higher labour cost. He says he has been successful in using his credit line to gradually expand his business as he used the loans in purchasing more equipment addas and input materials and hiring a part-time workforce.

Item	Sales Price	Direct Cost	Gross Profit Margin
	PKR		
<i>Kurtas</i>	2,500	500	80%
Frock sets	2,000	400	80%
<i>Lehngas</i>	9,000	1,500	83%

Arshad also said that his services yield considerable profits for him to comfortably finance the interest charged. Due to the fact that he uses only part-time labour and runs the business from home, he is amongst the truly successful microfinance borrowers who have progressed to higher levels of profitability. He mentioned the fact that he has been able to save enough money to comfortably pay for his wedding expenses of about PKR 200,000.

Looking ahead, he is planning to expand his workplace and hire a full-time labour force, for which he shall require higher loan amounts. He is quite confident that his business will yield enough profits to finance higher instalment amounts.

Trading: Cloth sale

Tahira Shafaqat, a mother of three, supports her husband in raising their children by selling unstitched cloth. They reside at the Islamic Center, Shah Di Khui, an area relatively far from urban Lahore. She has been engaged in this business for the last ten years and has become an expert salesperson. She purchases cloth from areas within Lahore where costs are relatively lower than those of mainstream markets and sells directly to her customers. She deals in four product lines, namely 'lady's three-piece fancy suits,' 'lady's plain suits,' 'men's *kurtas*,' and 'children's embroidered suits.' She conducts her entire business herself without any staff. Supplying clothes to different areas of the city, her main selling points are hospitals where she goes almost every other day to make sales to lady doctors. The sales are mostly made in cash. Likewise, purchases are also made in cash, as the whole sellers from whom she purchases the clothes grant no credit.

The bulk of her profits are made from her beautifully embroidered lady's fancy suits, and children's embroidered suits. She provides the extra service of delivering clothes to her customers' homes for which they are willing to pay extra. Tahira is earning an average gross profit margin of around 45% on her sales and is able to save enough each month to provide considerable support to her family.

Item	Sales Price	Direct Cost	Gross Profit Margin
	PKR		
Lady's embroidered	2,500	1,500	40%
Lady's plain	1,000	800	20%
Men's <i>kurtas</i>	700	400	43%
Children's suits	1,700	400	76%

Tahira is in her first loan-cycle with an MFP from which she took out a 15-month loan of PKR 17,000. She pays a monthly instalment of PKR 1,500. Her loan interest coverage is around 41 times and her ROCE is 128%. She has taken out this loan to keep her business cycle running and to expand her business, as she sees considerable profits if she has funds to invest. She does not find the monthly instalments difficult to pay, especially when sales are at their peak during the Eid and wedding seasons. She is able to save enough during these seasons to finance the remaining instalments. Although the interest rate charged by the MFP is affordable, she still considers the rate charged high as the residual income left does not justify the effort she puts in making sales. Although her business has the capacity to pay loan instalments without too much of a strain, she personally considers it to be unjustifiably high. When asked how much she would be willing to pay to an investor willing to invest in her business, she stated that about ten percent to 15% was the maximum she could afford to pay. While answering questions on alternative sources of credit, she stated that there are private money lenders who lend at abnormally high rates, and that the MFP she is currently borrowing from is a much better option. As Tahira puts it, she is planning to expand her business so that she can save enough and eventually set up her own small boutique in a couple of years. She would require more funding to achieve her plan. She is confident that with sufficient funds, she can generate even higher margins from her business to pay higher instalment amounts and interest rates. She aims to apply for a higher loan amount in the next loan-cycle.

Agriculture: Vegetable grower

Parveen Salim is a low-income, yet courageous lady who lives in a remote village of Haripur. The village Chajian is located in the middle of lush green mountains with spring water and scenic views, but lacks economic opportunities and basic facilities. Parveen was married a decade ago to Salim who is neither educated nor has any skills, and works as a daily wage labourer. They live in a mud house with their four children. The family's income is barely enough to meet the basic household needs of the family.

The area is conservative and limits women's participation in commercial activities. When an RSP opened a village bank (VB) in her village, she became a member and started micro-savings, taking an active part in meetings and discussions. As a result of her participation in community meetings, she soon realized that she could use her three kanals of agricultural land to grow vegetables and earn some extra money for her family. She borrowed PKR 10,000 from the VB and started growing seasonal vegetables – a common activity in most villages to augment primary incomes. She paid PKR 1,500 only as a lump sum processing fee upfront with no interest, as the loan product being offered by the VB was a shariah compliant Islamic product.

She uses home grown seeds, organic manure and a small amount of diammonium phosphate (DAP) fertilizer as inputs. Her total operating expenses amount to only PKR 1,150 since pest and disease risks are low in mountainous areas. She usually uses cash and spends only PKR 200 on pesticides. Her operating cost is very low as she operates out of her home. Her husband helps out with farming activities so she does not have to pay for any labour. They mostly sell these vegetables in the nearby villages but there are occasions when they have to take their products to a nearby city i.e. Haripur due to a lack of demand in the local market.

She sells products on a weekly basis to local vegetable shops and earns PKR 3,000 a month on average. This means a 97% gross profit margin and a 91% net profit margin. Her ROCE is 14% and her interest coverage is approximately 24 times, which means that she is generating more than sufficient revenues to satisfy her financial cost burden. She rears hens and generates some additional income by selling their eggs. Thus, she manages her entire family's expenses from the accumulated cash by leveraging the deficit from her husband's irregular wage earnings.

She has been an active member of the VB and has maintained an excellent track record of loan repayment. She proudly stated that the VB had enabled her to make savings and increase her income through access to credit. She feels more empowered than before when she had nothing in hand except for a tiny amount that her husband gave her from his meagre earnings. Now, she has savings in the VB and her monthly income has increased.

Livestock: Milking

Parveen lives in Phoolnagar, Kasur district with her husband and runs the family business of selling milk. She has been leading this business activity ever since her marriage. Parveen is the primary caretaker of the animals while her husband works on their agricultural land. Apart from providing supplemental farming income, the land also provides a source of food for their animals. The milking business is the family's main source of income generation. Currently, they own ten animals; five of which are milk-producing cows. For about eight months in a year, their daily milk production is about 25 liters, whereas for the remaining four months five kilograms of milk is produced daily. Most of the milk is sold in nearby areas and a small fraction is kept for household use. The average sale rate is PKR 40/kg.

The costs associated with animal care, especially milk-producing cows, are vaccination, fodder or chara, oil and gurrh. Vaccination is needed four times a year and costs about PKR 10 per animal. Since fodder is obtained from personal agricultural land, the estimated cost for each animal is about PKR 80 per day. Lastly, oil and gurrh is fed to milk-producing cows twice a year for better milk production. About two kilograms is provided to each animal and is obtained at about PKR 160/kg. As the table shows, this particular milking business makes a gross profit margin of 44%, which is supplemented by farming income. Their ROCE is 14.5% and their interest coverage is approximately 29 times.

Item	Sales Price	Direct Cost	Gross Profit Margin
	PKR		
Milk sales (per annum)	264,000	147,600	44%

Parveen has been utilizing micro-loans from an MFP operating in her village. She is currently in her third loan-cycle and her current loan is for PKR 25,000. Her earlier loans were PKR 10,000 and PKR 15,000 in the first and second loan-cycles, respectively. Interest charged to her is about 20% per annum using the declining balance method. She has been using these loans to contribute to the purchase of animals that will eventually be used for milking purposes. Her loans, however, are not sufficient on their own for the purchase of milking animals. She makes arrangements with relatives and purchases a female calf by paying half of the total cost on the condition that she will pay the balance when the animal is ready for milking. Relatives take care of the calf until it is ready to produce milk. Once the animal is ready, she pays the remaining half and takes custody. This is where the loan amount is utilized. The current loan was used to purchase a milk-producing cow costing PKR 75,000. PKR 25,000 was funded through the loan and the remainder came from her personal savings. According to her, loans contribute to the growth of her business as a greater number of animals will increase the amount of milk she is able to sell. The payment of monthly instalments is not a burden on her monthly budget. She is comfortable taking out PKR 2,500 each month from the proceeds. She did, however, mention that during the dry season when the animals are not producing milk, paying the instalment becomes a concern. Luckily, that is only for a few months each year, so she saves enough from the rest of the year's sales to pay these instalments. Furthermore, with an increasing number of animals at her disposal, she will be able to offset the dry period of one animal with the milking period of the other in the future.

She stated that in the future, with a higher loan amount, she will purchase animals from the market that are ready to produce milk. She was also cognizant that higher loan sizes will mean higher instalments, which could be a problem, thus a longer tenure will be desired to make the monthly instalments affordable. Apart from the need to finance animals ready for milking, she also stated that due to consistent hikes in prices, calves will no longer be in her range unless loan sizes are increased. When asked about alternative sources of credit such as private moneylenders, she stated that she had never utilized such a loan facility as she was content with her current MFP.

6.4 QUESTIONNAIRE

6.4.1 Manufacturing Concern

1.	Serial no.	
2.	Date	____ / ____ / ____
3.	Result codes	1. Complete <input type="checkbox"/> 2. Incomplete <input type="checkbox"/>
4.	MFB/MFI name	
5.	Type of enterprise	A. Jewellery making <input type="checkbox"/> B. Garments making <input type="checkbox"/> C. Shoe/ <i>khusa</i> making <input type="checkbox"/> D. Embroidery and handicraft making <input type="checkbox"/> E. Garments making <input type="checkbox"/> F. Iron works <input type="checkbox"/>
6.	Interviewer name	
7.	Interviewee name	
8.	Enterprise name	
9.	Address	
10.	Area	
11.	Location	
12.	Business age	
13.	No. of employees	
14.	Legal status	Sole proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/>
15.	No. of partners	
16.	Percentage of partnership	

1. What types of products do you manufacture?

- a. _____ c. _____
b. _____ d. _____

2. What is the cost of taking a loan from a microfinance organization?

Loan amount taken		Instalment amount	
Number of instalments		Processing fee	
Documentation charges		Any other expenses paid	
Insurance fee paid			

A. Information Regarding Business Sales

3. What is monthly sale for each product (units sold, unit price)?

Product-wise sales information

Name of product	Units sold	Frequency of sale	Unit sale price	Total sales/month
Total				

What is the seasonality of business sales (this will also cross-verify the above information)?

Seasonality for the year	Months	Amounts
Good month (G)		
Regular month (R)		
Bad month (B)		

4. What is your percentage of cash and credit (average) sales per month?

Monthly sales on cash	Percentage	Amount
Monthly sales on credit	Percentage	Amount

5. What are the terms of credit sales (e.g. ten days, 20 days, 30 days, or on some random basis in which case ask about estimated period of receipt)?

B. Information Regarding Business Purchases

6. What are monthly purchases for each raw material type (unit purchased, unit price)?

Purchases per material type

Name of product	Units sold	Frequency of sale	Unit sale price	Total sales/month
Total				

7. What is the product-wise per-unit cost of sale?

Product type: _____ Unit: _____		
Inputs	Quantity	Total cost
Total cost of production		
Product type: _____ Unit: _____		
Total cost of production		
Product type: _____ Unit: _____		
Total cost of production		

8. What is the percentage of cash and credit purchases per month?

Monthly sales on cash	Percentage	Amount
Monthly sales on credit	Percentage	Amount

9. What are the terms of credit purchases (e.g. 10 days, 20 days, 30 days, or on sales basis in which case ask about estimated sales period)?**10. What is your ending inventory of raw material (RM), goods in process (GP), and finished goods (FG) on hand?**

Product (1)	Type (RM, GP, FG) (2)	Units (kg, etc.) (3)	Price (4)	Inventory amount (5)
Total				

C. Business Monthly Cash Flow and Income Statement

Cash flow		Income statement	
Cash in hand (beginning of the month)		Sales	
CASH INFLOW		Cost of goods sold (COGS)	
Cash sales		1. Raw material cost	
Recovered from credit sales		2. Wages	
Other business related cash inflows		3. Production related utilities	
Other cash inflows – business related		4. Others (item 1)	
Total cash inflow		5. Others (item 2)	
CASH OUTFLOW		6. Others (item 3)	
Cash purchases		Total COGS	
Paid for credit purchases		Gross margin (sales - COGS)	
Wages		Operating costs	
Salaries		Salaries	
Rent		Rent	
Utilities		Utilities (telephone, electricity, water, and gas)	
Transportation		Transportation	
Repairs and maintenance		Repairs and maintenance	
Food for employees		Food for employees	
Other business expenses		Other business expenses (specify)	
Owners drawings/salary			
Interest and financial charges			
Data quality provision 10%		Owner's salary	
Loan principal payment		Interest and financial charges	
Capital purchases		Data quality provision 10%	
Total cash outflow		Total operating costs	
Net cash		Net margin (GM - total operating costs)	

D. Household Monthly Cash Flows

CASH INFLOWS	
Cash in hand at home	
Cash contributions from remittances	
Cash contributions from pensions	
Cash contributions from family members	
Cash contribution from other sources – committee, etc.	
TOTAL CASH RECEIPTS	
Total cash available	
CASH PAID OUT	
Rent	
Food expenses	
Children's education expenses	
Medical expenses	
Death/marriage expenses	
Utilities	
Clothing	
Social expenses	
Others	
Contingencies	
TOTAL CASH PAID OUT	
Net cash flow	

E. Business Balance Sheet

Business assets	PKR	Business liabilities and equity	PKR
Current assets		Current liabilities	
Cash in hand		Accounts payables	
Cash in bank		Advance payments received	
Total account receivables		Interest payable	
Inventory – ending		Short-term bank loans payable	
Prepaid expenses		Short-term committee – liability	
Committee – savings		Long-term liabilities	
Other current assets		Long-term bank loans	
Total current assets		Other long-term loans	
Fixed assets		Other long-term loans	
Machinery and equipment			
Furniture and fixtures		Total liabilities	
Leasehold assets			
Vehicles			
Land		Net worth	
Other fixed assets			
Total fixed assets			
Other asset			
Other asset			
Total assets		Total liabilities and equity	

6.4.2 Services Concern

1.	Serial no.	
2.	Date	____ / ____ / ____
3.	Result codes	1. Complete <input type="checkbox"/> 2. Incomplete <input type="checkbox"/>
4.	MFB/MFI name	
5.	Type of enterprise	Tailor shop <input type="checkbox"/> Beauty parlour shop <input type="checkbox"/> Hair dresser/barber shop <input type="checkbox"/> Restaurant/eatery <input type="checkbox"/> Embroidery/hosiery/zari work <input type="checkbox"/>
6.	Interviewer name	
7.	Interviewee name	
8.	Enterprise name	
9.	Address	
10.	Area	
11.	Location	
12.	Business age	
13.	No. of employees	
14.	Legal status	Sole proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/>
15.	No. of partners	
16.	Percentage of partnership	

1. What types of services do you provide? (e.g. for hair dressers/barbers, these could be haircuts, shaves, facials)
- a. _____ c. _____
b. _____ d. _____

A. Information Regarding Business Sales

2. What is the monthly sale for each of the services (units sold, unit price)?

Product/service-wise sales information

Name of Service	Units sold	Frequency of sale	Unit sale price	Total sales/month
Total				

3. What is the seasonality of the business sales (this will also cross verify the above information)?

Seasonality for the year	Months			Amounts			
Good month (G)							
Regular month (R)							
Bad month (B)							

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
G/R/B							
					Sales in a week		
					Sales in a month		

4. What percentage of cash and credit (average) sales per month?

Monthly sales on cash	Percentage	Amount
Monthly sales on credit	Percentage	Amount

5. What are the terms of credit sales? (e.g. 10 days, 20 days, 30 days, etc. or on some random basis in which case ask about estimated period of receipt)

B. Information Regarding Business Purchases

6. What are monthly purchases of inputs required for each type of service (unit purchased, unit price)? Specify purchases per material type.

Inputs	Units purchased	Frequency	Unit price	Total purchases/month
Total				

7. What is the service type-wise per-unit cost of sale?

Service type: _____ Unit: _____		
Inputs	Quantity	Total cost
Total cost of providing service		
Service type: _____ Unit: _____		
Total cost of providing service		
Service type: _____ Unit: _____		
Total cost of providing service		

8. What is the percentage of cash and credit purchases per month?

Monthly sales on cash	Percentage	Amount
Monthly sales on credit	Percentage	Amount

9. What are the terms of credit purchases (e.g. 10 days, 20 days, 30 days, etc. or on sales basis in which case ask about estimated sales period)?

10. What is the ending inventory of materials used in the service provision?

Product (1)	Units (kg, etc.) (2)	Price (3)	Inventory amount (2 X 3)
1.			
2.			
3.			
4.			
5.			
Total			

C. Business Monthly Cash Flow and Income Statement

Cash flow		Income statement	
Cash in hand (beginning of the month)		Sales	
CASH INFLOW		Cost of services	
Cash sales		Input cost	
Recovered from credit sales		Wages	
Other business related cash inflows		Service related utilities	
Other cash inflows – business related		Others (item 1)	
Total cash inflow		Others (item 2)	
CASH OUTFLOW		Others (item 3)	
Cash purchases		Total COGS	
Paid for credit purchases		Gross margin (sales - COGS)	
Wages		Operating costs	
Salaries		Salaries	
Rent		Rent	
Utilities		Utilities (telephone, electricity, water, and gas)	
Transportation		Transportation	
Repairs and maintenance		Repairs and maintenance	
Food for employees		Food for employees	
Other business expenses		Other business expenses (specify)	
Owner's drawings/salary			
Interest and financial charges			
Data quality provision 10%		Owner's salary	
Loan principal payment		Interest and financial charges	
Capital purchases		Data quality provision 10%	
Total cash outflow		Total operating costs	
Net cash		Net margin (GM - total operating costs)	

D. Household Monthly Cash Flows

CASH INFLOWS	
Cash in hand at home	
Cash contributions from remittances	
Cash contributions from pensions	
Cash contributions from family members	
Cash contribution from other sources – committee, etc.	
TOTAL CASH RECEIPTS	
Total cash available	
CASH PAID OUT	
Rent	
Food expenses	
Children's education expenses	
Medical expenses	
Death/marriage expenses	
Utilities	
Clothing	
Social expenses	
Others	
Contingencies	
TOTAL CASH PAID OUT	
Net cash flow	

E. Business Balance Sheet

Business Assets	PKR	Business Liabilities and Equity	PKR
Current assets		Current liabilities	
Cash in hand		Accounts payables	
Cash in bank		Advance payments received	
Total accounts receivables		Interest payable	
Inventory – ending		Short-term bank loans payable	
Prepaid expenses		Short-term committee – liability	
Committee – savings		Long-term liabilities	
Other current assets		Long-term bank loans	
Total current assets		Other long-term loans	
Fixed assets		Other long-term loans	
Machinery and equipments			
Furniture and fixtures		Total liabilities	
Leasehold assets		Net worth	
Vehicles			
Land			
Other fixed assets			
Total fixed assets			
Other asset			
Other asset			
Total assets		Total liabilities and equity	

6.4.3 Trading Concern

1.	Serial no.	
2.	Date	____ / ____ / ____
3.	Result codes	1. Complete <input type="checkbox"/> 2. Incomplete <input type="checkbox"/>
4.	MFB/MFI name	
5.	Type of enterprise	Grocery store <input type="checkbox"/> Fruit and vegetable shops <input type="checkbox"/> Garments shops <input type="checkbox"/> Agricultural input supplies/fertilizer/pesticides shops <input type="checkbox"/> Clothes shops <input type="checkbox"/>
6.	Interviewer name	
7.	Interviewee name	
8.	Enterprise name	
9.	Address	
10.	Area	
11.	Location	
12.	Business age	
13.	No. of employees	
14.	Legal status	Sole proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/>
15.	No. of partners	
16.	Percentage of partnership	

1. What types of products do you trade?

- a. _____ c. _____
b. _____ d. _____

2. What is the cost of taking a loan from microfinance organization?

Loan amount taken		Instalment amount	
Number of instalments		Processing fee	
Documentation charges		Any other expense paid	
Insurance fee paid			

A. Information Regarding Business Sales

3. What are monthly sales for each of the products (units sold, unit price)?

Product wise sales information

Name of product	Product	Units sold	Frequency of sale	Unit sales price	Unit purchase price	Total sales/month
Total						

4. What is the seasonality of the business sales (this will also cross verify the above information)?

Seasonality for the year	Months	Amounts
Good month (G)		
Regular month (R)		
Bad month (B)		

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
G/R/B							
					Sales in a week		
					Sales in a month		

5. What percentage of cash and credit (average) sales per month?

Monthly sales on cash	Percentage	Amount
Monthly sales on credit	Percentage	Amount

6. What are the terms of credit sales (e.g. 10 days, 20 days, 30 days, etc. or on some random basis in which case ask about estimated period of receipt)?

B. Information Regarding Business Purchases**7. What are monthly purchases for each product type (unit purchased, unit price)?**

Purchases per product type

Products	Units purchased	Frequency	Unit price	Total purchases/month
Total				

8. What is the percentage of Cash and Credit Purchases per month?

Monthly sales on cash	Percentage	Amount
Monthly sales on credit	Percentage	Amount

9. What are the terms of credit purchases (e.g. 10 days, 20 days, 30 days, etc. or on sales basis in which case ask about estimated sales period)?**10. What is the ending inventory of all the products?**

Product (1)	Units (kg, etc.) (2)	Purchase price (3)	Inventory amount (2 X 3)
1.			
2.			
3.			
4.			
5.			
Total			

C. Business Monthly Cash Flow and Income Statement

CASH FLOW		INCOME STATEMENT	
Cash in hand (beginning of the month)		Sales	
CASH INFLOW		Cost of services	
Cash sales		Input cost	
Recovered from credit sales		Direct transportation	
Other business related cash inflows		Others (item 1)	
Other cash inflows – business related		Others (item 2)	
Total cash inflow		Others (item 3)	
CASH OUTFLOW			
Cash purchases		Total COGS	
Paid for credit purchases		Gross margin (sales - COGS)	
Wages		Operating costs	
Salaries		Salaries	
Rent		Rent	
Utilities		Utilities (telephone, electricity, water, and gas)	
Transportation		Transportation	
Food for employees		Food for employees	
Other business expenses		Other business expenses (specify)	
Owner's drawings/salary			
Interest and financial charges			
Data quality provision 10%		Owner's salary/drawings	
Loan principal payment		Interest and financial charges	
Capital purchases		Data quality provision 10%	
Total cash outflow		Total operating costs	
Net cash		Net margin (GM - total operating costs)	

D. Household Monthly Cash Flows

CASH INFLOWS	
Cash in hand at home	
Cash contributions from remittances	
Cash contributions from pensions	
Cash contributions from family members	
Cash contribution from other sources – committee, etc.	
TOTAL CASH RECEIPTS	
Total Cash Available	
CASH PAID OUT	
Rent	
Food expenses	
Children's education expenses	
Medical expenses	
Death/marriage expenses	
Utilities	
Clothing	
Social Expenses	
Others	
Contingencies	
TOTAL CASH PAID OUT	
Net cash flow	

E. Business Balance Sheet

Business Assets	PKR	Business Liabilities and Equity	PKR
Current assets		Current liabilities	
Cash in hand		Accounts payables	
Cash in bank		Advance Payments received	
Total accounts receivables		Interest payable	
Inventory – ending		Short-term bank loans payable	
Prepaid expenses		Short-term committee – liability	
Committee – savings		Long-term liabilities	
Other current assets		Long-term bank loans	
Total current assets		Other long-term loans	
		Other long-term loans	
Fixed assets			
Furniture and fixtures		Total liabilities	
Leasehold assets		Net worth	
Vehicles			
Land			
Other fixed assets			
Total fixed assets			
Other asset			
Other asset			
Total assets		Total liabilities and equity	

6.4.4 Agriculture Concern

1.	Serial no.	
2.	Date	_____ / _____ / _____
3.	Result codes	1. Complete <input type="checkbox"/> 2. Incomplete <input type="checkbox"/>
4.	MFB/MFI name	
5.	Branch	
6.	Type of crop assessed	A. Wheat <input type="checkbox"/> B. Rice <input type="checkbox"/> C. Cotton <input type="checkbox"/> D. Sugarcane <input type="checkbox"/> E. Vegetables <input type="checkbox"/>
7.	Interviewer name	
8.	Interviewee name	
9.	Name of head of household	
10.	Family size	
11.	Address	
12.	District	
13.	Type of land holding	<input type="checkbox"/> Own land kanals _____ <input type="checkbox"/> <i>Pagri/hari</i> kanals _____ <input type="checkbox"/> Rental/leased kanals _____
14.	Source of irrigation	
15.	No. of employees (if any)	<input type="checkbox"/> Canal <input type="checkbox"/> Tube well <input type="checkbox"/> <i>Barani/arid</i>
16.	No. of partners (if applicable)	
17.	Percentage of partnership (if applicable)	

1. What are the sources of funds for the activity?

- a. Loan from MFI/MFB _____
b. Suppliers' credit _____
c. Other _____
- d. Own investment _____
e. Friends/relatives _____

2. What major expenses did you incur/pay to get this loan?

Loan amount taken (PKR)		Instalment amount (PKR)	
Number of instalments		Loan period in months	
Documentation charges (PKR)		Processing fee (PKR)	
Insurance fee paid (PKR)		Any other expenses (PKR)	

3. Details of crop production for one season of activity.

	Month of Cultivation	Total Cultivated Area (kanals)	Total Production During Season	Produce Set Aside for Household Consumption (40 kg)	Produce Sold in the Season (40 kg)	Amount of Sales (PKR)
Highest						
Lowest						
Average						

4. What is the percentage of cash and credit sales per season?

	Quantity (kg)		Amount (PKR)			Percentage	
	Cash	Credit	Cash	Credit	Total	Cash	Credit
Highest							
Lowest							
Average							

5. What is the purchases/cost of input supplies for the activity?

Description	Seeds (PKR)		Pesticides (PKR)		Fertilizer (PKR)		Total
	Cash	Credit	Cash	Credit	Cash	Credit	
Highest							
Lowest							
Average							

6. What are operation expenses for the activity?

Description	Amount (PKR)		
	Highest	Lowest	Average
Tractor			
Water and tube well expenses			
Labour			
Picking and harvesting			
Trashing			
Land tenancy/lease payments			
Travel and transportation			
Others – service charges, processing fee, insurance, etc.			
Total			

A. Income Statement for the Activity

Particular		PKR
Sales		
Cash sales		
Credit sales		
Cost of input supplies		
Seed		
Fertilizer		
Pesticides		
Gross profit		
Operations expenses		
Others		
Net profit		

B. Balance Sheet

Assets	PKR	Liabilities and Equity	PKR
Current assets		Current liabilities	
Cash in hand		Suppliers' credit	
Cash in bank		Tenancy/lease payable	
Accounts receivables		MFI/MFB remaining loan	
Inventory		Committee payable	
Prepaid expenses			
Committee – savings			
Other current assets			
Total current assets		Total current liabilities	
Fixed assets			
Agriculture land		Long-term liabilities	
House and building		Total liabilities	
Furniture and fixtures			
Vehicles		Capital	
Animals		Current activity profit	
Other immovable assets		Net worth	
Total fixed assets		Total equity	
Total assets		Total liabilities and equity	

C. Cash Flow Analysis of the Activity

Description	Quarters					
	1	2	3	4	5	Total
Cash inflows						
Cash in hand						
Loan from MFI/MFB						
Sales of agriculture produce						
Recovery of credit sales of activity						
Sale of agriculture – by-products						
Total Cash inflow for the activity						
Cash outflows						
Cash paid for input supplies						
Cash paid for operations expenses						
Cash paid for loan instalments						
Other cash paid for the activity						
Cash paid for PF and insurance, etc.						
Cash paid for loan instalments						
Cash contribution to household expenses						
Total Cash outflow for the activity						
Cash closing balance						

D. Household Monthly Cash Flows

CASH INFLOWS	PKR
Cash in hand at home	
Cash contribution from agricultural activity	
Cash contributions from remittances	
Cash contributions from pensions	
Cash contributions from family members	
Cash contribution from other sources – committee, etc.	
Total family cash inflow	
CASH OUTFLOWS	
House rent (if rented)	
Utilities and telephone/cell phone	
Food expenses	
Children's education expenses	
Medical expenses	
Clothing, etc.	
Social expenses	
Others	
Total family cash outflow	
NET CASH FLOW	

6.4.5 Livestock Concern

1.	Serial no.	
2.	Date	_____ / _____ / _____
3.	Result codes	1. Complete <input type="checkbox"/> 2. Incomplete <input type="checkbox"/>
4.	MFB/MFI name	
5.	Branch	
6.	Nature of livestock activity	A. Rearing and fattening <input type="checkbox"/> B. Trading <input type="checkbox"/> C. Poultry <input type="checkbox"/>
7.	Interviewer name	
8.	Interviewee name	
9.	Name of head of household	
10.	Family size	
11.	Address	
12.	District	
13.	No. of employees (if any)	
14.	No. of partners (if applicable)	
15.	Percentage of partnership (if applicable)	

1. What types and number of livestock do you keep?

- a. _____ c. _____
b. _____ d. _____

2. What are your sources?

- a. Loan from MFI/MFB _____ d. Own investment _____
b. Suppliers' credit _____ e. Friends/relatives _____
c. Other _____

3. What major expenses did you incur/pay to get this loan?

Loan amount taken (PKR)		Instalment amount (PKR)	
Number of instalments		Loan period in months	
Documentation charges (PKR)		Processing fee (PKR)	
Insurance Fee Paid (PKR)		Any other expenses (PKR)	

4. Details of purchase and sale of animals

	Purchase			Sales		
	No.	Cost	Total	No.	Cost	Total
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						
Average						

5. What are your average operations costs?

Description	Amount (PKR)		
	Highest	Lowest	Average
Vaccination			
Fodder			
Bhussa, etc.			
Green charra			
Other expenses			
Transportation expenses			
Total			

A. Income Statement for the Activity

Particular	PKR
Sales of animals	
Cash sales	
Credit sales	
Cost of purchases of animals	
Gross profit	
Operations expenses	
Others	
Net profit	

B. Balance Sheet

Assets	PKR	Liabilities and Equity	PKR
Current assets		Current liabilities	
Cash in hand		Suppliers' credit	
Cash in bank		Tenancy/lease payable	
Accounts receivables		MFI/MFB remaining loan	
Inventory		Committee payable	
Prepaid expenses			
Committee savings			
Other current assets			
Total current assets		Total current liabilities	
Fixed assets			
Agriculture land		Long-term liabilities	
House and building		Total liabilities	
Furniture and fixtures			
Vehicles		Capital	
Animals		Current activity profit	
Other immovable assets		Net worth	
Total fixed assets		Total equity	
Total assets		Total Liabilities and Equity	

C. Cash Flow Analysis of the Activity

Description	Quarters				
	1	2	3	4	Total
Cash Inflows					
Cash in hand					
Loan from MFI/MFB					
Sales of animals					
Recovery of credit sales of activity					
Sale of animals: by-products					
Total Cash inflow for the activity					
Cash Outflows					
Cash paid for operations expenses					
Cash paid for loan instalments					
Other cash paid for the activity					
Cash paid for PF and insurance, etc.					
Cash paid for loan instalments					
Cash contribution to household expenses					
Total Cash outflow for the activity					
Cash closing balance					

D. Household Monthly Cash Flow

CASH INFLOWS	PKR
Cash in hand at home	
Cash contribution from animal trading activity	
Cash contributions from remittances	
Cash contributions from pensions	
Cash contributions from family members	
Cash contribution from other sources – committee, etc.	
Total family cash inflow	
CASH OUTFLOWS	
House rent (if rented)	
Utilities and telephone/cell phone	
Food expenses	
Children's education expenses	
Medical expenses	
Clothing, etc.	
Social expenses	
Others	
Total family cash outflow	
NET CASH FLOW	

6.4.6 Livestock Concern (milking)

1.	Serial no.	
2.	Date	_____ / _____ / _____
3.	Result codes	1. Complete <input type="checkbox"/> 2. Incomplete <input type="checkbox"/>
4.	MFB/MFI name	
5.	Branch	
6.	Nature of livestock activity	Milking <input type="checkbox"/>
7.	Interviewer name	
8.	Interviewee name	
9.	Name of head of household	
10.	Family size	
11.	Address	
12.	District	
13.	No. of employees (if any)	
14.	No. of partners (if applicable)	
15.	Percentage of partnership (if applicable)	

1. What types and number of livestock do you keep for the activity?

- a. _____ c. _____
b. _____ d. _____

2. What are the sources of funds of funds for the activity?

- a. Loan from MFI/MFB _____ d. Own investment _____
b. Suppliers' credit _____ e. Friends/relatives _____
c. Other _____

3. What major expenses you incurred/paid to get this loan?

Loan amount taken (PKR)		Instalment amount (PKR)	
Number of instalments		Loan period in months	
Documentation charges (PKR)		Processing fee (PKR)	
Insurance fee paid (PKR)		Any other expenses (PKR)	

4. What is detail of animals and cost of purchase delivered?

Type of Animal	Number of Animals	Year/month of Purchase	Purchase Price (PKR)	Own Investment (PKR)	MFI/MFB loan (PKR)	Purchased/

5. What is average monthly sale of milk?

Description of Sales	Sales						
	Quantity (kg)		Amount (PKR)			Percentage	
	Cash	Credit	Cash	Credit	Total	Cash	Credit
Highest							
Lowest							
Average							

6. What is average operations cost of animals?

Description	Amount (PKR)		
	Highest	Lowest	Average
Vaccination			
Fodder			
<i>Bhussa, etc.</i>			
<i>Green charra</i>			
Other expenses			
Total			

A. Income Statement for the Activity

Particular	PKR
Sales of Milk	
Cash sales	
Credit sales	
Operations Expenses	
Vaccination	
Fodder	
<i>Bhussa, etc.</i>	
<i>Green charra</i>	
Others expenses – SC, PF, etc.	
Net profit	

B. Balance Sheet

Assets	PKR	Liabilities and Equity	PKR
Current assets		Current liabilities	
Cash in hand		Suppliers' credit	
Cash in bank		Tenancy/lease payable	
Accounts receivables		MFI/MFB remaining loan	
Inventory		Committee payable	
Prepaid expenses			
Committee – savings			
Other current assets			
Total current assets		Total current liabilities	
Fixed assets			
Agriculture land		Long-term liabilities	
House and building		Total liabilities	
Furniture and fixtures			
Vehicles		Capital	
Animals		Current activity profit	
Other immovable assets		Net worth	
Total fixed assets		Total equity	
Total assets		Total liabilities and equity	

C. Cash Flow Analysis of the Activity

Description	Quarters				
	1	2	3	4	Total
Cash Inflows					
Cash in hand					
Loan from MFI/MFB					
Sales of milk					
Recovery of credit sales of activity					
Sale of milk – by-products					
Total Cash inflow for the activity					
Cash Outflows					
Cash paid for operations expenses					
Cash paid for loan instalments					
Other cash paid for the activity					
Cash paid for PF and insurance, etc.					
Cash paid for loan instalments					
Cash contribution to household expenses*					
Total Cash outflow for the activity					
Cash closing balance					

D. Household Monthly Cash Flow

CASH INFLOWS	PKR
Cash in hand at home	
Cash contribution from milking activity*	
Cash contributions from remittances	
Cash contributions from pensions	
Cash contributions from family members	
Cash contribution from other sources – committee, etc.	
Total family cash inflow	
CASH OUTFLOWS	
House rent (if rented)	
Utilities and telephone/cell phone	
Food expenses	
Children's education expenses	
Medical expenses	
Clothing, etc.	
Social expenses	
Others	
Total family cash outflow	
NET CASH FLOW	

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