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The Role of Micro-finance Institutions in Reducing Poverty Among Women in Zimbabwe

BY

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APPROVAL FORM

l Digital Wise Mugariri declare that this submission is my work apart from the references of other people's work which has been acknowledged. l do hereby declare that this work has neither been presented in whole or part of any degree at this university.

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Dedication

To my parents, my brother, my relatives and all my friends

Acknowledgments

I extend my utmost gratitude to the divine being who has bestowed upon me the gift of the Holy Spirit, guiding and illuminating my path. I would also like to thank my Father, my Mom and my younger Brother for their continuous support towards my academics. I would like to express my deepest appreciation to my supervisor, , for her unwavering support, guidance, and expertise. Without her continuous assistance and dedication throughout the entire project, the completion of this dissertation would not have been possible. I am also grateful to the Department of Mathematics at Bindura University of Science Education for providing me with invaluable academic knowledge. I would like to acknowledge and thank all my colleagues for their unwavering support and the enriching experiences we shared during this program.

ABSTRACT

The microfinance program has been widely recognized as a development strategy with the potential to improve the economic performance of impoverished individuals. In Zimbabwe, the government has actively attempted to address poverty through initiatives such as microfinance loans. However, despite these efforts, poverty remains prevalent and widespread, especially amongst women. This study examines the impact of microfinance on poverty reduction amongst women in Zimbabwe. The study focuses on the social and economic empowerment of women, as well as the reduction of household poverty and the overall economic development. It aims to demonstrate how microfinance works in reducing poverty and improving the living standards of women in Zimbabwe, particularly by providing access to finance for poor women. Data was collected from RBZ website, and descriptive statistics and a Binary Logit Regression Model were used to analyze the data. The results indicate that microfinance loans have had a significant positive effect on reducing poverty amongst Zimbabwean women. The study suggests that microfinance institutions have a direct impact on household income by promoting productivity, diversifying production, and maximizing the utilization of available resources.The government is advised to create a more supportive environment to enhance the effectiveness of microfinance operations, particularly among women. Additionally, microfinance institutions are encouraged to raise awareness about their services and reduce the strict requirements for accessing loans.

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Abbreviations and Acronyms

MFIs: Microfinance Institutions

RBZ: Reserve Bank of Zimbabwe

ADF: Argumented Dickery Fuller

AIC: Akaike Information Criterion

SPSS: Statistical Package for Social Sciences

UN: United Nations

UNIFEM: United Nations Development Fund for Women

UNIDO: United Nations Industrial Development Organization

ILO: International Labour Organisation

USAID: United States Agency for International Development

SMEs: Small and Medium Enterprises

GDP: Gross Domestic Product

RBV: Resource Based View

OECD: Organisation for Economic Co-operation and Development

FINCA: Foundation of International Community Assistance

PSM: Propensity Score Matching

CFPB: Consumer Financial Protection Bureau

VIF: Variable Inflation Factor

CHAPTER 1: INTRODUCTION

1.1 Introduction of the study

Poverty is a multidimensional phenomenon that affects millions of people around the world, especially in developing countries. According to the World Bank, in 2020, 10.7% of the world's population lived on less than $1.90 per day. Poverty has a disproportionate impact on women, who face various forms of gender-based discrimination and exclusion. According to UN estimates, 60% of the world's poor are women. Women also shoulder unpaid care work, have limited access to education, health care and financial services, and are more vulnerable to violence, exploitation and environmental degradation. Microfinance is one of the strategies that has been widely adopted to address poverty and empower women in developing countries. Microfinance refers to the provision of small loans, savings, insurance, and other financial products and services to low-income people who lack access to formal banking systems. Microfinance aims to enable poor people to generate income, build assets, manage risks, and improve their living standards.

This dissertation consists of five chapters. Chapter 1 introduces the study, including the background, problem statement, research objectives, significance, scope, and limitations. Chapter 2 reviews the relevant literature on microfinance, poverty alleviation, and women's empowerment, providing a theoretical framework. Chapter 3 describes the research methodology, including the study design, data collection methods, and data analysis techniques. Chapter 4 presents the study's findings, and Chapter 5 concludes the dissertation by summarizing the key findings, discussing the implications, and providing recommendations for future research and practice

1.2 Background of the study

In general, women are more likely to be impoverished and face greater disadvantages compared to men (Addney, 2016). Manjoor & Manders (2009) state that approximately 70% of the world's poorest individuals are females, largely due to gender inequality.

Within this group, 87.7% of poor women reside in two regions, namely Sub-Saharan Africa and Southern Asia (UN, 2022). Sub-Saharan Africa alone is home to 62.8% of poor women, amounting to 244 million out of a global total of 388 million extremely poor women.

The global poverty experienced by women is primarily attributed to the unequal access they have to economic opportunities compared to men (UNIFEM, 2012). Women and girls constitute three-fifths of the world's destitute population (UNIDO, 2016), and the poverty rate among women is higher than that of men (ILO, 2018). This discrepancy can be traced back to gender disparities in decision-making, employment prospects, and educational attainment (Lesetedi, 2018). Throughout the 20th century, women have consistently represented the majority of the poor, highlighting their ongoing disadvantaged status (Magaji, 2004). Additionally, women's poverty is exacerbated by societal discrimination against them (USAID, 2020). It is considered a feminist issue rooted in social norms and legal frameworks that restrict women's access to the public sphere, perpetuating the false belief that women are inherently less intelligent and physically capable than men (Tong, 2013).

According to the World Bank (2019), women are responsible for producing 50% of the world's food, performing 66% of the labor, earning only 10% of the income, and owning just 1% of the property. This data highlights the pervasive gender inequality that contributes to women's poverty. It also aligns with feminist theory, which asserts that poverty is feminized (Tong, 2013).

The deprivation argument, derived from feminist theories, suggests that cultural attitudes hinder women from accessing education, professional experience, networking opportunities, and financial resources (Cron, Bruton & Slocum, 2006; Appelbaum, Audet & Miller, 2003). This lack of opportunities particularly affects women who are running their own businesses. Due to poverty, the majority of women lack the capital necessary to launch, develop, and expand their enterprises (World Bank, 2021).

Due to various challenges such as lack of collateral, sound business plans, business history, and proper accounting records, the majority of women face difficulty in accessing capital from traditional banks (Boateng & Poku, 2019). As a result, women

often turn to microfinance institutions (MFIs) to obtain financial products for starting, developing, and growing their businesses (Khan & Anuar, 2018). MFIs are specialized institutions that provide financial services to vulnerable individuals, particularly financially excluded women (Reserve Bank of Zimbabwe Banking and Supervision Report, 2020).

MFIs play a crucial role in providing credit to women-owned small and medium enterprises (SMEs) who are unable to access loans from conventional banks (Agarwal et al., 2021). They offer essential resources that women-owned businesses require for growth and development (Sommer, 2021). In addition to financial products, women-owned businesses also need non-financial support such as business advice, training, and bookkeeping services (Njanike, 2019). It is believed that when women have access to both financial and non-financial products, their businesses can thrive in terms of employees, assets, stock levels, and services offered (Gherghina, Botezatu, Hossu, & Simionescu, 2020; Ndiaye, Razak, Nagayev, Ng, 2018; Perez-Gomez, Arbelo-Perez & Arbelo, 2018). Access to financial products also helps sustain women-owned businesses and prevents their collapse (Munyao, 2012).

Furthermore, the provision of microcredit by MFIs not only benefits women-owned businesses but also contributes to innovation, macroeconomic resilience, and the overall Gross Domestic Product (GDP) (Dahlberg Report, 2011). The availability of resources, such as credit, plays a crucial role in determining the growth rate of a company, as supported by the Resource-Based View (RBV), which emphasizes the competitive advantage derived from a firm's resources (Barney, 2001).

Microfinance institutions provide women with opportunities to enhance their societal status by investing money in self-employment projects (Hulme & Mosley, 2016). The use of microfinance products has economically empowered a significant number of women worldwide (Thanh, 2021; Adeola & Evans, 2017). Extensive development literature emphasizes the benefits of women's economic empowerment (Slegh, Barker, Kimonyo, Ndolimana & Bannerman, 2013). Investing in women directly contributes to achieving gender equality, eradicating poverty, and fostering inclusive economic growth (United Nations Women, 2015). The development of women's small and medium-sized enterprises (SMEs) is crucial for the economic growth and development

of any country (UNIDO, 2010) and is a prerequisite for sustainable development that benefits the impoverished (OECD, 2012). Ghani, Kerr, and O'Connell (2013) recognize the increasing role of women as a key factor in the global economy's recent expansion. The managing director of the International Monetary Fund also asserts that economies perform better when women succeed (Lagarde, 2013). It is widely believed that promoting the growth of women-owned SMEs is a fundamental strategy for advancing women's rights, promoting economic development, reducing poverty, and improving health, education, and welfare (Golla, Malhotra, Nanda, and Mehra, 2010). Consequently, several researchers, including Mayoux (2000) and Tucker and Boonabaana (2012), concur that developing women-owned SMEs is crucial in reducing poverty, particularly in developing countries with a predominantly poor population facing political and economic challenges (Karlberg, 2018).

To promote the development of women-owned SMEs and their active participation in the economic activities of their respective countries, governments and stakeholders in SME development are focusing on formulating policies that specifically target the growth of women-owned SMEs. In this regard, microfinance programs have gained recognition as a developmental tool for fostering women's SMEs worldwide (Imran, Haq & ozcatalbas, 2022; Arinze, Hussain & Gohary, 2018).

Globally, pioneering microfinance models like the Grameen Bank in India have believed that providing financial capital is instrumental in enabling women to establish their own businesses. They also hold the view that the poor lack entrepreneurial opportunities primarily due to a lack of financial capital (McKenzie & Woodruff, 2014; O'Dell, 2010). Microfinance is equally perceived as a means of poverty alleviation and a source of financing for SMEs (RBZ, 2026). In Zimbabwe, microfinance programs are also considered tools for promoting financial inclusion (RBZ, 2020). However, it is argued that mere access to financial capital alone is insufficient to ensure successful entrepreneurship development and women's empowerment (McKenzie & Woodruff, 2014; O'Dell, 2010). The Resource-Based View (RBV) and the Human Capital Theory posit that women-owned SMEs can enhance their competitive advantage through the provision of both financial and human capital (Luthans & Youssef, 2007). As a result, many microfinance institutions worldwide now adopt integrated "credit plus" programs

that offer various forms of non-financial support in addition to financial capital to their clients.

Credit programs combined with educational initiatives have experienced significant growth on a global scale. Microfinance institutions (MFIs) offer financial and non-financial products, including training in areas such as bookkeeping and customer care, tailored to the needs of their clients (Taiwo, 2018; Lensink, Mersland Vu and Zamore, 2017). This has sparked ongoing discussions regarding the effectiveness of providing finance alone versus providing finance along with training in fostering the development of women-owned SMEs, which in turn contributes to economic development (Bruton, Ahlstrom & Si, 2015). Some argue that solely providing financial resources to women does not necessarily lead to the development of women-owned SMEs (Hase, 2006). Moreover, it is important to recognize that providing women with financial resources does not automatically guarantee their control over how the funds are utilized, and the pressure to repay loans may add to the already significant responsibilities borne by women.

Within the Zimbabwean context, microfinance institutions (MFIs) have experienced market failure despite operating for over 20 years. Specifically, in Zimbabwe, MFIs disbursed $15 million in 2017, $80.01 million in 2018, $222.54 million in 2019, $673.78 million in 2020, and $2629.30 billion in 2021 to women-owned SMEs. However, despite accessing loans from MFIs, a significant number of women in Zimbabwe continue to face poverty, and their businesses have not experienced significant growth.

1.2 Problem Statement

The effectiveness of microfinance institutions in alleviating poverty among women in Zimbabwe is still a topic of debate, despite the growth of these institutions. Although microfinance institutions in Zimbabwe are experiencing rapid growth and generating significant profits, poverty rates continue to rise. This raises concerns about the impact of microfinance lending facilities. Therefore, the purpose of this study is to explore the relationship between the growth of microfinance institution loans and poverty reduction.

1.3 Research Objectives

This dissertation aims to investigate the role of microfinance institutions in alleviating poverty among women in Zimbabwe. The specific objectives are as follows:

1. To assess the impact of microfinance institutions on women's income generation.
2. To identify the factors that facilitate or hinder women participation in microfinance services.

1.4 Research Questions

1. How do microfinance institutions affect women's ability to generate income in Zimbabwe.
2. What are the main challenges faced by women in accessing microfinance services in Zimbabwe.

1.5 Significance of the Study:

This study is significant as it contributes to the existing literature on microfinance and poverty alleviation in developing economies, particularly in Zimbabwe. It provides empirical evidence on the effectiveness and efficiency of microfinance institutions in Zimbabwe, using quantitative data from secondary sources. The study also offers practical insights and recommendations for policymakers, practitioners, donors, and researchers on how to enhance the role of microfinance in reducing poverty among women in Zimbabwe.

1.6 Scope and Limitations:

This study focuses specifically on women in Zimbabwe and their experiences with microfinance institutions. It utilizes quantitative research methods to gather data and analyze the role of microfinance institutions in poverty alleviation. However, it is important to acknowledge certain limitations. The findings may not be applicable to all regions of Zimbabwe or to other countries with different socio-economic contexts. Additionally, the study relies on self-reported data, which may be subject to biases and

inaccuracies. Despite these limitations, the study aims to provide valuable insights into the role of microfinance institutions in alleviating poverty among women in Zimbabwe.

1.7 Assumptions of the study

1. The data utilized for the research is dependable and precise
2. The dataset does not include any noteworthy outliers that could impact the performance of the model.

1.8 Definition of terms

1.9.1 Microfinance

Microfinance refers to the provision of small-scale financial services to individuals who are commonly considered disadvantaged and lacking access to traditional financial systems. These individuals are typically excluded from financial inclusion due to various requirements and barriers (Ledgerwood, 1998).

1.9.2 Microfinance institutions

Microfinance institutions refers to specialized financial institutions which provide financial services to individuals who are marginalized and often unable to access traditional banking services due to a lack of collateral or other requirements (Ledgerwood, 1998).

1.9.3 Poverty

Poverty can be defined as a state of deprivation characterized by a lack of basic resources and opportunities necessary for an individual or a community to meet their basic needs and participate fully in society (World Bank, 2020).

1.9.4 Poverty alleviation

Poverty alleviation refers to the efforts and strategies aimed at reducing and ultimately eradicating poverty by improving the economic, social, and overall well-being of individuals and communities affected by poverty (United Nations Development Programme, 2020).

1.9 Chapter Conclusion

The introductory chapter provides a clear overview of the research topic and its main focus. It outlines the background that motivated the researcher to undertake this study, as well as the problem statement, significance of the study, and limitations. The background section sets the direction for the entire study, and the subsequent section reviews relevant literature.

CHAPTER 2: REVIEW OF RELATED LITERATURE

2.1 Introduction to Literature review

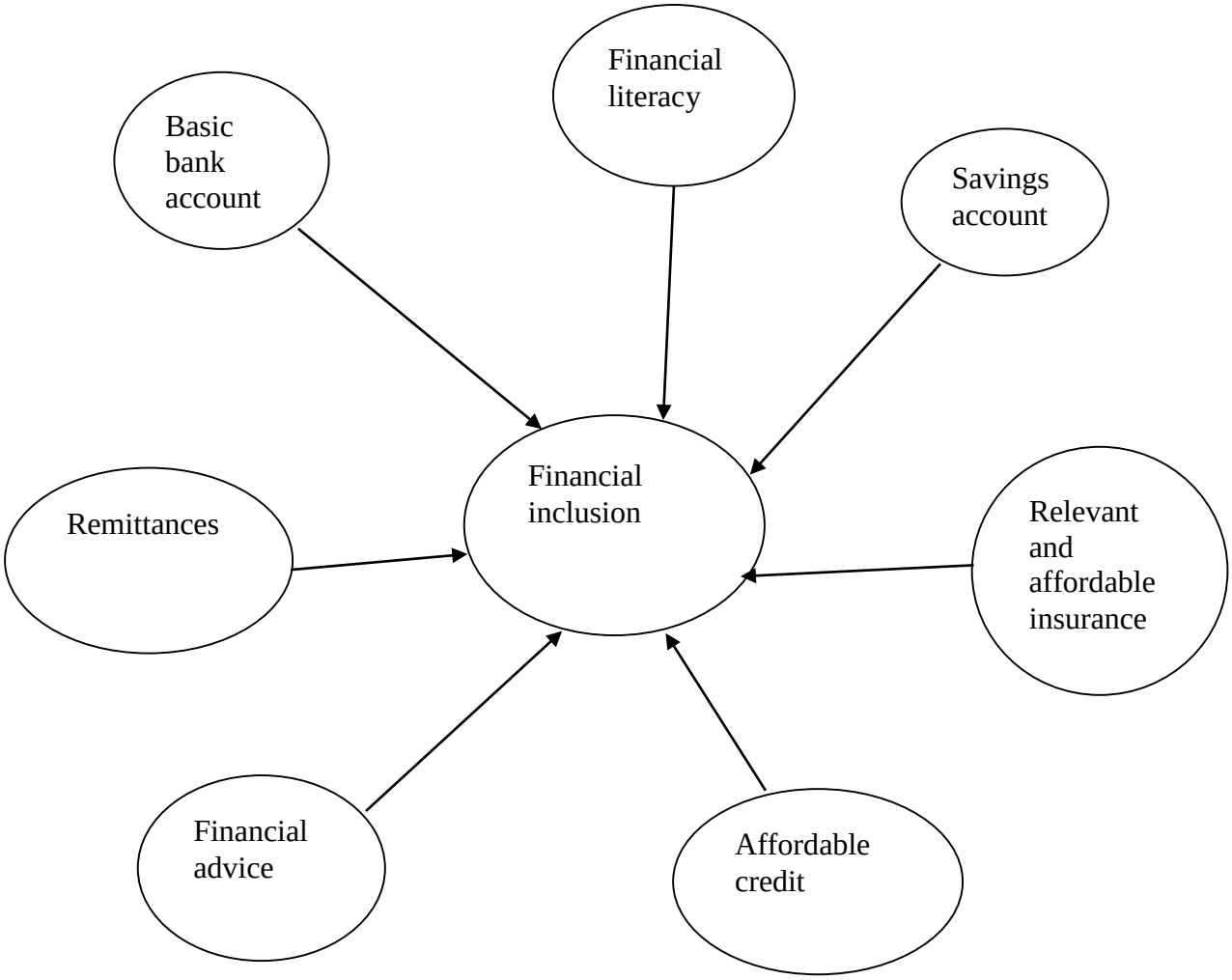
This chapter provides an overview of the existing literature on the role of microfinance institutions (MFIs) in reducing poverty among women in Zimbabwe. It critically examines previous studies, theoretical frameworks, and empirical evidence to establish the foundation for the research, identify research gaps, and emphasize the importance of the study.

2.2 Theoretical Literature

The theoretical framework explores the role of MFIs in poverty alleviation, particularly in empowering women and addressing gender disparities. It aims to provide a comprehensive understanding of how MFIs can contribute to poverty reduction among women in Zimbabwe by examining various theoretical perspectives and concepts. The main objective of the theoretical frame work is to direct the objectives of the research (Lederman and Lederman, 2017). The framework is underpinned by the Financial Inclusion theory, Social Capital theory, and Empowerment theory.

2.2.1 Financial Inclusion

Figure 2.1 Components of Financial Inclusion



Financial inclusion, specifically targeting women and the general population, is promoted through government policies as shown in Figure 2.1 above. While there are different definitions of financial inclusion in the literature, the common idea is that it refers to providing access to credit, savings, and payment services to everyone(Wu 2005). The United Nations(2007) defines financial inclusion as ensuring that everyone has access to credit, savings, and payment services. Similarly, financial inclusion is seen as the process of ensuring that vulnerable groups, such as women and low-income individuals, have timely and affordable access to financial services, according to Fiallos and Wu(2005). Basavaraja(2009) defines financial inclusion as the provision of banking services to disadvantaged and low-income individuals at a reasonable cost.

In the context of the topic under study, It highlights that access to financial services can empower individuals, particularly women, by enabling them to save, invest, and build assets, thereby contributing to poverty alleviation and economic development.

Prominent figures such as Mohammad Yunus and Elisabeth Rhyne have emphasized the transformative potential of financial inclusion for women. They advocate for inclusive financial systems that provide affordable and appropriate financial services to underserved populations, as they believe that empowering women economically has a positive impact on their families and communities.

2.2.2 Social Capital Theory

Social Capital theory, as defined by Pierre Bourdieu (1985), is a sociological concept that refers to the resources, relationships, and networks that individuals and groups possess within a social structure. It highlights the idea that social networks have inherent value and can provide individuals with advantages in various aspects of life, such as employment, education, health, and overall well-being.

In relation to the topic being studied, Microfinance institutions can help create bridging social capital for women by connecting them to financial resources, training programs, and business networks. This allows women to access financial services, receive entrepreneurship and financial literacy training, and become part of a network of women entrepreneurs. These connections provide them with access to information, markets, and new opportunities, enabling them to expand their businesses and improve their incomes.

Microfinance institutions can also assist women in Zimbabwe in developing linking social capital by connecting them to formal financial institutions, government agencies, and business networks. Through these connections, women can access additional financial resources, government programs, market linkages, and training opportunities. Linking social capital helps women navigate bureaucratic obstacles, access public services, and negotiate better terms with suppliers and buyers.

2.2.3 Empowerment Theory

Empowerment theory describes empowerment as a multidimensional concept that operates at the individual, organizational, and community levels. It emphasizes enabling individuals or groups to have control over their lives and make decisions that affect them. Empowerment theory includes dimensions such as competence, meaning, impact, and self-determination. It provides a framework for understanding and promoting social change, equality, and individual agency. By focusing on power dynamics, participation, critical consciousness, self-efficacy, and strengths, it aims to create conditions where individuals and communities can take control of their lives and shape their futures.

In the context of the topic being studied, empowerment theory recognizes that economic empowerment is a fundamental aspect of overall empowerment. Microfinance institutions provide financial services to women who often lack collateral or credit history, enabling them to start or expand small businesses, generate income, and improve their economic well-being. By gaining control over financial resources, women can enhance their decision-making power, improve their living conditions, and break the cycle of poverty.

Empowerment theory emphasizes the importance of autonomy and agency in decision-making processes. Microfinance institutions not only provide financial resources but also promote financial literacy and entrepreneurship training, helping women develop the necessary skills and knowledge to effectively manage their businesses. This increased autonomy and agency enable women to make informed decisions about their economic activities, investments, and future prospects.

Empowerment theory recognizes the significance of social capital and networks in empowering individuals and communities. Microfinance institutions often foster group-based lending models, such as microcredit or self-help groups, where women come together, support each other, and collectively address their financial needs. These groups create a sense of solidarity, provide a platform for knowledge sharing, and encourage women to advocate for their rights and interests beyond financial matters.

Empowerment theory highlights the importance of building confidence and self-efficacy. By providing access to financial services, microfinance institutions empower women to take control of their economic lives, which enhances their self-belief and confidence. As women successfully manage their businesses and repay loans, they develop a sense of accomplishment and empowerment that extends to other aspects of their lives.

Empowerment theory acknowledges the structural factors contributing to gender inequality and emphasizes the need for social transformation. Microfinance institutions often prioritize lending to women, as they are more likely to invest in their families and communities, leading to positive social impacts. By increasing women's economic power, microfinance institutions contribute to challenging traditional gender roles and norms, promoting gender equality, and fostering broader social change.

2.3 Empirical studies

A study conducted by Kandemir and Aktas (2011) in Turkey, focusing on the significance of microfinance in combating poverty. The researchers aimed to demonstrate that supporting impoverished individuals who are willing to generate income is crucial for achieving long-term and sustainable solutions to poverty. They analyzed the impact of employment creation on reducing poverty by examining the relationship between the number of poor individuals (represented by green card holders) in cities and the number of enterprises. The study found that the rate of poverty in Turkish cities, as indicated by the percentage of people with green cards, was best explained by the number of entrepreneurs per capitaI. Increasing the number of entrepreneurs in poverty-stricken areas was identified as a long-term and effective solution for poverty reduction. Microcredit, particularly targeted at entrepreneurial-minded individuals, including poor women, was identified as a means to increase the number of entrepreneurs. The study highlighted the importance of improving access to financial services for the poor, especially those with entrepreneurial ideas, to enhance their income levels. The study utilized a regression model that demonstrated how employment opportunities can reduce poverty. The number of poor citizens, measured by the number of green card holders, was the dependent variable, while the number of entrepreneurs in cities was the independent variable. The findings indicated that a higher concentration of potential entrepreneurs in a city leads to an increase in the

number of enterprises, subsequently reducing poverty. The research concluded that a unit increase in the per capita number of entrepreneurs results in a 10.48-unit decrease in poverty. Therefore, embracing microfinance to support entrepreneurship and create employment opportunities is essential for poverty reduction in Turkey. However, microfinance alone cannot serve as a comprehensive poverty alleviation tool, and a combination of approaches, including social aid organizations like Kiva and Lend with Care, is necessary to effectively support the poor at a national level.

A study conducted by Nsanganzelu (2015) in Dar es Salaam, a major city and commercial port. The study focused on the Dar es Salaam Commercial Bank as a case study. The findings of the research indicated that the bank played a significant role in reducing poverty and vulnerability among the poor. It helped break the cycle of poverty and empowered individuals, promoting self-empowerment, respect, and social dignity. The study also mentioned the importance of microfinance in investing in human capital, such as education and reproductive health, and improving individual and household welfare. The research by Nsanganzelu (2015) involved 400 credit beneficiaries in Dar es Salaam, including both bank employees and residents. Questionnaires were used to collect information, and the findings showed that microfinance had a positive impact on poverty reduction in the urban society of Dar es Salaam. The research emphasized the need for a well-established microfinance sector for positive outcomes and recommended that regulatory authorities ensure growth while protecting consumers to promote inclusive financial systems.

A study conducted by Kaseva (2017) examines the impact of microfinance institutions on poverty reduction in the Kinondoni District of Dar es Salaam, Tanzania. The research collected data from 115 clients residing in the district and conducted interviews with three loan officers selected through purposive sampling. The study measures the effectiveness of microfinance by analyzing the total income generated from entrepreneurial activities. The data were analyzed using descriptive statistics and the ordinary least square method. The findings indicate that individuals' income increases when they have access to loans, which is influenced by factors such as collateral, cash inflows, and education. However, despite targeting the poor as beneficiaries, it is observed that only individuals with high collateral, high cash inflows, and high education levels tend to be successful. The study suggests that providing

training on business management fundamentals to potential borrowers could enhance the effectiveness of microfinance in poverty reduction.

Mboma (2014) conducted a study on the impact of the microfinance industry on poverty reduction specifically focusing on FINCA in Dar es Salaam. The study utilized a case study design and involved a sample of 63 respondents. Primary data was collected through questionnaires and interviews, while secondary data was obtained through documentary analysis. Data analysis was performed using SPSS and the regression analysis model and findings were presented through tables and figures.
The study revealed that a majority of the respondents (64.2%) identified income level as a significant indicator of living standards. Furthermore, a large number of respondents (39.7%) recognized that technological improvements contribute to the growth of microfinance. Additionally, a majority of the participants (55.2%) emphasized the need to enhance the service environment. The study concluded that microfinance institutions play a significant role in poverty reduction and improving living standards by creating jobs and promoting savings. It highlighted the importance of providing appropriate opportunities and incentives for the poor to save, which enables them to accumulate assets for business and household purposes while earning interest on their savings. However, the study also identified several challenges faced by MFIs, including inadequate funding sources, competition, poor management skills, and a lack of governance. To address these challenges, the study recommended that MFIs strategically address business-related issues such as defining job roles, hiring and training employees, monitoring performance, and fostering a motivating organizational culture.

In a study conducted by Christensson (2017), the relationship between access to microfinance institutions and poverty reduction in Nigeria was examined. The study used ordinary least square regression and found a negative correlation between the number of microfinance institutions and poverty levels. As a result, the study concluded that microfinance institutions play a role in decreasing poverty levels in Nigeria. This suggests that an increased presence of microfinance institutions in impoverished areas can help reduce poverty levels in the country.

Kasali (2020) conducted a primary research analysis on the impact of microfinance loans on poverty alleviation in Southwest Nigeria. The study employed a stratified sampling technique to collect cross-sectional data through structured questionnaires. The Propensity Score Matching (PSM) methodology was used to analyze the results. The study revealed that microfinance loans have favorable contributions to poverty alleviation in the study area, but government assistance is still necessary. Governments should support microfinance institutions by providing funds that can be disbursed at concessional interest rates. Additionally, the availability of better infrastructure and a more enabling environment would encourage the establishment of more microfinance institutions in rural areas.

The issue of poverty reduction in Zimbabwe was examined by Mhlanga (2020) by focusing on the access of smallholder farmers to financial services. The study utilized simple regression analysis with a focus on financial inclusion, exploring whether smallholders have access to funding, financial institutions, and credit facilities. The results indicated that when farmers are financially included, there is a positive impact on poverty reduction. The study emphasized the importance of ensuring that farmers participate in the financial sector through activities such as saving, borrowing, and obtaining insurance services in order to address poverty among smallholder farmers. Despite an increase in financial inclusion, the study noted the persistent growth of poverty in Zimbabwe.

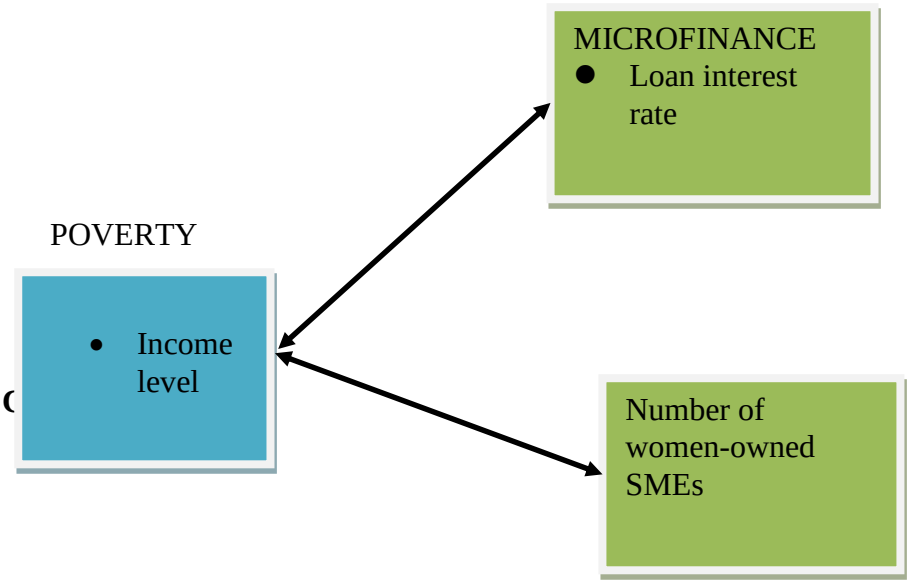
2.4 Research Gap

The role of microfinance institutions in reducing poverty among women has garnered significant attention from researchers. Numerous studies have been conducted on this topic using various models and independent variables. However, most of the research has been conducted in countries with better economic conditions than Zimbabwe. There is a lack of research on this matter in Zimbabwe, despite its escalating poverty rate. Existing studies in Zimbabwe have focused on different independent variables and faced challenges in being published. Therefore, there is a need for further research to assess the effectiveness of microfinance institutions in poverty alleviation among women, considering income generation and overall well-being. Additionally, the research should explore the factors that contribute to the success or failure of microfinance interventions in reducing poverty.

2.5 Conceptual framework

The conceptual framework aims to establish a theoretical basis for studying the impact of MFIs on poverty reduction among women in Zimbabwe. It focuses on the relationship between the Income level (dependent variable) and loan interest rate, number of women-owned SMEs (independent variables). By understanding these relationships, the framework aims to uncover the factors that contribute to the success of microfinance interventions and their potential for empowering women and promoting sustainable development.

Figure 2.2: Conceptual framework



2.6 C

Research on the role of microfinance institutions in reducing poverty among women has been conducted by various researchers in different countries, yielding diverse results. However, these results cannot be universally applied as each country has unique factors influencing poverty reduction. Furthermore, there is currently no forecast predicting the future impact of microfinance institutions in reducing poverty among women. Therefore, this research also addresses the issue of forecasting.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

The following chapter provides the methodology that was utilized to break down the role of microfinance institutions in poverty alleviation amongst women in Zimbabwe considering yearly data from 2000 to 2022 which is 23 observations. For this reason, the Logistic regression Distribution was used to meet the objectives stated in the first chapter of this study. The research methodologies are described in the chapter hence consisting of the study design, data sources, research methodologies, data gathering strategies, and data analysis procedures.

3.1 Research Design

The main purpose of a research design is to ensure the evidence found that enables the researcher to answer the question with justice. The study used quantitative research design to evaluate the role of microfinance institutions in poverty alleviation amongst women in Zimbabwe during the year 2000 to 2022. This research design is useful in this study as it ensures in-depth analysis and description of the various factors in the research. The dependent variable in this study was Income Level and independent variables were Loan interest rate and the number of women-owned SMEs.

3.2 Research Philosophy

Scientific research philosophy is a methodology that enables researchers to convert theories into knowledge based on their perception of the world. According to Saunders et al. (2009) and Cooper & Schindler (2008), researchers' beliefs, norms, and values play a crucial role in determining the approaches to research and in producing reliable results. The discipline of research philosophy encompasses four fundamental themes: positive research philosophy, interpretative research philosophy, pragmatism research philosophy, and realistic research philosophy, which have been extensively explored by various authors.

For this study, the methodology employed was based on the positivism research paradigm. Positivism emphasizes the measurement of variables and the establishment of general causal relationships through hypotheses. When there is sufficient theoretical

justification for the research question, hypotheses can be formulated and evaluated using quantitative data (Antwi & Kasim, 2015). In positivism, the researcher's role is limited to data collection and objective translation. Positivism typically focuses on studies that are observable and quantifiable.

The foundation of sound research lies in reasoning, which involves examining the connections between assumptions, facts, and claims based on accessible information. Reasoning can be categorized into two types: deductive and inductive reasoning.

3.2.1 Inductive Reasoning

Inductive reasoning, as defined by Young (2007), is the process of deriving a generalized conclusion from specific instances. It involves examining the provided clues and determining whether they can be combined to produce a reasonable outcome without selectively accepting or rejecting any of them.

3.2.2 Deductive Reasoning

Daymon (2011) proposed that the deductive approach involves formulating a broad theory or hypothesis, which is then tested by seeking empirical data that either supports or refutes it. According to Knox (2004), empirical evidence is derived from real-world situations and can be developed from either purely theoretical foundations or experiments. The deductive approach, aligned with the quantitative research method, was employed in this study (Saunders et al., 2009). Saunders et al. (2009) also distinguished between quantitative and qualitative research methods and associated quantitative research with the deductive approach.

3.3 Research instruments and analysis softwares

Any of the equipment used to collect and evaluate data is referred to as a research instrument and in this research, the researcher used a laptop and a notebook where he was writing down the information he was getting from the internet. SPSS and EVIEWS softwares were used to analyse the data.

3.3.1 Data Sources

The internet was used by the researcher to access the data from RBZ and the World Bank. The information used was secondary because it was obtained and assembled by other organizations and was readily prepared for analysis by others (Pannerselvam, 2005). The researcher chose to apply secondary data because it is difficult to get the primary information related to this topic.

Justification: Secondary data is availably accessible and it gives vital information on how researchers manage to solve the problem similar to the required research study.

3.3.2. Data collection procedure

Data collection is referred to the gathering empirical evidence in order to obtain new insights about a situation and answer questions that prompt undertaking of the research (Kothari, 2004). The research used the secondary data was collected from RBZ and World Bank.

3.4 Population and sampling

For this study, the researcher used a target population of 417 MFI branches which are in Zimbabwe. The researcher used judgemental sampling technique to choose a sample of 334 MFI branches which are in Masvingo, Harare and Bulawayo to represent Zimbabwe as a whole since large number of MFI branches are in these cities. The researcher used judgemental sampling because he had a short period of time to complete his research and also he had no resources to do other sampling methods.

3.5 Data Cleansing Process

Data cleansing refers to the process of identifying and correcting errors, as well as removing duplicate or inaccurate records from a dataset. It is essential to clean the data before using it to ensure that the principle of "garbage in, garbage out" is avoided. Data cleansing can be performed interactively using data wrangling tools or through batch processing using scripts or data quality software. In this study, Excel techniques such as filtering, conditional formatting, sorting, and grouping were employed to clean the data.

3.6 Data Validity

Validity, as defined by Kerlinger(2011), pertains to the question of whether we are measuring what we intend to measure. Two primary approaches are used to establish the validity of a research instrument: one based on logical construction of the instrument and the other based on statistical evidence derived from the instrument's data. Establishing validity through statistical procedures involves calculating the coefficient of correlations between the questions and the outcome variables. To enhance the validity of the study, clear study objectives were specified.

3.7 Data Reliability

Reliability, according to Cohen (2010), refers to the extent to which research techniques produce accurate and consistent results. The researcher utilized reliable and credible data sources which include RBZ and World Bank, that provide accurate information on poverty levels, microfinance interventions. The researcher cross-checked and verified the data from multiple sources to ensure consistency and reliability.

3.8 Data presentation and Analysis approach

Tables and graphs were used to present the data collected from secondary sources. To analyze, interpret and summarize data, the researcher used descriptive and inferential statistics. Descriptive statistics were used to describe dependent and independent variables of the study. The inferential statistics were used to make inferences the role of micro finance institution in poverty alleviation amongst women in Zimbabwe effect of economic factors on stochastic modeling in pension valuation.

3.9 Hypothesis

H0: There is a significant positive relationship between the role of MFIs and poverty alleviation among women in Zimbabwe

H1: There is no significant relationship between the role of MFIs and poverty alleviation among women in Zimbabwe.

3.10 Description of variables

Table 3. 1: Variables to be used in the study

Variables	Symbol	Indicator	Source
Loan Interest Rate	LIR	Natural logarithms of Loan Interest Rate	RBZ
Income Level	IL	Natural logarithms of quarterly Income level	WORLD BANK
Number of Women-owned SMEs	NWS	Natural logarithm of Number of women-owned SMEs	RBZ

Interest rate

A loan interest rate refers to the percentage of the loan amount that a lender charges as interest for borrowing money. It represents the cost of borrowing and is typically expressed as an annual percentage rate (APR). The interest rate is determined by various factors, including the type of loan, the borrower's creditworthiness, prevailing market conditions, and the lender's policies.(Frederic S. Mishkin and Stanley G. Eakins 2015)

Justification

Borrowers with higher income levels often have more stable and higher creditworthiness, which can result in lower interest rates. Lenders consider a borrower's income as an important factor when assessing their ability to repay the loan.

A higher income can indicate a greater capacity to make loan payments, reducing the perceived risk for lenders and potentially leading to more favorable interest rates. It's

important to note that the relationship between income level and loan interest rates can vary depending on various factors, including the type of loan, prevailing market conditions, and the specific policies of lenders.

Number of women-owned SMEs

It refers to the quantitative measure or count of small and medium-sized enterprises (SMEs) that are owned or led by women. The designation "women-owned" signifies that these businesses have majority ownership or control by women, typically defined as women holding at least 51% of the ownership stake. The number of women-owned SMEs is a key metric used to assess the representation and involvement of women entrepreneurs in the business ecosystem. It offers insights into the extent of women's economic empowerment, their access to entrepreneurial opportunities, and their contributions to job creation and economic development. Tracking this metric helps policymakers, researchers, and organizations understand the progress, challenges, and potential areas for support in promoting gender equality and fostering women's entrepreneurship.

Justification

Higher income levels can facilitate the growth and establishment of women-owned SMEs. When women have higher incomes, they may have more financial resources available to start or expand a business. Additionally, higher income levels can provide women with greater access to education, networks, and resources, which can enhance their entrepreneurial capabilities and increase the likelihood of starting and running successful SMEs.

Conversely, the number of women-owned SMEs may be influenced by income level in the sense that women from lower income backgrounds may face greater challenges in accessing capital, resources, and networks necessary for starting or growing a business. Economic disparities and limited financial opportunities can act as barriers to women's entrepreneurship.

Income level

Income level refers to the position or category into which an individual or household's income falls relative to a particular reference point or standard. It serves as a measure

of an individual's or household's economic well-being and is commonly used to assess living standards.

Justification

Income level serves as a crucial indicator of poverty. By examining changes in women's income levels over time, the dissertation can assess the effectiveness of microfinance interventions in uplifting women out of poverty. Understanding income levels among women in Zimbabwe can have important policy implications. If the dissertation findings demonstrate that microfinance interventions positively impact income levels and poverty alleviation, it can provide evidence to support the expansion and improvement of microfinance programs targeting women in similar contexts. The findings can also inform policymakers about the specific challenges and needs of women entrepreneurs in Zimbabwe.

Table 3.2 Expected Variable signs

Variable	**Expected sign**	**Possible explanation**
Loan Interest Rate	_	According Robert B(1998), there is a negative relationship between Income level and Loan Interest rate
Number of women-owned SMEs	+	There is a positive relationship between Income level and the number of women-owned SMEs(Kandker, Pitt and Fuwa(2012)

3.11 Pretesting

3.11.1 Descriptive statistics

Descriptive statistics are procedures used to summarize, organize and make sense of a data set, these can be presented graphically or in tabular form. They help to simplify

large amounts of data in a sensible way and each descriptive statistic reduces lots of data into a simpler summary (Jaggi, 2012).

3.11.2 Correlations

The correlation is a statistical tool which helps to analyse the degree of relationship or association. The analysis is fundamentally based on the assumption of a straight line (Linear relationship) between the variables under considerations and the value for correlations falls from between -1 and +1. Correlational analysis gives an idea about the degree and direction of the 26 relationship between the variables. Correlation can be analysed using the least squares method, Spearmen's Rank Coefficient and the Pearson's coefficient of correlation among others. This study used the Pearson's coefficient of correlation with the coefficient of correlation 'r'. With this method, the correlation value is expressed by the value of coefficient and the direction is indicated by the sign. If the value of the correlation is +1, then it shows the perfect positive correlation between variables in a linear manner and a coefficient value of -1 shows a perfect negative correlation while a correlation of 0 indicates the existence of no linear relationship between the variables (Gogtay and Thatte, 2017).

3.11.3 Multicollinearity

Logistic models rely on the assumption that there is no multicollinearity among independent variables. When independent variables are highly correlated, it often leads to large standard errors for the estimated parameters of those variables. One approach to address multicollinearity is to eliminate redundant variables. In this research, the presence of multicollinearity among independent variables is tested using collinearity diagnostics available in Stata, a data analysis and statistical software commonly used for linear regression. Collinearity statistics provide information about the extent of multicollinearity among variables. If the tolerance value (1 - R squared) is less than 0.20 or 0.10, it indicates a nearly perfect linear relationship between the variable in question and the other independent variables in the model. Similarly, if the Variable Inflation Factor (VIF), which is the reciprocal of tolerance, is less than five or ten, there is no need to be concerned about multicollinearity.

3.11.4 Heteroscedasticity

Heteroscedasticity occurs when the error terms do not have a constant variance. In logistic models, the variance of the error term is highest when probabilities approach 0.5 and lowest when probabilities approach zero or one. To address concerns regarding the violation of assumptions related to heteroscedasticity in logistic models, the robust option for estimating the standard errors is used. The Huber-White sandwich estimators measure the variance of the maximum likelihood estimation. If the logistic model violates assumptions, robust standard errors can correct for the variance of the error terms.

3.11.5 Goodness of Fit

Hosmer and Lemeshow

The Hosmer and Lemeshow goodness of fit test is a statistical measure that compares the observed and estimated occurrences of events in subgroups with equal anticipated probabilities. It evaluates the similarity between the observed and predicted numbers of events in each subgroup, aiming for a minimal difference in goodness of fit. The test involves scoring the fitted values and dividing them into groups of similar sizes. For each group, the observed and predicted numbers are calculated, and a goodness of fit analysis is performed. According to Hosmer and Lemeshow (2000), variables with a significance value lower than 0.20 should be included in logistic regression.

3.12 Logistic regression analysis

SPSS version 20 was used in doing the logistic regression. Regression analysis is used to estimate the relationship between a dependent variable(Income level) and two independent variables(Loan Interest Rate and Number of women-owned SMEs). It helps assess the statistical significance and magnitude of the relationships. Regression analysis was employed to examine how these variables affect the poverty alleviation outcomes for women.

The variables that were included are the most significant only due to the forward selection method implemented. The logistic regression analysis is appropriate when the outcome of a model is dichotomous, that is the value of the dependent variable takes either of two possible values (Wuensch, 2014). The explanatory variables on the other hand are of any type, that is, nominal, ordinal, and or interval data (Burns & Burns, 2008). One significant important characteristic of regression analysis is that it does not

make any assumptions about the distributions of the predictor variables (Burns & Burns, 2008)

Below is the Logistic Regression Model

$$y = \beta_0 + \sum_{n+1}^{2} \beta_n \ X_n$$

Where the dependent variable Y = either 0 when there is no default or 1 when the borrower defaulted with probabilities (1-p) or p respectively.

β_0 is the y intercept,

β_i is the Beta coefficients of the respective variable.

The Explanatory Variables are as shown below

X_1 : Loan Interest Rate

X_2 : Number of women-owned SMEs

Logistic function is one of the commonly used, successful and transparent ways to do a binary classification to good and bad. This is a function that takes as input the client characteristics and outputs the probability of default. 25 Y follows a binomial distribution

$$\text{Log (odds)} = \log\left(\frac{p}{1-p}\right) = \beta_0 + \sum_{i=1}^{2} \beta_i X_i$$

Or more equivalent

$$P = \frac{Odds}{1+odds}$$

$$P = \frac{exp\ (\beta_0+\beta_1 X_1+\beta_2 X_2)}{1+\exp(\beta_0+\beta_1 X_1+\beta_2 X_2)}$$

Where in the above

1) p is the probability of default

2) X_i is the explanatory variable i

3) β_0 is the regression coefficient of the explanatory variable i

Loan status for each of the existing data points it is known whether the client has gone into default or not (thus. p=1 or p=0). The aim is to find the coefficients □0… □9 such that the model's probability of default equals to the observed probability of default. The □□ s are found using the maximum likelihood estimation.

3.12.1 Assumptions of the binary logistic regression

The binary logistic regression model makes the assumptions listed below,

1. The dependent variable should be binary.

2. It assumes the independence of predictor variables.

3. It assumes that, there should be no multi-collinearity among the independent variables.

4. It assumes linearity of independent variables and log odds..

3.13 Validation

To determine the appropriate use of logistic regression, validation analysis is necessary, as suggested by Bangley (2011) and Feinstein (2016). The prediction rate of the main sample for correct cases should be equal to or higher than that of the validation sample. Validation involves calculating the proportion of accurate cases using additional sample data that shares the same coefficient values as the primary data.

3.13.1 Link Function: Logit

The logit link function is widely used in logistic regression as it provides a successful and transparent approach for binary classification into good and bad outcomes. In this approach, the response variable Y follows a binomial distribution. The probability of the average outcome (P) is determined by the explanatory variable (i) and its regression coefficient. The goal is to find the coefficients that make the model's probability of the

average outcome equal to the observed probability. Maximum likelihood estimation is employed to determine these coefficients.

3.14 Table for Categorization

The classification table was created using SPSS software, serving as a specialized tool to assess the effectiveness of the model's categorization. It plays a crucial role in determining the degree of alignment between the model and the actual data. The table presents the percentage of correctly classified instances and also includes the percentage of error probability, which helps determine the acceptability of the range.

3.15 Chapter summary

The chapter has specified the Logistic regression model to be used which enables the researcher to analyse the roles of micro finance institution in poverty alleviation amongst women in Zimbabwe based on variables mentioned above. In addition to that, the Logistic Regression model was used to examine the impact of Microfinance institutions in poverty alleviation amongst women. Data sources, analysis packages and research methods were also presented. The next chapter looks on presentation and discussion of findings.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The aim of data interpretation is to transform it into a comprehensible and meaningful format, enabling the examination and testing of the relationships pertaining to research problems and the drawing of conclusions. The chapter depicts an overview of the data presentation, discussions and interpretations of the research. The presentation of descriptive data is based on the secondary data collected from RBZ and World Bank website. Additionally, it offers the outcomes of the researcher's investigation into the logistic regression model. The results were done using Spss and Eviews software. Prior to fitting the data into the model, Stationarity was tested and the researcher employed quantitative analysis for analysing the data.

4.2 Descriptive statistics

A preliminary examination of the data employed was conducted so as to give a brief description of the basic and features of the variables understudy. The summary of descriptive statistics is illustrated in Table 4.1

Table 4.1: Descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
INTEREST RATE	23	8.50	17.80	12.7565	2.96676	.442	.481	-1.089	.935
INCOME LEVEL	23	10780.65	42690.44	22475.1274	9617.09193	.982	.481	-.183	.935
NUMBER OF WOMEN OWNED SMEs	23	35.00	70.00	53.2609	11.15681	-.279	.481	-.988	.935
Valid N (listwise)	23								

Income level have positive mean and also positive skewness meaning that the variable is on the rise. Interest rate has both positive mean and positive Skewness showing that the rate of interest is increasing. The mean of the number of women-owned SMEs is positive whilst the skewness is negative showing that the variable is on the dencrease.

Normal Skewness is 0 that is the value close to 0 hence mirrors a normal distribution. The coefficient of Skewness for variables which are Income level, interst rate are positively skewed whilst the number of women-owned SMEs is negatively skewed. In the event that Skewness is more than 1, it definitely means that these variables have a long-right tailed (positive Skewness). Kurtosis value of 3 implies that it is normal indicating mesokurtic and kurtosis which is greater than 3 meaning that it is leptokurtic. All the variables which are Income level, the number of women-owned SMEs and Loan Interest rate is platykurtic because its kurtosis is less than 3.

4.3 Pre-test

4.3.1 Correlations

Table 4.2

Correlations

		INTEREST RATE	INCOME LEVEL	NUMBER OF WOMEN-OWNED SMEs
INTEREST RATE	Pearson Correlation	1		
	Sig. (2-tailed)			
INCOME LEVEL	Pearson Correlation	.962**	1	
	Sig. (2-tailed)	.000		
NUMBER OF WOMEN-OWNED SMEs	Pearson Correlation	.841**	.803**	1
	Sig. (2-tailed)	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

Income level is the dependent variables and the relationship among variables is explained in Table 4.2 in terms of Pearson correlation coefficient r. Income level and Interest rate has the highest pairwise coefficient of 0.962 which is strong positive correlation and the number of women-owned SMEs has a strong positive correlation of 0.803 with the dependent variable. The predictor variables have a positive correlation among themselves indicating that each has an effect on one other and the

is no multicollinearity because their correlation coefficients are between 0.9 and -0.9 (Dohoo et al, 1997)

4.3.2 Unit root testing

The testing for Stationarity was done using the Akaike Information Criterion(AIC) applying Augmented Dickey Fuller(ADF) using Eviews and the results are presented below.

Table 4.3: Unit root testing

	Intercept		**Intercept + trend**	
	Level	**1st Diff**	**Level**	**1st Diff**
INTEREST RATE	-0.952776	-5.473009	-1.984613	-5.399659
INCOME LEVEL	-3.439121	-5.308260	-1.932389	-5.399659
NUMBER OF WOMEN-OWNED SMEs	-1.536948	-6.792117	-3.36098	-6.635638

Key: Significance level, ***=1% level, **=5% level, *=10% level

Table 4.3 shows the unit root test or Stationarity test which was used to check whether the selected variables are stationary at level or after a 1st differencing for intercept and trend plus intercept. Concluding from the information provided in above table, all variables do not have unit root.

4.3.3 Multicollinearity

- If VIF is less than 0 there is a good evidence of multicollinearity between the variables
- If VIF is greater 10, there is multicollinearity of variable which is a big problem
- If Tolerance is less than 0.1, it means there is multicollinearity problem.

Table 4.4 Multicollinearity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.261	.219		14.873	.000		
	INTEREST RATE	-.203	.028	-1.239	-7.293	.000	.292	3.420
	NUMBER OF WOMEN OWNED SMEs	.019	.007	.424	2.495	.021	.292	3.420

a. Dependent Variable: INCOME LEVEL

VIF was used to analyse if there was multicollinearity and using the Table 4.4, we can claim clearly with confidence that VIF is less than all regressors hence leading to the absence of multicollinearity problem. Tolerance was found to be above 0.1 hence satisfying all the assumptions above since the VIF was less than 5 as shown in the table therefor there is no multicollinearity.

4.3.4 Hosmer and Lemeshow goodness of fit test

Table 4.5: Hosmer and Lemeshow test

Contingency Table for Hosmer and Lemeshow Test

		INCOME LEVEL = above 22475.1274		INCOME LEVEL = below 22475.1274		Total
		Observed	Expected	Observed	Expected	
Step 1	1	2	2.000	0	.000	2
	2	2	2.000	0	.000	2
	3	2	2.000	0	.000	2
	4	2	2.000	1	1.000	3
	5	0	.001	2	1.999	2
	6	0	.000	3	3.000	3
	7	0	.000	2	2.000	2
	8	0	.000	2	2.000	2
	9	0	.000	2	2.000	2
	10	0	.000	3	3.000	3

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4.001	8	1.000

Since the value of 1.000 is greater than the significant value of 0.05, we fail to reject the model and therefore we conclude that the model is fit and the data is reliable. The conclusion to be drawn is considered useful since the model is fit.

4.3.3 Logistic regression analysis

The logistic regression analysis was conducted using SPSS version 20, employing the forward selection method to include only the most significant variables. Logistic regression is particularly suitable when the outcome variable of a model is dichotomous, meaning it can take one of two possible values (Wuensch, 2014). The explanatory variables used in this analysis consisted of both nominal and scale data types, depending on the available data. One noteworthy feature of regression analysis is that it does not impose any assumptions regarding the distributions of the predictor variables (Burns & Burns, 2008). The following is the Logistic Regression Model.

Table 4.6 Generalized linear models

Tests of Between-Subjects Effects

Dependent Variable: INCOME LEVEL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.337[a]	2	2.168	49.249	.000
Intercept	9.740	1	9.740	221.209	.000
Interest rate	2.342	1	2.342	53.188	.000
Number of Women-owned SMEs	.274	1	.274	6.226	.021
Error	.881	20	.044		
Total	68.000	23			
Corrected Total	5.217	22			

a. R Squared = .831 (Adjusted R Squared = .814)

The results of a generalized linear model are presented in the table. Based on Table 4.6, it can be observed that all three variables effectively predict the outcome with a 90% confidence level. If a variable fails to meet the significance criteria, SPSS automatically eliminates those variables. In this analysis, all 22 observations were included in the modeling process, and the significance values of the independent variables were used to determine which variables would be included in the final regression model. The

variables that remained in the model are Interest rate with 0.000 and number of women owned SMEs with 0.021.

4.3.6 Probability of average income level prediction formulae

Table 4.7 : The variables included in the equation and their significance

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	IR	-7.312	33.471	.048	1	.827	.001
	NWS	.698	5.727	.015	1	.903	2.009
	Constant	58.873	262.014	.050	1	.822	37960.000

a. Variable(s) entered on step 1: IR, NWS.

Table 4.7 above is demonstrating that all the independent variables are included in the model due to significance thus X_1 represents Interest rate; X_2 represents the number of women-owned SMEs. Therefore, by using significant 'β' val$_u$es, binomial Logit coefficients, the formula of the equation can be used to determine the impact of microfinance institutions in alleviating poverty amongst women

$$= \frac{\exp(58.873 - 7.312X_1 + 0.698X_2)}{1 + \exp(58.873 - 7.312X_1 + 0.698X_2)}$$

Table 4.8: Classification table

Classification Table[a]

Observed			Predicted		
			INCOME LEVEL		Percentage Correct
			above 22475.1274	below 22475.1274	
Step 1	INCOME LEVEL	above 22475.1274	7	1	87.5
		below 22475.1274	0	15	100.0
	Overall Percentage				95.7

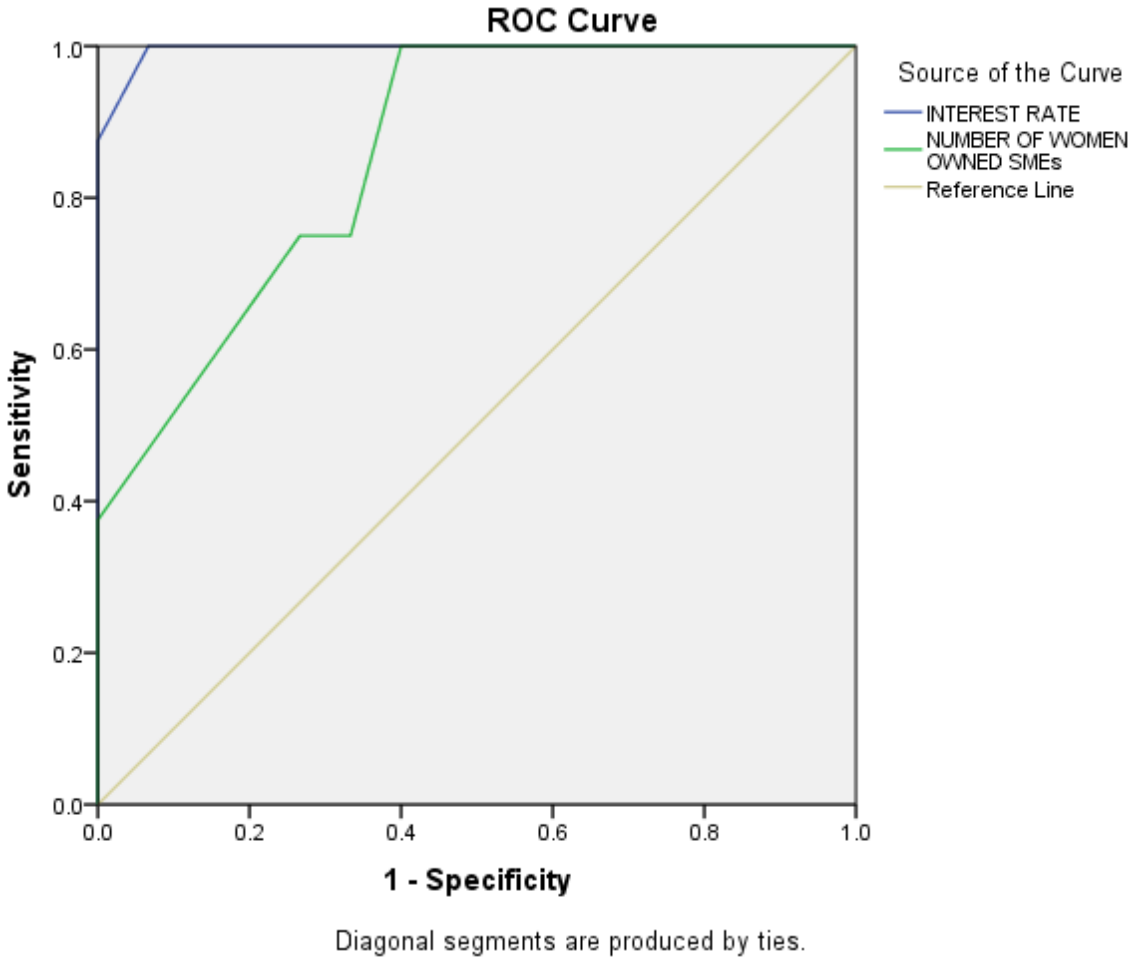
a. The cut value is .500

Table 4.8 represents the below 22475.1274 (0), above 22475.1274 (1) and the special use of the table is for testing the efficiency of classification of the model. It is an important method of investigating the model's identical to the data. The table shows that 15 were below 22475.1274 and were correctly classified showing an 100.0% and it shows the probability of error of 0% which is in a range that is acceptable hence making the model to present the data well.

4.3.7: Receiver Operating Characteristic (ROC)

The ROC curve illustrates the diagnostic ability of binary system as its discrimination threshold is varied.

Figure 4.1: The ROC curve



Area Under the Curve

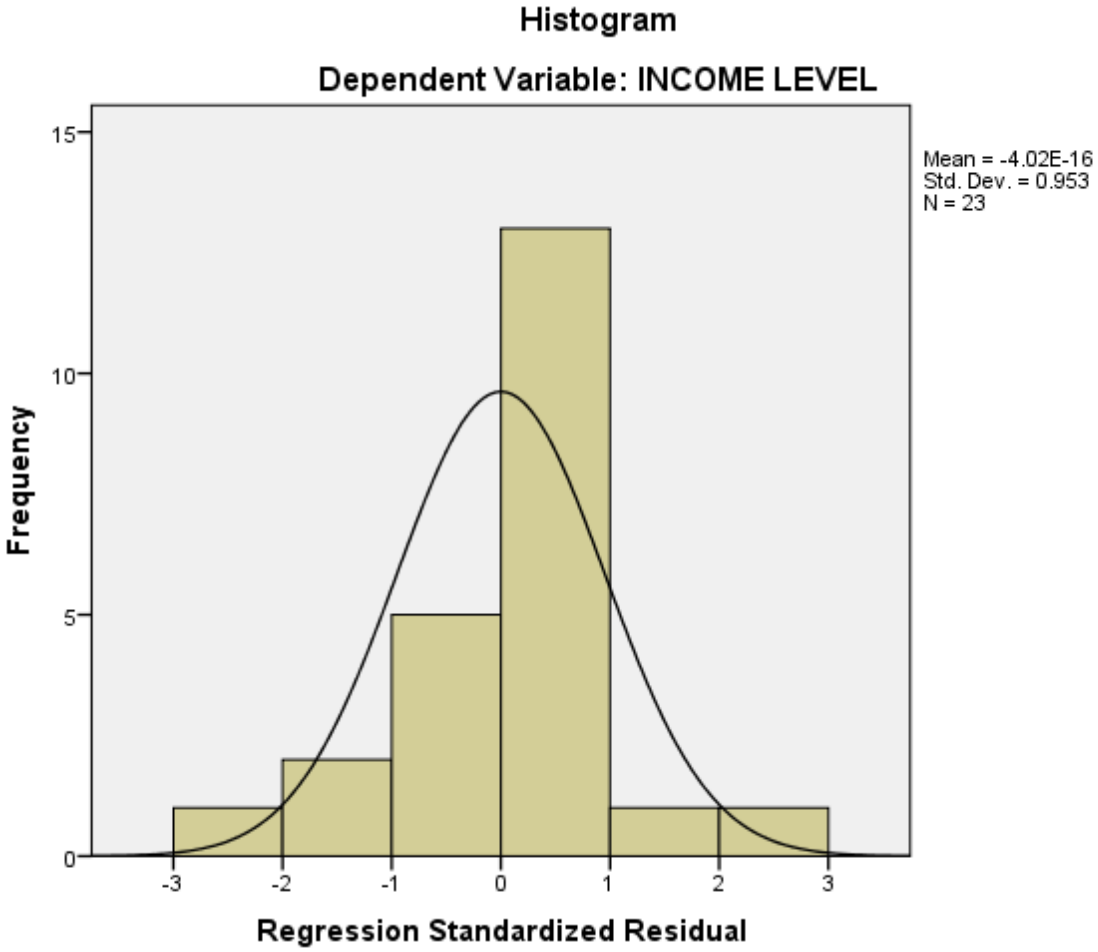
Test Result Variable(s)	Area
INTEREST RATE	.996
NUMBER OF WOMEN OWNED SMEs	.858

The area under the curve measures the extent to which the test is useful. The larger the area under the curve indicates the strength of the test. The area under the curve (ROC) for interest rate is 0.996 and for the number of women-owned SMEs is 0.858 hence this implies that the model has 97% for Interest rate which is positive power predicting and the number of women-owned SMEs is 86% meaning there is strongly positive power of predicting the dependent variable which is income level.

4.3.8: Heteroscedasticity

Figure 4.2 Histogram for Heteroscedasticity

The histogram revealed that the dependent variable formed a bell-shaped distribution, indicating that it follows normal.



Discussion of findings

The study showed rise in Income level and this was indicated by a positive mean and also positive skewness. This shows that MIFs has a positive impact in income generation thus reducing poverty amongst women in Zimbabwe and these results supported a study which was conducted by Kaseva (2017) who examines the impact of microfinance institutions on poverty reduction in the Kinondoni District of Dar es Salaam, Tanzania. His findings indicated that individuals' income increases when they have access to loans.

Conclusion

The chapter has presented the analysis of the independent variables that influences the dependent variable. The researcher employed tables and graphs to present research findings, descriptive statistics were also used to give a brief description of variables. The pre-test presented correlations, heteroscedasticit**y,** tested for multicollinearity and unit root test using the ADF to test for Stationarity of data.

Chapter 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the analysis and findings of the study on the role of microfinance institutions in poverty alleviation amongst women in Zimbabwe. The chapter aims to explore the impact of microfinance programs on empowering women and reducing poverty. It provides a comprehensive analysis of the collected data, highlighting significant findings and their implications.

5.2 Summary of Study Findings

The study had two primary objectives which are: 1.To assess the impact of microfinance institutions on women's income generation in Zimbabwe. 2. To identify the factors that facilitate or hinder women participation in microfinance services.

To achieve accurate results, the researcher focused on selecting the most appropriate model that would fulfill the study objectives. For analysing these objectives, the logistic regression model was determined to be the most suitable. The research employed a descriptive research design to gather and analyze the data. SPSS and Eviews software were utilized to process the collected data and perform the necessary analysis.

We found a positive correlation between the number of women-owned and income level. These results suggest that microfinance programs have the potential to contribute to the reduction of poverty among women in Zimbabwe.

The Hosmer and Lemeshow test was conducted, and it was determined that the test results were useful as they indicated a good fit for the model. Additionally, diagnostic tests were performed to assess multicollinearity and model efficiency, and the results supported the use of logistic regression.

5.3 Conclusions

According to the study findings, the logistic regression model identified loan interest rate and the number of women-owned SMEs as the factors influencing the income level. The findings from the logistic equation revealed that interest rate has a negative impact on the dependent variable (income level), indicating that a decrease in interest rate

would result in an increase in the income level. On the other hand, the number of women-owned SMEs was found to have a positive impact on the dependent variable, meaning that an increase in the number or women-owned SMEs would lead to an increase in income level.

5.4 Recommendations

Based on the findings, this section discusses the implications for policy, practice The section also provides recommendations for policymakers, microfinance institutions, and other stakeholders involved in poverty alleviation efforts.

The model indicated that poverty can be reduced through the inrease of SMEs. SMEs are crucial for employment and account for approximately 80% of jobs, so their increase leads to reduced poverty levels. However, the increase in MFI loan interest rate was found to increase poverty in the long run. This study suggests that MFIs and policymakers should examine the nature of lending, utilization of loans, and loan productivity to enhance the effectiveness and achieve the desired objectives of these institutions, considering the contrasting evidence of MFIs' profitability and the increasing poverty levels.

To address the research findings that highlight high interest rates and stringent loan repayment terms imposed by microfinance institutions (MFIs), it is crucial for these institutions to evaluate and establish interest rates and repayment conditions that are fair and reasonable for their clients. It is also necessary for governments to develop policies that regulate interest rates, since MFIs primarily serve impoverished women who should not be subjected to further exploitation.

Based on the study's findings, policymakers and regulators should focus on equipping women borrowers with the necessary skills and knowledge to effectively manage businesses and debt finance. This approach would enable MFI women clients to utilize their loans efficiently, increase productivity, and benefit both the clients and the MFIs, ultimately benefiting the overall economy. Instead of solely providing loans to unskilled women individuals who may misuse the funds, microfinance should prioritize more efficient lending practices that create more opportunities, increase income, promote economic empowerment, and reduce poverty.

Recognize that financial support alone may not be sufficient for women entrepreneurs. Offer non-financial support services such as mentorship, networking opportunities, and access to markets. These additional resources can contribute to the long-term success and sustainability of women-owned businesses.

5.5 Research constraints

Although the research yielded positive results, the researcher encountered certain limitations during the course of the study.

The researcher faced challenges in accessing relevant research materials from the internet due to the country's deteriorating economy, resulting in limited data bundles. As a workaround, the researcher had to spend additional time searching for free Wi-Fi in nearby locations to access the necessary resources.

In addition, the research had a short period of time to finish his research.
It is important to acknowledge these limitations as they may have impacted the completeness and depth of the research findings. However, despite these challenges, the researcher has made efforts to mitigate the limitations and present valid and reliable results within the available constraints.

5.6 Areas of further research

Further research can be carried out in this subject area by incorporating primary data collection methods and finding out directly from the disadvantaged women, their experiences and expectations to reduce poverty levels.

5.7 Conclusion to Chapter 5

This chapter provided the difficulties that the researcher faced, summary of the research findings and also study conclusions. The recommendations were also given in this chapter.

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APENDICES

a) Correlations

[DataSet 1]

Correlations

		INTEREST RATE	INCOME LEVEL	NUMBER OF WOMEN-OWNED SMEs
INTEREST RATE	Pearson Correlation	1	.962**	.841**
	Sig. (2-tailed)		.000	.000
	N	23	23	23
INCOME LEVEL	Pearson Correlation	.962**	1	.803**
	Sig. (2-tailed)	.000		.000
	N	23	23	23
NUMBER OF WOMEN-OWNED SMEs	Pearson Correlation	.841**	.803**	1
	Sig. (2-tailed)	.000	.000	
	N	23	23	23

**. Correlation is significant at the 0.01 level (2-tailed).

b) Unit root testing

Null Hypothesis: IL has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on AIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.932389	0.6040
Test critical values:	1% level	-4.440739	
	5% level	-3.632896	
	10% level	-3.254671	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: IR has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on AIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.984613	0.5772
Test critical values:	1% level	-4.440739	
	5% level	-3.632896	
	10% level	-3.254671	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(IL)
Method: Least Squares
Date: 12/01/23 Time: 11:20
Sample (adjusted): 4 23
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IL(-1)	-0.221843	0.064506	-3.439121	0.0034
D(IL(-1))	-0.260488	0.186305	-1.398179	0.1811
D(IL(-2))	-0.250766	0.188221	-1.332290	0.2014
C	2454.670	1414.996	1.734753	0.1020

R-squared	0.445990	Mean dependent var	-1504.500
Adjusted R-squared	0.342113	S.D. dependent var	2627.915
S.E. of regression	2131.508	Akaike info criterion	18.34390
Sum squared resid	72693207	Schwarz criterion	18.54305
Log likelihood	-179.4390	Hannan-Quinn criter.	18.38278
F-statistic	4.293446	Durbin-Watson stat	2.105950
Prob(F-statistic)	0.021078		

Null Hypothesis: D(IR) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on AIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.399659	0.0015
Test critical values:	1% level	-4.467895	
	5% level	-3.644963	
	10% level	-3.261452	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: NWB has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 4 (Automatic - based on AIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.360958	0.0884
Test critical values:	1% level	-4.571559	
	5% level	-3.690814	
	10% level	-3.286909	

*MacKinnon (1996) one-sided p-values.

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	23	100.0
	Missing Cases	0	.0
	Total	23	100.0
Unselected Cases		0	.0
Total		23	100.0

a. If weight is in effect, see classification table for the total number of cases.

c) Logistic regression equation

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	IR	-7.312	33.471	.048	1	.827	.001
	NO	.698	5.727	.015	1	.903	2.009
	Constant	58.873	262.014	.050	1	.822	3767

a. Variable(s) entered on step 1: IR, NO.

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	23	100.0
	Missing Cases	0	.0
	Total	23	100.0
Unselected Cases		0	.0
Total		23	100.0

a. If weight is in effect, see classification table for the total number of cases.

```
REGRESSION
 /MISSING LISTWISE
 /STATISTICS COEFF OUTS R ANOVA
 /CRITERIA=PIN(.05) POUT(.10)
 /NOORIGIN
 /DEPENDENT IL
 /METHOD=ENTER IR NO
 /SCATTERPLOT=(*ZRESID ,*ZPRED)
 /RESIDUALS HISTOGRAM(ZRESID) NORMPROB(ZRESID)
 /SAVE PRED RESID.
```

Variables Entered/Removed[a]

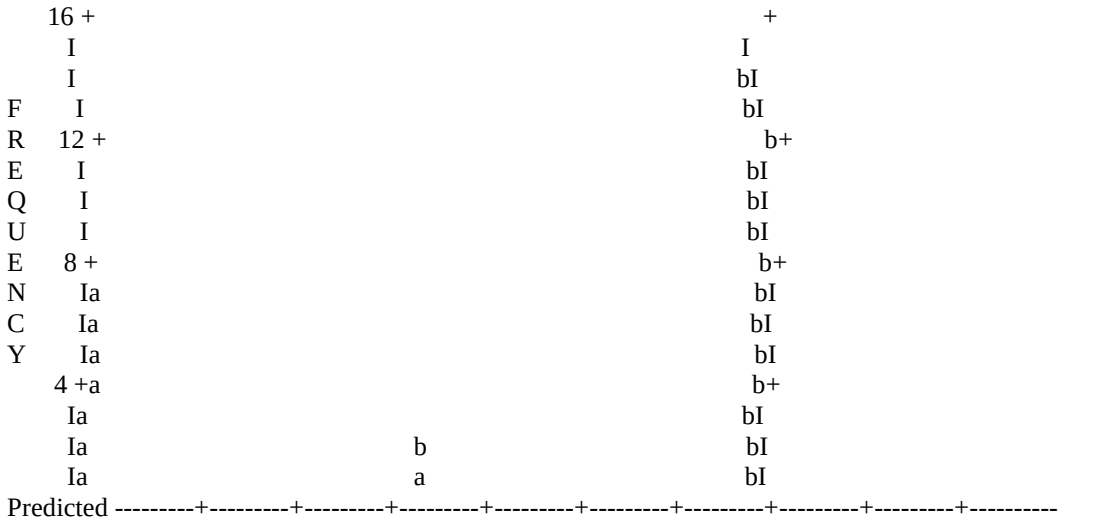
Model	Variables Entered	Variables Removed	Method
1	NUMBER OF WOMEN-OWNED SMEs, INTEREST RATE[b]	.	Enter

a. Dependent Variable: INCOME LEVEL

b. All requested variables entered.

Step number: 1

Observed Groups and Predicted Probabilities



Predicted Probability is of Membership for below average
The Cut Value is .50
Symbols: a - above average
b - below average
Each Symbol Represents 1 Case.

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