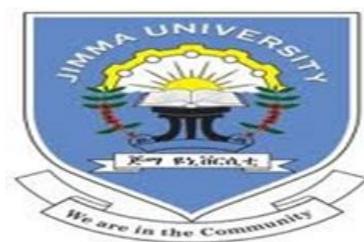


**Determinants of Lease Financing Practice and Its Effect on the
Income of Small and Medium Enterprises: In Case of Jimma and
Bench Sheko Zones**

*A Thesis Submitted to the School of Graduate Studies of Jimma University in
Partial Fulfillment of the Requirements for the Degree of Master of science in
Development Economics (MSC)*

BY: BEDEDA GUDETA



**JIMMA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ECONOMICS**

JULY, 2020

JIMMA, ETHIOPIA

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Under the Guidance of

Mr. Tesfaye Melaku (Ass. Prof)

And

Mr. Sisay Tolla (Ass. Prof)



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MSC PROGRAM

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JIMMA, ETHIOPIA

DECLARATION

I, Bedada Gudeta, declare that this thesis entitled “Determinants of lease Financing Practice and Its Effect on the incomes of SMEs (in case of Jimma and Bench Sheko Zones)” is outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged.

To the best of my knowledge, this study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfillment of the degree of Masters of Science in Development Economics.

By: Bedada Gudeta Yadata

Signature:

Date: _____

CERTIFICATE

This is to certify that the thesis entitled “Determinants of lease Financing Practice and Its Effect on the incomes of SMEs (in case of Jimma and Bench Sheko Zones)” submitted in partial fulfillment of the requirements for the degree of Master's with specialization in Development Economics, the Graduate Program of the Department of Economics and has been carried out by Mr. Bededa Gudeta under our supervision. To the best of our knowledge, it is an original work and not submitted earlier for any degree either at this University or any other University.

Therefore we recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the department.

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EXAMINERS' APPROVAL SHEET SCHOOL OF GRADUATE STUDIES

We, the undersigned, member of the Board of Examiners of the final open defense by, Mr. Bededa Gudeta have read and evaluated his thesis entitled “Determinants of lease Financing Practice and Its Effect on the incomes of SMEs (in case of Jimma and Bench Sheko Zones)” and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree of Masters in Development Economics.

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Acronyms and Abbreviations

ACGFC	Addis Capital Goods Finance share Company
CGLB	Capital Goods Leasing Business
CSA	Central Statistical Agency
DBE	Development Bank of Ethiopia
DCGFC	Dehub Capital Good Finance Company
FEMSEDA	Federal Micro and Small Enterprises Development Agency
EIC	Ethiopia Investment Commission
IFC	International Finance Corporation
ILO	International Labor Organization
MEA	Machinery, Equipment and Accessories
MSME	Micro, Small and Medium Enterprise
NPLs	Non-Performing Loans
OCGFC	Oromia Capital Goods Finance Company
CGFC	Capital Goods Finance Companies
SME	Small and Medium Enterprise
UK	United Kingdom
USA	United State of America

Abstract

The main aim of this study was to investigate the determinants of lease financing practice and its effect on the income of SMEs by focusing on demand (SMEs) side factors that constraint SMEs from lease financing participation. Leasing is a financing in kind for production and service purpose by which a leaser provides specified capital goods on financial lease or hire purchase agreement basis to a lessee, without collateral, for a specified period of time and collects in return a certain amount of periodical payments over the specified period. Lease financing is an alternative means to finance SMEs that missed sector in Ethiopia. The study used both qualitative and quantitative method. Both primary and secondary data was used as evidence for the study. In identifying the respondents from the study population simple random sampling method was adopted. Based on this, 91 sample SMEs were drawn from total population of 1052 SMEs in the study area. Jimma and Bench Sheko zones were used to take sample respondents. The collected data were analyzed through descriptive statistics and Heckman two stages procedure model. Determinants of lease financing practices were identified by Heckman first stage procedure; whereas Heckman second stage procedure was used to evaluate the effect on income of SMEs. The study found that education level of SMEs manager, capital of SMEs, awareness about lease financing, access to working premises and access to electricity significantly and positively affected SMEs participation decision. The estimates of Heckman second stage showed income of respondents was a robust and the result of the study showed that capital of the SME was significantly increased SMEs income from lease financing project. Therefore, lease financing practice should be encouraged by government and nongovernment organizations through supporting training of SMEs' managers, creating awareness about lease financing services, making available working premises and improving electric availability in the study area in order to increase SMEs participation in lease financing thereby improving their income level so that it can be taken as an alternative development strategy

KEYWORDS: *Capital Goods, Capital Good Finance Companies, Lease Financing, Leasing, Small and Medium Enterprises.*

CHAPTER ONE

1 INTRODUCTION

1.1. Background of the Study

The leasing historically runs from the date of the Pharaohs and in Iraq, thousands of years ago people were working in the lease, such as rental of agricultural land and agricultural equipment. Currently, leasing is based on western experience, as with regard to leasing in the modern era, after the industrial revolution and after the World War II, there was a need for the use of industrial machinery and equipment to keep pace with developments. After World War II, leasing companies were specifically established in U.S.A. and Europe (Marwan, 2014).

Leasing has gained its popularity for several reasons. The first and most important of all is that leasing can be thought of as an alternative source of fund. It is most of the cases cheaper for the companies which don't have a visible positive past track record. On another thing, lease is an alternative to investment. If you need a particular asset for running or expanding the business, you may choose to lease it rather than purchase. Lease is nowadays treated by the developed markets as a provider of 100% financing and they have a notion that lease displaces debt. Leasing actually reduces the leverage needs of a firm (Ariful et al, 2014).

On the African continent, the World Bank group of Africa leasing facility has been the driving force for the introduction of leasing since 2008. The facility aims to create a sustainable leasing sector by helping alleviate the main challenges to growth. The greatest impediments for small business an owner is the lack of access to finance. It is necessary to procure the relevant equipment required to help expand their businesses. Many have few assets and therefore lack the collateral required by most financial institutions to secure a loan. Leasing provides an innovative solution to this challenge (IFC, 2018)

Equipment leasing as a source of finance for small and medium scale business enterprises have a very significant relationship with the company performance that organization investment determine its level of profit and its level of profitability. Equipment leasing also has a direct impact on the management of the organization fund which will affect the level of the organization performance. As a result, every organization should endeavor to lease equipments and machineries rather than purchasing them on cash and carry basis. (Olatunji and Sarat, 2017)

Like to other developing countries, in Ethiopia, the potential for the development of leasing as an alternative to lending is high. But access to credit from financial institutions is challenging for

many potential borrowers given limited capital and collateral; thus, leasing as an alternative financial product is attractive (Helen, 2014).

The main potential of lease financing and the missing middle to finance in Ethiopia are SMEs. Fredu and Edris (2016) stated that SMEs have usually been perceived as the dynamic force for sustained economic growth and job creation in developing countries. They play multifaceted role such as boosting competition, innovation, as well as development of human capital and creation of a financial system. Even though SMEs have essential role for sustained economic growth, they are disadvantaged and fondly referred to as the missing middle. Lack of access to finance on reasonable terms and conditions is probably the most serious constraint facing them Firewoini (2016).

The government of Ethiopia has designed to support those investors who have the desire, knowledge and profession to participate in various investment activities but could not act due to lack of capital and collateral through creating an enabling environment for the establishment of alternative sources of financing. The major and eye-catching steps taken by the government in finance SMEs by MEA include the enactment of proclamation no. 807/2013 on CGLB, directive no. CGEB 102/2013 for the licensing of capital goods finance service by the NBE and the Capital Goods Finance Service Modality issued by the FEMSEDA (DBE, 2016).

Ethiopia's key growth sectors require substantial equipment and machinery not readily available without substantial capital, lacking by most small and medium sized enterprises. Leasing provides a mechanism to support them to acquire equipment. Leasing institutions are referred to as Capital Goods Finance Companies. At present, there are seven leasing companies licensed to do leasing in Ethiopia. The Development Bank of Ethiopia, known as DBE, and the five regional leasing companies: Addis CGFC, Oromia CGFC, Waliya CGFC, Dehub CGFC, and Kaza CGFC (EIC, 2020).

As per DBE lease financing manual (2016), the purpose of lease financing is to provide financial assistance to the government priority area projects in which SMEs are engaged in support of the country's economic growth and development. The bank's lease financing scheme shall: support structural transformation objective; promote import substitution; create employment opportunity; promote export promotion objective of the country and support foreign exchange earnings; and create access to finance for SMEs particularly the missing middle.

There are three Capital Good Finance Companies in the study area. These Capital Good Finance Companies are Development Bank Of Ethiopia Jimma District, Oromia Capital Good Finance

Company and Dehub Capital Good Finance Company. The lease financing has been being practicing by aforementioned lease companies in the study area. Therefore, this research aimed to analyze determinants of lease financing practices and its effect on income of SMEs in case of Jimma and Bech Sheko zones.

1.2. Statement of the Problem

In almost every developing country small and medium enterprises are treated as the engine for economic growth and the availability of external finance for them is a topic of significant research interest to academics and policy makers around the globe. SMEs need improved access to finance especially for acquiring capital equipment and applications of new technology for operations. However, access to finance is restricted because they do not have reliable credit histories, adequate capitalization or additional assets for collateral. Most of the financial institutions are reluctant to provide term loans or cash flow based lending to the SME sector. Thus, SMEs face severe disadvantages while trying to obtain financing relative to larger and more established firms (Mosharref, 2013).

Leasing is an important financing tool for SMEs which provides financing close to the investment periods of the leased assets. It is an alternative instrument to facilitate access to finance; it enables in particular young enterprises without credit track record and limited possibilities to provide collateral the use of capital equipment. As such, it also mitigates market weaknesses of SME lending (Helmut and Frank, 2012).

The Africa Leasing Facility began working with the government of Ethiopia as early as 2008 to deliver SME leasing training and discuss the government's strategy for sector development. By 2013, as the government started to consider and better understand the potential of the leasing product, it incorporated leasing market development into its five year growth plan and requested the World Bank Group help finance such activities. The result was the creation of the World Bank \$ 276 million SME Financing Facility, for lease financing and working capital financing to SMEs which was to be directly provided to leasing companies and banks starting in 2017 (IFC, 2018).

There are two leasing companies and one state owned Bank that have been providing lease financing in the study area. These are Oromia Capital Good Finance Company, Dehub Capital Good Finance Company and Development Bank of Ethiopia Jimma District. While the Oromia Capital Good Finance Company and Dehub Capital Good Finance Company have been providing lease financing for SMEs in Jimma and Bench Sheko zones respectively, Development Bank of Ethiopia Jimma District has been providing lease financing for SMEs of both zones.

Even though there are three Capital Good Financing Companies in the study area, the lease financing is not practiced as expected. Therefore the researcher aimed to examine determinants of lease financing practices and its effect on the incomes of Small and Medium Enterprises in case of Jimma and Bench Sheko zones.

So far Dagnachew (2019), Mengistu (2019), Befikadu (2018) and Asfaw (2016) are the pioneers in conducting studies about lease financing in the case of DBE as well as other lease companies in Ethiopia. They found that:- macro-economic instability; poor quality of financial statement of SMEs; absence of SMEs; lack of the companies proper policy and procedure, lack of leasing expertise in the market; existence of inadequate capital goods supply chain linkages, absence of specialized lease training center, lack of stakeholder integration, absence of adequate local manufacturers, long lease processing time, SMEs selection criteria problem, poor management of credit risk by the bank, lack of availability of low cost and sustainable funding; lack of clarity on interpretation of tax incentives provided by law and lack of leasing expertise in the market were identified obstacle factors of lease financing practice. These pioneers conducted study on the supply sides factors that affect lease financing practices.

On another hands, different researchers have conducted studies on determinants of access to finance of SMEs on demand or SMEs sides. Those researchers were: Ayalneh (2018), Firewoini (2016), Fredu and Edris (2016), Nguyen (2017), and Meghana et al (2017). They found that: firm characteristics, cost of borrowing and awareness, lack of access to finance on reasonable terms and conditions, limitation of financial intermediaries, lack of high collateral, lack of transparency of loan conditions, lengthy application and disbursement process, being young of the SMEs, lack of experience of the manager of SMEs, higher interest rate, owner ship classification, lack of SMEs engagement with banks, lack of credit information and weak legal institution were the main constraints of SMEs to participate in finance. But they did not address the impacts of variables like: market problems of SMEs, lack of premises and lack of electricity.

As the researchers reviewed different articles, there was no research found that include the influence of missed but important variables like: market problems, lack of production premises and lack of electricity on lease financing practices in their studies. In addition to this, some researchers such as Dagnachew (2019) and Mengistu (2019) have suggested the need of further studies on demand or SMEs side factors that affect lease financing practices. Therefore, this study to fill the research gap by incorporating the missed but important variables to investigate determinants of lease financing practices and its effect on Income of SMEs: in case of Jimma and Bench Sheko zones.

1.3. Research Questions

- ✘ What are factors that constraint SME to participate in lease financing practice?
- ✘ What factors affect SMEs' lease financing income?
- ✘ To what extent SMEs participate in lease financing?

1.4. Objective of the study

1.4.1. General objective

The general objective of this study is to examine the determinants of lease financing practices and its effect on income of SMEs in case of Jimma and Bench Sheko zones.

1.4.2. Specific objectives

The specific objectives of this study are:

- ✘ To investigate factors that constraint SME to participate in lease financing practice;
- ✘ To investigate the factors that affect lease financing income of SMEs in the study area.
- ✘ To analyze extent of SMEs participate in lease financing;

1.5. Significance of the Study

The results of this study provide pertinent information and knowledge base to Banks, Capital Good Finance Company, SME and private, who want to participate in lease financing. On the other hand, the results of this study also expect to have important role to fill the knowledge gap by incorporating missed but important variables on demand side factors that missed from previous researchers. Furthermore, it can be used as input for policy makers to consider lease financing as an option for development as well as an employment opportunity for SMEs. The study also helps as evidence and literature for those researchers who have the interest to conduct a study related to this topic in the future.

1.6. Scope of the Study and Limitation of the Study

The study concentrated particularly in Jimma and Bench Sheko zones. It was only focus on determinants of lease financing practice and its effect on the income of SMEs.

Moreover as a limitation of the study, factors affecting SMEs participation in lease financing and its effect on SMEs income, only covers two zones and the data used was cross sectional. The researcher has encountered number of limitations. Some of challenges were lack of relevant

organized data concerning small and medium enterprises and the pandemic covid-19 disease that hindered in order to deeply and widely discuss with concerning organs closely.

1.7. Organization of the Paper

This thesis is composed of five chapters which are systematically constructed and information flow put coherently. The first chapter of this study deals with the introduction part of the study which includes the background of the study, statement of the problem, research questions, objectives of the study, significance of the study, scope and limitations of the study and organization of the thesis. The second chapter discussed about conceptual frame work, theoretical literature and empirical literature review on lease financing by including definition, concepts, different aspects of lease financing, legal and regulatory framework, benefit of lease financing and other country trends. The third chapter deals with the methodology of the study employed including the description of the study area, data type and, sources of data, sampling techniques and procedure, and sample size determination, a method of data collection, data analysis methods and techniques, and model specification. The fourth chapter explains results and discussions. The fifth chapter describes conclusions and recommendations. At the end references and appendices are presented.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Theoretical Literature Review

2.1.1. Concepts of Lease Financing

Leasing is a financing in kind for production and service purpose by which a leaser provides specified capital goods on financial lease or hire purchase agreement basis to a lessee, without collateral, for a specified period of time and collects in return a certain amount of periodical payments over the specified period. Hire-purchase is a type of leasing by which a leaser provides a lessee with the use of a specified capital goods, against payment of mutually agreed installments over a specified period under which, with each lease payment, an equal percentage of the ownership is transferred to the lessee and, upon effecting of the last payment, the ownership of the capital goods shall automatically be transferred to the lessee. Lease financing is an alternative means to finance SMEs that missed sector in Ethiopia. Leasing provides a means to deliver increased domestic investment within economies (DBE, 2016).

Moreover a lease is a contract that allows a certain entity to use property that it doesn't possess in exchange for series of periodic payments to the owner. Thereby, a lessee - an entity such permit is granted to, can generate earnings from its use. In essence, leasing is simply another method of financing in contrast to bank loans, private placements and other (Asya, 2017). In line to this, Mohajan (2012) defined leasing as a contract between the owner of the asset which is called leaser and the business that wants to lease the equipment is called lessee or client. The broader definition of the leasing is a trade and financing method by location by financial institutions specializing in these operations, by financial institutions or directly by manufacturers, to companies that carry out particular operations, or do not have sufficient borrowed or own funds to buy them.

In addition to this leasing is one of the most popular methods of financing of fixed assets in companies, both in the big and quite small ones. While making the decision concerning the method of financing of an investment, one needs to assess, using discount methods, which of the financing options available is the most effective one (Wysłocka and Szczepaniak, 2012).

Leasing is a medium-term financial instrument for the procurement of machinery, equipment, vehicles, and/or properties. It provides financing of assets – equipment, vehicles – rather than direct capital. Leasing institutions purchase the equipment, usually as selected by the lessee, providing the equipment for a set period of time to businesses. For the duration of the lease, the

lessee makes periodic payments to the leaser according to an agreed upon payment schedule. At the end of the lease period, the equipment is transferred to the ownership of the lessee, a secondary lease, returned to the leaser, or sold to a third party (IFC, 2018).

In general lease financing is an asset management based business that requires specialized expertise. It is more profitable in some special sectors where other financing will be less profitable than lease financing. Recently lease financing is the most emphasized topic to any challenging institution or organization to develop their financial resources as well as profit maximization or maximization of owner's equity. All types of assets such as land, buildings, plant and machinery equipment and transports are related to lease (Mohajan, 2012).

2.1.2. Overview of Global and African Lease Financing

Asya (2017) found that the UK and Germany are the leaders among the European countries by the amount of new equipment in 2015 financed by the means of leasing. In addition to this the USA has the largest leasing industry in the world and lease financing contributes approximately one-third of total business investments.

Mohajan (2012) stated that Bangladesh is a small but densely populated country in the South Asia and the people of it mainly depend on agricultural. Due to globalization and liberalization the country gradually shifting towards industrialization and lease becomes a pioneering and alternative way to develop the country through business and industrialization.

According to the White Clarke Global Leasing Report 2017 as it was obtained from IFC (2018), for the fifth consecutive year since the global economic crisis, the global leasing industry maintained an optimistic outlook and has experienced growth in new business volumes. The report also show that in 2015, China reported itself as the second largest leasing market in the world for asset finance through leasing and hire purchase. Such a success story emphasizes the important role leasing plays in helping to develop national financial markets. The report further stated that four African countries falling within the top 50 leasing threshold worldwide. Those countries are: South Africa, Egypt, Morocco, and Nigeria (IFC, 2018).

2.1.3. The Economic Impacts of Lease Financing

All the entities operating on the today's market, especially in the situation of the economic crisis, do their best to obtain capital at the lowest expense possible and to guarantee the stability of an entity. The minimization of the cost of capital necessary for financing fixed assets is one of the key tasks for the management of an entity. Their decisions need to take into consideration both balance sheet consequences and fiscal consequences of a chosen form of financing. The

traditional forms of financing of fixed assets, in the times of economic recession, are difficult to obtain. Therefore, there is a bigger interest in leasing, which is a modern and flexible source of financing characterized by bigger availability. Moreover, the universal nature of leasing as a source of financing needs to be emphasized. It is available to all the entities, independently of the scale of their activity (Wysłocka and Szczepaniak, 2012).

In fact lease financing approaches many advantages: Leasing contract is profitable to all the parts included; to the furnishers, leasing wide their market basis; Differing with the simple loan, lease financing does not need a guarantee (Elidiana and Fatbardha, 2013).

Mazharul (2013) stated the importance of lease financing as the follows: it is easy to get than getting loan for buying all fixed assets. Monthly rent payment for lease finance will be operating expenses. It will be allowed to deduct total income. So, company can get tax benefits in lease financing. It can show as invisible debt of company out of its balance sheet. You can show lease finance in the footnote of balance sheet, if you did contract directly with the owner of asset. One of major important point is that it is more flexible way of finance. You can fix your need of asset and get it one lease through lease financing

Leasing fosters economic development and job creation, by providing access to finance to micro, small and medium businesses that often cannot access other forms of financing. Leasing provides a means to deliver increased domestic investment within economies. By developing additional financial tools it is able to deepen the activities of financial sector by introducing new products and industry players. Its key benefit is the access it provides those without a significant asset base; leasing enables small enterprises to leverage an initial cash deposit, with the inherent value of the asset being purchased acting as collateral. These small businesses do not have other assets that could serve as collateral for loans. Leasing plays a critical role in bringing small businesses into the formal financial system and creates employment opportunities. It promotes domestic production, economic growth, and job creation. Lease financing facilitates investments in capital assets, which address the most critical mechanization gaps in agricultural value chains (Bafekadu, 2018).

From DBE (2016) document review, the purpose of lease financing is to provide financial assistance to the government priority area projects in which SMEs are engaged in support of the country's economic growth and development. The bank's lease financing scheme shall: support structural transformation objective; promote import substitution; create employment opportunity; promote export promotion objective of the country and support foreign exchange earnings; and create access to finance for SMEs particularly the missing middle.

2.1.4. Lease financing in Ethiopia

In Ethiopia, leasing institutions are referred to as Capital Goods Finance Companies. At present, there are seven leasing companies licensed to do leasing in Ethiopia. The Development Bank of Ethiopia, known as DBE, and the five regional leasing companies: Addis CGFC, Oromia CGFC, Waliya CGFC, Debub CGFC, and Kaza CGFC. In August 2019, New York-based African Asset Finance Company became the first foreign and privately owned company licensed to lease equipment in Ethiopia. As of end March 2019, these leasing companies have disbursed over ETB 4 billion (\$US 140 million) through more than 9,000 leases to local MSMEs (EIC, 2020).

In Ethiopia the sectors likely to benefit from capital goods financing are basically enterprises producing goods and services for export and import substituting enterprises as well as enterprises capable of creating large employment opportunities. Currently, the leasing companies are expected to provide lease finance for machineries and equipment to the priority areas (Bafekadu, 2018).

Ethiopia has enormous growth in the leasing of business assets for leasing has play a vital role to meet up the financial needs of various sectors of an economy and thus contribute to the economic development of the country as well as to the deepening of the country's financial system. Leasing business in Ethiopian has been developed within a very short period of time and its further development is increasing continuously with lots of unfavorable on the sectors as well (Mengistu, 2019).

Small and Medium Enterprises (SMEs) are enterprise in the agro-processing industries, manufacturing industries, tour industries, construction industries and mining and quarries that operates with above 6 employees and has total capital from Birr 500,000 to Birr 7.5 million. The lease financing service shall not be provided to micro and small enterprise whose total capital is less than birr 500,000; but shall finance new capital goods from the priority areas of the government for SMEs only for the purchase of capital goods for their projects use. (DBE, 2016)

Potential SMEs should fulfilled required documents to get lease financing genuinely. These documents are: application letter, support & recommendation letter for a lease financing from responsible organizing government body; enough production area or shade and sales area; land lease or shade rent contract; business license; Performa invoices of the capital goods from legitimate suppliers or manufacturers: utilities (electricity and water); business track records; credit history; tax clearance certificate; source of equity in cash; management experience and education level; and business plan or feasibility study (DBE, 2016)

2.1.5. Lease Financing Policy in Ethiopia

Ethiopia has a leasing industry specific legislation. Issued in 1998, the first leasing proclamation, i.e. CGLB proclamation No. 103/1998, provides a comprehensive legal framework of the leasing business. However, it can be argued that this proclamation has not achieved its objective for over the last 16 years or so because, except for operating leasing, financial leasing and hire-purchase were not practically in existence. Although microfinance institutions are allowed to provide financial leasing services by the micro-financing business proclamation No. 626/2009, this product has not been delivered in a considerable and professional manner, due to lack of leasing skills. Thus, in order to address this gap as well as create alternative sources of financing for SMEs through establishment of specialized leasing companies in a manner that support the manufacturing sector, the government of Ethiopia has issued amendment proclamation No. 807/2013, which is applicable to the leasing business together with the former proclamation (Dagnachew, 2019).

2.1.6. Types of lease financing

There are overall three main types of leasing: “operational lease”, finance lease”, and “hire purchase” lease. They generally vary in ownership rights and control of asset rights as well as responsibility for maintenance, damage and insurance. Leasing serves generally all sectors and can be applied for different size equipments (Helen, 2014).

2.1.6.1. Financial Lease

Financial lease is a type of leasing by which a leaser provides a lessee against payment of mutually agreed installments over a specified period with the use of specified capital goods which is either already acquired by the leaser; or purchased by the leaser from a third party, known as the manufacturer or supplier, chosen and specified by the lessee; and under which the leaser shall retain full ownership right on the capital goods during the period of the lease agreement, and subject to agreement between the two parties, the lessee may have an option to purchase the capital goods outright after the termination of the lease period at an agreed price. The price shall be determined based on agreement between the two parties (i.e. not more than 0.5% of the original cost of the capital goods) and included in the lease contract (DBE, 2016).

The lease transfers ownership of the asset to the lessee at the end of the lease term; The lessee has the option to purchase the asset at a price that is expected to be significantly lower than the true value of the asset at the time when this option becomes possible and it is clear that at the beginning of this option agreement will be used; The lease term is most economic life of the asset even if title is not transferred yet; At the beginning of the lease the present value of total

minimum lease payments is significant in all manner of fair value of the leased asset; and the leased assets are of a special nature in such a way that only the lessee cannot use them without major modifications carried out (Elidiana and Fatbardha, 2013).

2.1.6.2. Operating lease

Under operating lease, the user of the machinery makes payment for a short-term use of the asset. Essentially, operating lease is similar to renting with no ownership rights and control of asset rights transferred to the lessee (Helen, 2014).

An operating lease does not transfer the risks and benefits of ownership to the lessee. The leaser, as owner of the property, retains legal title. In this transaction, the leaser is entitled to any tax benefits of ownership (such as accelerated depreciation). The leaser also retains the rights to the property's residual value at the end of the term. In most operating leases, the term of the initial lease agreement is significantly shorter than the economic life of the property (Comptroller's Handbook, 2014).

In addition to this operational leasing is a type of lease in which the leaser acquires the property at your own risk, and then passes it to the lessee as the leased asset. Lessee may choose operational leasing, in the following cases: 1. If necessary to take advantage of leasing the property only for a time, to perform a single operation; 2. If the leased property is fast becoming obsolete and the lessee assumes that a new, more sophisticated and effective property will be after the end of the lease term (Eugenyet al, 2016).

2.1.6.3. Hire purchase

Hire-purchase is a variation of finance lease, and one currently promoted in Ethiopia. A lessee agrees to pay for an asset in parts or a percentage over a number of months or years towards eventual ownership of the asset. The ownership of the asset remains with the leaser until the last payment is made. In effect, hire-purchase is similar to a mortgage system, whereby with each regular payment, the user's ownership rights increase until the payments are complete

In Ethiopia, the focus is to develop enabling and vibrant environment for finance lease, in particular for hire-purchase lease, as this form of leasing leads to final ownership of the asset. The key characteristics of finance lease including hire-purchase are as follows: the lessee selects the asset; the procurement of asset is conducted by the leaser and not the lessee; the leaser remains the owner of the asset throughout the lease period, while the lessee has control over the use of the asset; the leaser is fully secured in the event of destruction or damage; the lessee has the obligation to pay the lease fee and the lessee has the obligation to maintain the asset in line with

the lease agreement. The lease agreement, among other items is non cancellable. The agreement details, among other things, the actions to be taken in the event there is a default (Helen, 2014).

2.2. Empirical Literature Review

Muhaiminul et al (2016) has conducted study on impact of lease finance on productivity, profitability and employment in SMEs in Bangladesh. By using SPSS analysis, they found that lease financing has positive impacts on productivity, profitability and employment in SMEs in study area. Individual organization's economic growth by productivity and profitability provided them with competitive edge and also larger scope for profit making. Financing helped those small enterprises adopt technology and innovation. It also impact on social wellbeing.

Khalin and kalson (2014) conducted study on financing SMEs: determinants of bank loan application. By using logistic regression analysis, they found that the education background of the firm's owner, the firm's size, collaterals and loan interest were found to be negatively related to its tendency to apply bank loan. However they found that firm's business plan and start-up relationship with bankers were positively related to the bank loan.

Michael (2015) has conducted study on lease financing in Kenya and he found that Leasing Association of Kenya needs to be pro-active in marketing and providing information on the leasing products in Kenya. This could be monthly updates on the leasing products, incentives that encourage leasing uptake and costs involved in use of lease. This will go a long way to increase the use of both operating and finance lease which might improve the significance levels of lease financing within firms in Kenya.

Mengistu (2019) has done the research on challenges and prospects of lease financing in Ethiopia in case of DBE. He analyzed data through descriptive statistics by SPSS. He has identified challenges that the bank faces were: the bank's Small and Medium Enterprise selection criteria, poor supply chain with absence of proper and sufficient suppliers of capital goods, macro-economic instability, poor quality of financial statements of Small and Medium Enterprises, absence of Small and Medium Enterprises, Lack of knowledge about Small and Medium Enterprise Lease financing, poor management of credit risk by the bank and lack of proper internal policy and procedures that minimizes the cost associated with Small and Medium Enterprise lease financing loans. At end of his study he suggested that the study was focused on employees of DBE in Addis Ababa regions; and the future studies should be carried out on the similar topic which include sample of all stakeholders to reflect their challenges with the lease financing.

Dagnachew (2019) has done study on challenges of lease financing in the case of DBE. He found that absence of proper and sufficient suppliers of capital goods; macro-economic instability, poor quality of financial statement of SMEs, absence of SMEs or available SMEs are not credit worthy, lack of knowledge about SME lease financing, poor management of credit risk by the bank; lack of the bank's proper policy and procedure to reduce costs associated with SME lease financing. Finally, he showed as he has confined solely on bank side or supply side and he recommended the need for further research in similar topic on demand side or SMEs sides to identify and discuss determinants of lease financing practices.

Fredu and Edris (2016) have conducted the studies about SMEs access to finance in Ethiopia. By using ordered logistic regression analysis they found that: lack of access to finance on reasonable terms and conditions, limitation of financial intermediaries, high level of collateral requirements by financial institutions; lack of transparency of loan conditions, lengthy application and disbursement process, recent establishment of the SMEs, lack of SMEs engagement with banks, lack of experience of the manager of SMEs and lack of owner manager are the main constraints of SMEs to participate in finance.

Ayalneh (2018) has done study on Assessment of Access to Finance and Its availability for SMEs in Addis Ababa. By using logistic regression analysis, he found that firm characteristics, collateral requirement, cost of borrowing and awareness of funding opportunity have a significant relationship with the accesses to finance and its availability. Furthermore, the result from descriptive nature of structured questioner confirmed that all factors in his research have impact on the accesses to finance and its availability. It also revealed that SMEs use their own savings and profit as well as "ekub" as a major source of finance beside banks and MFIs contribution. Having in adequate collateral, lengthy process of loan and high interest rate are discovered as major obstacles to have loan from Banks and MFIs

2.3. Research Gaps

A research gap is defined as a topic area for which missing or insufficient information limits the ability to reach a conclusion for a question. A research need is defined as a gap that limits the ability of decision-makers from making decisions (Ayalney, 2018).

The researcher has found on studies conducted in Ethiopia and broader by using different related factors as a measure. As researcher review different articles, there are no studies conducted that checked this three factors like: market problem, lack of access to sufficient premises and lack of access to electricity. In addition to this, some researchers that mentioned in above empirical

studies also recommended future studies to be made on determinants of lease financing practice on demand/SMEs sides.

In general, from the research gap discussion it is understood that more study should be done to have more comprehensive understanding on this topic. Therefore, this study aimed to investigate determinants of lease financing practices and its effect on the income of SMEs in case of Jimma and Bench and Sheko zones.

2.4. Conceptual Framework

As expressed in chapter one the main objective of the study is to investigate the determinant of lease financing practices and its effect on income of SMEs in case of Jimma and Bench Sheko zones. The lease financing practice affected by age of the firm, market problem, lack of premises, lack of electricity, lack of education level of SMEs manager, experiences of SMEs manager, lack of access to water, lack of capital for equity contribution, lack of lease financing awareness, lack of quality of lease financing and long processing time of lease financing and lack of credit worthy of SMEs.

By using lease financing services, SMEs produce different products. By selling the products they can get incomes. The lease financing services may have impacts on the income of the SMEs. In the literature different aspects of lease financing and related issue is addressed. As Creswell (2009) suggests after summarizing the literature review, structuring it thematically or organizing it by important concepts to end the literature review is commendable. Therefore in view of the various literatures reviewed the following conceptual framework is developed to provide a rationale for the study.

Conceptual framework diagram

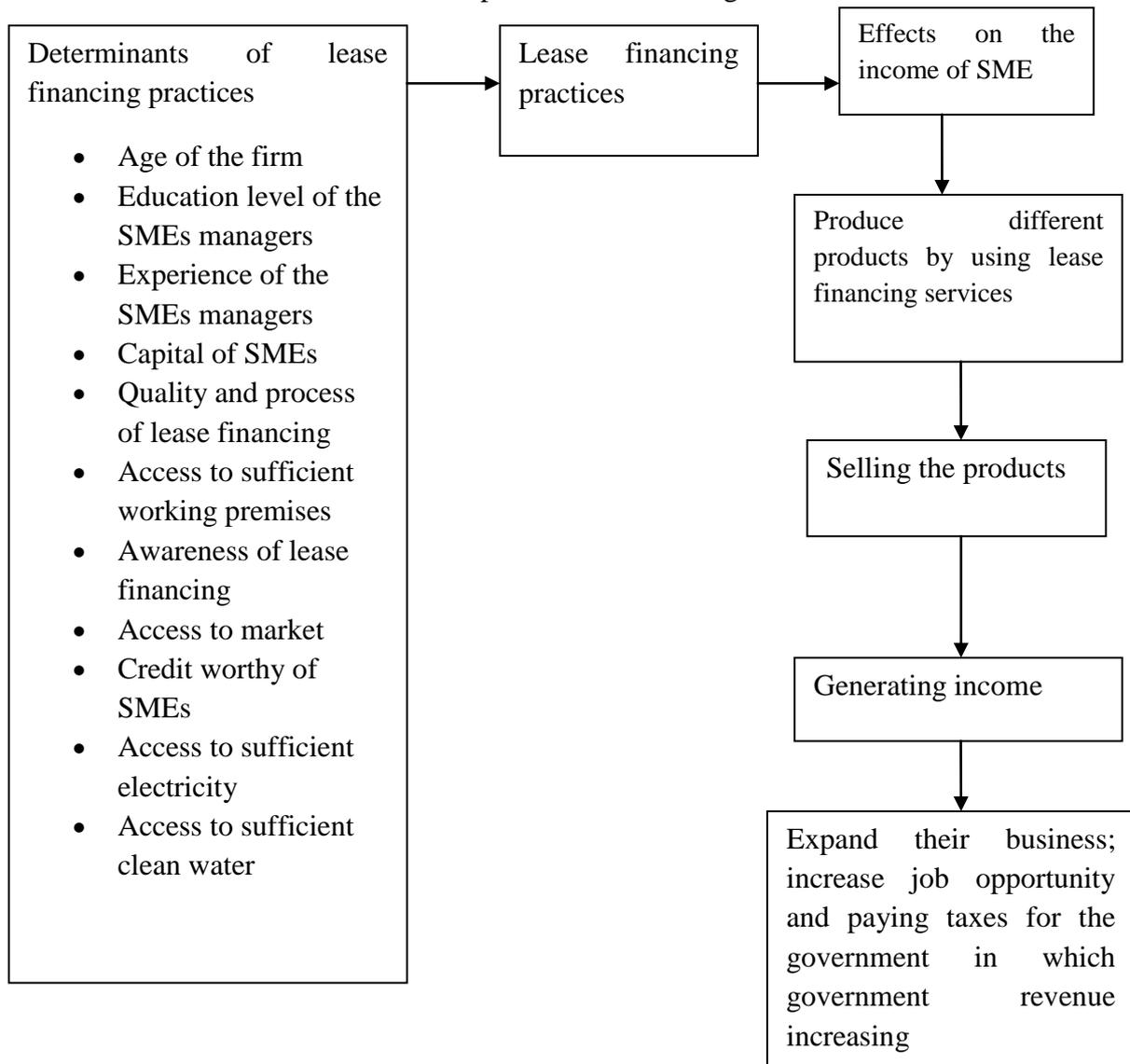


Figure 2.1: Conceptual framework for determinants of lease financing practice (SME level)

Source: Modified and adopted from Tesafaye (2019) and Ayalneh (2018)

CHAPTER THREE

3. RESEARCH METHODOLOGY

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research (Rajasekar et al, 2013). Hence in this section, the specifications of the methodology and model that was employed to analyze the determinants of lease financing practice and its effect on the income of SMEs were presented.

3.1. Description of the Study Area

The study was conducted in Jimma and Bench Sheko zones. The two zones are found in south western part of Ethiopia. While Jimma zone found in Oromia Regional State, Bench Sheko zone is found in Southern Nation Nationality and People's Regional State.

Based on 2007 census conducted by the CSA, Jimma zone has 2,486,155 populations, of whom 1, 250,527 are men and 1,235,628 are women. Whereas, Bench Sheko zone has total population 652, 531, of whom 323, 348 are men and 329,183 women.

There are 1,052 total small and medium enterprises in the study area. About 502 small and medium enterprises are found in Jimma zone; and the other 550 small and medium enterprises are found in Bench Sheko zone. These small and medium enterprises are participating in different sectors such as, manufacturing, agriculture, agro-processing, construction and service sector industries.

Furthermore, there are two leasing companies and one state owned bank that have been providing lease financing services for small and medium enterprises (SMEs) in the study area. These companies and bank are: Oromia Capital Good Finance Company, Dehub Capital Good Finance Company and Development Bank of Ethiopia Jimma Districts. DBE Jimma district has three branches (Jimma, Agaro and Mizan-aman branches) in the study area. Oromia Capital Good Finance Company and Development Bank of Ethiopia Jimma and Agaro branches have been providing lease financing services for small and medium enterprises that found in Jimma zone. In other hands Dehub Capital Good Finance Company and Development Bank of Ethiopia Mizan-Aman branch have been providing lease financing services for the small and medium enterprises that found in the Bench Sheko zones. The researcher aimed to conduct study on determinants of

lease financing practice and its effect on income of SMEs in case of Jimma and Bench Sheko zones.

3.2. Research Design

By taking the research objectives and nature of the study into consideration cross-sectional research designs was used. The cross-sectional is a kind of research design in which the data are collected at a single point in time from a sample to represent a large population (Tesfaye, 2019; and Mengistu, 2019). The convenient methodology was applied for data collection. Both qualitative and quantitative data was collected within a target population frame work of a case study approach. Review of secondary data and schedule interviews with SMEs conducted in order to get necessary data for this study.

3.3. Data and Collection Methods

The study has employed both primary and secondary data. The primary data, both qualitative and quantitative data was collected from sample SMEs using structured questionnaire and interview. Focused group discussion and key informant data collection tools were also be used. Secondary data were collected from DBE Jimma District, OCGFC, DCGFC and government report. The interest of the respondents in survey work was an issue that was given top priority. Respondents might give little cooperation unless their concerns were taken care of very seriously. Therefore, in order to gain their trust, the respondents were carefully informed about the objectives of the survey and the direct and indirect benefits to them.

3.4. Sampling Technique and Procedure

For this research simple random sampling technique was employed for selection of sample respondents. Two zones, Jimma and Bench sheko zones have been selected purposively because of the availability of the data of small and medium enterprises for both participated and not participated in the lease financing services and data constraints of the researcher to conduct research in the other area. From two zones, Jimma and Bench Sheko zones, proportional small and medium enterprises were selected from population of two zones by using simple random sampling techniques.

3.5. Sample Size Determination

The sample size for the research was determined by using simple random sampling from existing SMEs in the two zones. In other hands, to select sample size from the SMEs not participated in lease financing or participated in lease finance yet, simple random sampling was used. Yamane (1967) formula has employed to drawing an adequate sample size from a given population at 95%

confidence level and 0.5 degrees of variability. The researcher was assumed error limit less than 10% and confidence level of higher than 90% can be regard as acceptable.

$$n = \frac{N}{1+e^2 (N)} \quad (3.1)$$

Where n= the sample size

N= the total SMEs

e= allowable error

Hence, based on this formula, the sample size was determined. To determine sample size, Yamane formula was used by previous researchers like Befekadu (2018), Mengistu (2019) and Tesfaye (2019). Hence 91 sample respondents were selected from the total of 1,052 SMEs.

Accordingly, based on the formula $n = \frac{1,052}{1 + 0.1^2(1,052)}$

$$n = \frac{1,052}{1 + 0.1^2(1,052)} = 91.319 \sim \mathbf{91}$$

Table 3.1: Distribution of sample size

Name of the Zones	Number of SMEs	Proportionally determined sample size
Jimma	502	43
Bench Sheko	550	48
Total	1,052	91

Source: Jimma and Bench Sheko Zones SME Agency

3.6. Methods of Data Analysis

The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical inference. Analysis work after tabulation was generally based on the computation of various percentages; coefficients etc., by applying various well defined statistical formulae. In the process of analysis, relationships of differences supporting or conflicting with original or new hypothesis should be subjected to tests of significance to determine with what validity data can be said to indicate any conclusions (Prabhat and Meenu, 2015). In this study, the researcher has employed both descriptive and econometric analysis techniques for the study.

3.6.1. Descriptive Statistics

Descriptive statistics is one of the techniques were used to summarize data collected from a sample respondent. By applying descriptive statistics such as mean, standard deviation, frequency of appearance, percentage, maximum and minimum value and etc. one can compare and contrast different categories of sample level of SMEs with respect to the desired characters so as to draw some important understanding.

3.6.2. Econometric Model Specification

One objective of this study was to determine determinants of SMEs participation in lease financing and its effect on the income of SMEs. The dependent variables in this case are a dummy variable, which takes a value of zero or one depending on whether or not the SMEs participated in lease finance. Regression models in which the regressand evokes a yes or no or present or absent response are known as dichotomous or dummy dependent variable regression models. They are applicable in a wide variety of fields and are used extensively in survey or census-type data (Gujarati, 2004 and Woodridge, 2002). In this regard, the non-linear probability models, Logit and Probit models are the possible alternatives.

Heckman introduced a two-stage process to correct sample-induced endogeneity. The first stage in his process uses a Probit model to estimate the probability of an observation's entering a sample in this case determinants of lease financing practice and the second stage uses OLS to predict the ultimate dependent variable in this case SMEs' income (Heckman, 1979). Therefore in this study Heckman two stage choice contexts the researcher simultaneously model participates in lease financing and the effect of lease financing scheme on SMEs income.

3.6.3. Specification of Heckman Two Stage Model

The Heckman two-stage model was used by different researchers to estimate the effect of hypothesized variables on participation behavior when dependent variable is dummy variable. Even though Heckman developed the model on wage of employment, different researchers used to analysis determinants and outcome effects. Abbas (2016) used Heckman two stage models to analysis determinants of demand for and supply of credit to small scale enterprises and performance of formal micro credit markets. The same to this Gariba (2015) used this model to examine determinants and challenges of SMEs for access to credit; and Mai (2019) used the model to investigate casual effect of access to finance on productivity of SMEs.

Therefore, Heckman model is used for this study in order to identify factors affect participation in lease financing, Probit estimation or first stage Heckman model was used because participation in

lease financing is dependent dummy variable that takes value 1 for participant and 0 for nonparticipant. $P_i = f(Z_1, Z_2, Z_3, Z_4, \dots, Z_K)$ (3.2)

$$pr(Y = 1/X_i) = \int_{-\infty}^{x'\beta} \phi(t) dt = \Phi(X'\beta)$$

Where, $\phi(t)$ is standard normal density.

$$\phi(t) = \frac{e^{-\frac{t^2}{2}}}{\sqrt{2\pi}} \text{ And } \Phi(\cdot) \text{ is standard normal distribution function.}$$

The probit model stated above are specified to variable model as

$$PLF = a_0 + a_1AGE + a_2EDU + a_3EOM + a_4CPT + a_5QPLF + a_6AWP + a_7ALF + a_8AM + a_9CW + a_{10}ASE + a_{11}ACW + \mu_i \quad (3.3)$$

Where, PLF = dichotomous variable representing participation of SMEs in lease financing; and it is equal to one if the SMEs participates in lease financing and zero otherwise. AGE, EDU, EOM, CPT, QPLF, AWP, ALF, AM, CW, ASE and ACW are the vector of variables that affect SMEs' decision to participate in lease financing. Parameters; $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_k$ represents coefficients for the row vectors to be estimated, and μ_i is the error term.

$$Y_i = f(X_1, X_2, X_3, X_4, \dots, X_K) \quad (3.4)$$

The second stage of Heckman econometric model for outcome equation (income) sated in equation 3 above is specified as follows.

$$Y_i = \beta_0 + \beta_1AGE + \beta_2EDU + \beta_3EOM + \beta_4CPT + \beta_5AWP + \beta_6ALF + \beta_7AM + \beta_8CW + \beta_9ASE + \beta_{10}ACW + \lambda_i + \epsilon_i \quad (3.5)$$

Where, Y_i = represents income of SME earned from lease financing services. AGE, EDU, EOM, CPT, AWP, ALF, AM, CW, ASE and ACW are determinants of SMEs lease financing income. Parameters: $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_k$ represents coefficients for the row vectors to be estimated, λ is the inverse mills ratio generated from the Probit regression of the first stage of Heckman model and ϵ_i is the error term with standard properties.

Heckman introduced a two-stage process to correct sample-induced selection. The first stage in his process uses a Probit model to estimate the probability of an observation entering a sample (probability of SMEs to participate in lease financing in this cases), and the second stage uses OLS to predict the ultimate dependent variable (factors affecting income of SME from lease financing in this case) (Heckman, 1979).

The OLS regression (Outcome equation) lease financing service income of SMEs once they are participant in lease financing is specified as the following equation 3.6

$$y_i = X_i\beta + \mu\lambda_i + \varepsilon_i \quad (3.6)$$

Where y_i is the SME's income earned from lease financing services. Since it is observable for the participants and unobservable for the nonparticipant SMEs we used Heckman sample selection. X_i is a vector of observable factors that affect the level of income from lease financing, λ_i is inverse mills ratio included into outcome equation generated from Probit regression to correct problem of selection bias and ε_i is the error term.

The decision participation in lease financing was specified by equation 3.7 below.

$$P_i^* = Z_i\alpha + \mu_i \quad (3.7)$$

Where $P_i=1$ if SME is participate and $P_i=0$ if not participate. P_i is dependent variable indicates participation in lease financing; Z is vector of variables that affects SME decision to participate in lease financing services and the μ_i is corresponding error term. The outcome equations (income from lease financing services for this case) which was used for effect analysis is specified as,

$$\begin{aligned} y_i &= X_i\beta + \mu\lambda_i + \varepsilon_i, \text{ if } P_i^* > 0 \\ &= \text{unobservable if } P_i^* < 0 \end{aligned}$$

The dependent variable for the first stage of the Heckman model is participation decision, which is a dummy variable takes a value one if the SME participates in lease financing service and zero otherwise. For the Heckman second stage analysis (outcome equation) SMEs lease financing income is a dependent and continuous variable measured in Birr.

The conditional expectation income of SMEs which participate in lease financing becomes

$$\begin{aligned} E(y_i/p_i = 1) &= X_i\beta + E(\varepsilon_i/p_i = 1) \\ &= X_i\beta + \frac{\rho\phi(Z_i\alpha)}{\phi(Z_i\alpha)} \\ &= X_i\beta + \rho\lambda \end{aligned}$$

If the correlation coefficient $\rho=0$ estimating the model using OLS method gives unbiased result. The term, $\rho\phi(Z_i\alpha)/\phi(Z_i\alpha)$ is known as inverse mills ratio usually reported by lambda (λ) and reflects for selection variables that captures for selection bias. Therefore, in Heckman two stages model choice context we simultaneously analysis participation in lease financing and the effect of lease financing scheme on SME's income (Heckman 1979).

3.7. Definition of independent variables and working hypothesis

Dependent variable: Participation in lease financing is dependent variables, measures as dummy variable where it takes value 1 for participant and 0 for non-participant in the Probit model.

The independent variable that are hypothesized to affect the participation decision in lease financings combined effects of factors that Z_i represents in equation 6 are:

- ✘ Age of SMEs: It is continuous variable. Based on the Fredu and Edris (2016), it is expected to have positive relation with lease financing practices.
- ✘ Capital of SMEs: It is continuous variable. Based on the DBE lease financing manual (2016), it is expected to have relation with lease financing practices.
- ✘ Education level of the SMEs managers: It is continuous variables. Based on the Nguyen (2017), it is expected to have relation with lease financing practices
- ✘ Experience of the SMEs manager: it is continues variable. Based on the previous literature review Fredu and Edris (2016) and DBE due delegacy format (2015), it is expected to have positive relation with lease financing practices.
- ✘ Quality and process of lease financing: It is dummy variable that takes value 1 for access to premises for lease financing, 0 otherwise. Based on literature review Degnachaw (2019), it is expected to have positive relation with lease financing practices
- ✘ Access to working premises for SMEs: It is dummy variable that takes value 1 for access to premises for lease financing, 0 otherwise. Based on DBE lease financing manual (2016), it is expected to have relation with lease financing practices
- ✘ Awareness of lease financing: It is dummy variable that takes value 1 for know or informed about lease financing, 0 otherwise. Based on previous literature review Meghana et al (2017) lack of awareness about lease financing affect to finance SMEs, so that it is expected to have positive relation with lease financing practices
- ✘ Access to market: It is dummy variable that takes value 1 for access to market for lease financing, 0 otherwise. Based on DBE lease financing due delegacy format (2015), it is expected to have relation with lease financing practices
- ✘ Access to credit worthy of SMEs: It is dummy variable that takes value 1 for credit worthy for lease financing, 0 otherwise. Based on the DBE lease financing procedural manual (2016), it is expected to have relation with lease financing practices
- ✘ Access to sufficient electricity: it is dummy variable which takes 1 if electricity is available, 0 otherwise. Based on the DBE lease financing procedural manual (2016), It is expected to have relation to lease financing practices.

- ✎ Access to sufficient clean water: It is dummy variable that takes value 1 if sufficient water, 0 otherwise. Based on the DBE lease financing policy (2016), it is expected to have relation with lease financing practices

Table 3.2: Lists of variables definition and measurement

No	Variables	Symbol	Type	Measurement
1.	Dependent variable			
1.1.	Participant in lease financing	PLF	Dummy	Takes 1 if participate in lease financing; 0 other wise
1.2.	Income from lease financing	IFLF	Continuous	In Birr
2.	Independent variables			
2.1.	Age of the firm	AGE	Continuous	In years
2.2.	Education level of the SMEs managers	EDU	Continuous	Managers' years of schooling
2.3.	Experience of the SMEs manager	EOM	Continuous	Managers' years of work experiences
2.4.	Capital of SMEs	CPT	Continuous	In Birr
2.5.	Quality and process of lease financing	QPLF	Dummy	Takes 1 if acceptable 0 other wise
2.6.	Access to working premises	AWP	Dummy	Takes 1 if they access it 0 other wise
2.7.	Awareness of lease financing	ALF	Dummy	Takes 1 if they received 0 other wise
2.8.	Access to market	AM	Dummy	Takes 1 if access to market; 0 other wise
2.9.	Credit worthy of SMEs	CW	Dummy	Takes 1 if credit worthy; 0 other wise
2.10.	Access to sufficient electricity	ASE	Dummy	Takes 1 if access to electricity; 0 other wise
2.11.	Access to sufficient clean water	ACW	Dummy	Takes 1 if access to clean water; 0 other wise

CHAPTER FOUR

4. RESULT AND DUSCUSSION

This chapter presents the result from the descriptive and econometrics analysis. Both primary and secondary data were collected. Primary data was collected from 91 sampled SMEs in study area on age of SMEs, SMEs' managerial education level, experiences of SMEs managers, capital of SMEs, quality and process of lease financing, access to sufficient working premises, awareness about lease financing, access to market, credit worthiness of SMEs, access to sufficient electricity and access to sufficient clean water; whereas secondary data was collected from Jimma and Bench Sheko zones SMEs office, Development Bank of Ethiopia Jimma district, Oromia Capital Good Finance Company Jimma branch and Debub Capital Good Finance Company Mizan branch.

Descriptive and econometric analysis was undertaken by the researcher using STATA software version 14. Under descriptive statistics, some important information about age of SMEs, SMEs' managerial education level, experiences of SMEs managers, capital of SMEs, quality and process of lease financing, access to sufficient working premises, awareness about lease financing, access to market, credit worthiness of SMEs, access to sufficient electricity and access to sufficient clean water; were displayed with appropriate statistical tools like tables, mean, maximum, minimum, and percentages. Econometric models such as Probit model and OLS methods/Heckman second stage model were used to identify determinants of lease financing practices and its effects of hypothesized explanatory variables on SMEs income respectively.

4.1. Results of Descriptive Statistical Analysis

4.1.1. Age of the firm

Table 4.1: Summary of age of sample SMEs from year of establishment in years

Description	Total sample size	Participant	Non participant
Mean	6.31	8.42	5.38
Minimum	3	4	3
Maximum	13	13	10
Total	91	26	65

Source: Own computation based on data, 2020

The mean age of the sample SMEs was found to be 6.31 years where the minimum is 3 and the maximum is 13 as illustrated on above table. The average age of SMEs participants in lease financing was 8.42 years and the corresponding figure for non-participants firms is 5.38 years.

From the statistical analysis performed statistical paired t test, it is found out that the mean age difference between participants and non-participant firms in lease financing services is statistically significant at 1% level of significance. This shows that in the study area, age of the firm and probability of participation in lease financing has direct relationship and it means that, as the age of the firm increase it participate in lease financing increases. This shows that more old age SMEs in the study area have more participation in lease financing in order to get additional income.

4.1.2. Education level of SMEs Managers

Table 4.2: Education level attained by sample SMEs’ managers in years of schooling.

Description	Total sample size	Participant	Non participant
Mean	12.10	13.27	11.46
Minimum	8	10	8
Maximum	17	17	15
Total	91	26	65

Source: Own computation based on data, 2020

Education plays a key role for SMEs managers’ decision to participate in lease financing. It creates awareness and helps for a better understanding about lease financing services. The distribution of total sample respondents in terms of year of schooling of SMEs managers have shown on table 4 above. The mean education level of the sample SMEs managers was found to be 12.10 years where the minimum is 8 and the maximum is 71 as illustrated on above table. The average education level of SMEs managers for participants in lease financing was 13.27 years and the corresponding figure for nonparticipants firms is 11.46 years. Comparing the selected sample size by SMEs participation, as the year of schooling of SMEs managers’ increase, the SMEs participation in lease financing services increased.

From this analysis one can understand that, SMEs managers which have higher education level have new ideas and try to use new technology by allocating its resource. The mean difference years of schooling of SMEs managers between participant and non participant is statistically significant at 1% level of significance based on statistical paired t test.

4.1.3. Experience of the SMEs' managers

Table 4.3: Experiences of the sample SMEs managers in years of working experiences.

Description	Total sample size	Participant	Non participant
Mean	6.19	8.62	5.05
Minimum	2	4	2
Maximum	13	13	11
Total	91	26	65

Source: Own computation based on data, 2020

Experiences of the SMEs managers play a high role for SMEs managers' decision to participate in lease financing services. The distribution of total sample respondents in terms of year of experiences of SMEs managers have shown on above table. The mean experiences years of the sample SMEs managers was found to be 6.19 years where the minimum is 2 and the maximum is 13. The average experiences of SMEs managers for participants in lease financing were 8.62 years and the corresponding figure for nonparticipants firms was 5.05 years. Comparing the selected sample size by SMEs participation, as the year of experiences of SMEs managers' increase, the SMEs participation in lease financing services increased.

From this analysis its understand that, SMEs managers which have higher experiences have knowledge about the firm's business and contribute more to the productivity of the firms. The mean difference between participant and non participant years of experiences of SMEs managers is statistically significant at 1% level of significance based on statistical paired t test.

4.1.4. Capital level of sample SMEs

Table 4.4: Capital level of the sample SMEs in thousand of birr

Description	Total sample size	Participant	Non participant
Mean	973.15	1652.42	670.68
Minimum	500	500	500
Maximum	2950	2950	1800
Total	91	26	65

Source: Own computation based on data, 2020

As depicted on above table, the mean capital of the sample SMEs was found to be 973.15 thousand birr whereas the minimum is 500 thousand birr and the maximum is 2.950 million birr. The average capital of SMEs participants in lease financing is 1.652 million birr and the corresponding figure for nonparticipants SMEs is 670.68 thousand birr.

From the statistical analysis performed statistical paired t test, it is found out that the mean capital difference between participants and non-participant SMEs in lease financing services is statistically significant at 1% level of significance. This shows that in the study area, capital of SMEs and probability of participation in lease financing services has direct relationship and it means that, as the capital of firms increase, the firms participate in lease financing services increases. This shows that having more capital enable SMEs to have sufficient capital for equity contribution that requested by lease companies and have sufficient working capital to participate in lease financing services.

4.1.5. Quality and process of lease financing providing by Lease Company

Table 4.5: Quality and process of lease financing acceptability by sample SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
Acceptable (yes)	22	84.62%	26	40%	48	52.75%
Not acceptable (No)	4	15.38%	39	60%	43	47.25%
Total	26	100%	65	100%	83	100%

Pearson chi2 (1) = 14.8316 Pr = 0.000

Source: Own computation based on data, 2020

According to it be seen on the above table, about 52.75% of the samples SMEs have accepted quality and process of lease financing offered by lease companies; where as 47.25% of sample SMEs have not accepted the quality and process of lease financing providing by lease companies. When we compare to participants with non-participant SMEs, the majority of the participant firms have accepted the quality and process of lease financing services offered by lease financing companies which help to show the satisfaction of the SMEs in lease financing services.

According to the survey, about 84.62% of participants and 40% of nonparticipants have accepted the quality and process of lease financing in the study area. On the other hand, 15.38% of participant and 60% of nonparticipant samples SMEs have not accepted the quality and process of lease financing services. Quality and process of lease financing, means is providing quality of lease financing services in short possible times by lease companies which encourage SMEs to participate in lease financing services. Quality and process of lease financing services is statistically significant at 1% significance level based on Pearson chi2 test.

4.1.6. Access to working premises

Table 4.6: Access to working premises for lease financing project of samples SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
Having (yes)	22	84.62%	31	47.69%	53	58.24%
Not having (No)	4	15.38%	34	52.31%	38	41.76%
Total	26	100%	65	100%	91	100%

Pearson chi2 (1) = 10.4103 Pr = 0.001

Source: Own computation based on data, 2020

As per shown on above table, about 58.24% of the samples SMEs have sufficient working premises where as 41.76% of samples SMEs have no sufficient working premises for their projects. When we compare to participants with non-participant SMEs, the majority of the participants SMEs have working premises which help to participate in lease financing. According to the survey, about 84.62% of participants and 47.69% of nonparticipants have sufficient working premises. On the other hand, 15.38% of participant and 52.31% of nonparticipant samples have no sufficient working premises. As it could be understand from the above table, having sufficient working promises has positive deference between participant and nonparticipant SMEs in the study area. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.7. Awareness about lease financing for the SMEs

Table 4.7: Distribution of awareness about lease financing received by sample SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
Received (yes)	23	88.46%	40	64.52%	54	59.34%
Not Received (No)	3	11.54%	22	35.48%	37	40.66%
Total	26	100%	65	100%	91	100%

Pearson chi2 (1) = 12.7937 Pr = 0.000

Source: Own computation based on data, 2020

According to above table, about 59.34% of the samples SMEs have received awareness about lease financing; where as 40.66% of sample SMEs have not received lease financing service in the study area. When we compare to participants with non-participant SMEs, the majority of the

participants have received lease financing awareness which promote them to participate in lease financing.

According to the survey, about 88.46% of participants and 64.52 % of nonparticipants have received awareness about lease financing services. On the other hand, 11.54% of participant and 35.48% of nonparticipant samples SMEs have not received awareness about lease financing. Awareness about lease financing is training given by government about lease financing, awareness created by lease companies for the potential customers which encourage SMEs to participate in lease financing. One could understand from the table above, awareness about lease financing has positive deference between participant and nonparticipant SMEs in the study area. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.8. Access to market

Table 4.8: Distribution of market availability for sample SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
Access (yes)	22	84.62%	37	56.92%	59	64.84%
Not access (No)	4	15.38%	28	43.08%	32	35.16%
Total	26	100%	65	100%	91	100%

Pearson chi2 (1) = 6.2466 Pr = 0.012

Source: Own computation based on data, 2020

According to the above table, about 64.84% of the samples SMEs have market accessibility; where as 35.16% of samples SMEs have no accessibility to the market. When we compare to participants with non-participant SMEs, the majority of the participants SMEs have access to market which help to participate in lease financing.

As it shown on the above table, about 84.62% of participants and 56.92% of nonparticipants have access to market in their local area. On the other hand, 15.38% of participant and 43.08% of nonparticipant samples did not have sufficient market accessibility for their products. One could understand from the table above, access to market has positive deference between participant and nonparticipant SMEs in the study area. Access to market mean is having sufficient market for their required raw material as well as for their products. It is also statistically significant at 5% significance level based on Pearson chi2 test.

4.1.9. Credit worthy of SMEs

Table 4.9: Distribution of credit worthy of sample SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
Credit worthy (yes)	24	92.31%	39	60%	63	69.23%
Not credit worthy (No)	2	7.69%	26	40%	28	30.77%
Total	26	100%	65	100%	91	100%

Pearson chi2 (1) = 9.1000 Pr = 0.003

Source: Own computation based on data, 2020

According to table 4.9, about 69.23% of the samples SMEs have been being free from non performing loan, where as 30.77% of sample SMEs have not been credit worthy. When we compare to participants with non-participant SMEs, the majority of the participants SMEs credit worthy which it help to participate in lease financing. As document review of development bank of Ethiopia (DBE, 2016), one of the criteria required by the bank to give lease financing service for potential SMEs is being credit worthy of small and medium enterprises from any credit institutions.

According to the survey, about 94.31% of participants and 60% of nonparticipants have been being free from NPLs. On the other hand, 7.69% of participant and 40% of nonparticipant sample small and medium enterprises have been being in not credit worthy. Credit worthy of SMEs means is being free from any loan defaults or non performing loans with any credit instructions. One could understand from the table above, credit worthiness has positive deference between participant and nonparticipant SMEs in the study area. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.10. Access to sufficient electricity

Table 4.10: Distribution of access to sufficient electricity for sample SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
User (yes)	24	92.31%	20	30.77%	44	48.35%
Not user (No)	2	7.69%	45	69.23%	47	51.65%
Total	26	100%	65	100%	91	100%

Pearson chi2 (1) = 28.1625 Pr = 0.000

Source: Own computation based on data, 2020

According to above table, about 48.35% of the sample small and medium enterprises are users of electric power; where as 51.65% of sample small and medium enterprises not users of electric power for their projects. When we compare to participants with non-participant SMEs, the majority of the participants SMEs are the users of electric power that helps to participate in lease financing services.

According to the survey, about 92.31% of participants and 30.77% of nonparticipants were users of electricity in study area. On the other hand, 7.69% of participants and 69.23% of nonparticipant samples have not got sufficient electricity accessibility for their projects. One could understand from the table above that access to electricity has positive deference between participant and nonparticipant small and medium enterprises in the study area. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.11. Access to sufficient clean water

Table 4.11: Distribution of access to sufficient water for sample SMEs

Description	participants	Percentage	Non participant	Percentage	Total sample size	Percentage
User (yes)	23	88.46%	38	58.46%	61	67.03%
Not user (No)	3	11.54%	27	41.54%	30	32.97%
Total	26	100%	65	100%	91	100%

Pearson chi2 (1) = 7.5634 Pr = 0.006

Source: Own computation based on data, 2020

Based on the above table, about 67.03% of the sample small and medium enterprises have accessible to sufficient clean water; where as 32.97% of sample small and medium enterprises had no access to water. When we compare to participants with non-participant SMEs, the majority of the participant SMEs had access to water which help to participate in lease financing services.

According to the survey, about 88.46% of participants and 58.46 % of nonparticipants had access water in their working area. On the other hand, 11.54% of participant and 41.54% of nonparticipant sample small and medium enterprises did not have water accessibility. One could understand from the table above that access to water has positive deference between participant and nonparticipant small and medium enterprises in the study area. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.12. The Extent of participation of small and medium enterprises in lease financing service

Table 4.12: Percentages of sample SMEs which participating in lease financing in the study area.

Name of Zones	Participant in lease financing		Total Samples out of Zones	Percentages (%)
	N	%	N	%
Jimma	14	53.85%	43	15.38%
Bench Sheko	12	46.15%	48	13.19%
Total	26	100%	91	28.57%

Source: Own computation from survey data, 2020

When we compare each zone of the both Jimma and Bench Sheko by lease financing practice, there is a variation between two zones. We can understand from the table that, there is higher in Jimma zones practice in lease financing followed by Bench Sheko zone respectively. From the selected sample size of both zones, Jimma and Bench Sheko zones have percentage of participant with 53.85% and 46.15% respectively. From the total selected 91 sample size of SMEs in the study area during the survey conducted, 26 small and medium enterprises are found to be participant in different sectors in study area. From these findings we can conclude that the extent of small and medium enterprises' participation in lease financing services was less than half and lease financing activities being practiced is also at its low stage.

4.1.13. Sectors of SMEs engaged in

Table 4.13: Distribution of samples sectors of SMEs engaged in

Sectors SMEs engaged in	Frequency					
	Participant		Non participants		Total sample size	
	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
Agriculture	2	7.69%	5	7.69%	7	7.69%
Agro-processing	9	34.62%	12	18.46%	21	23.08%
Manufacturing	7	26.92%	18	27.69%	25	27.47%
Construction	4	15.38%	5	7.69%	9	9.89%
Mining and quarries	1	3.85%	3	4.62%	4	4.40%
Services	3	11.54%	22	33.85%	25	27.47%
Total	26	100%	65	100%	91	100%

Source: Own computation from survey data, 2020

Sample SMEs requested during the survey that which types of sectors they engaged in and replied that relatively more of them engaged in manufacturing and services sectors. More participants of samples SMEs in lease financing about 34.62% was engaged in agro-processing sectors and about 33.85% of non participants in lease financing were engaged in service sectors. According table 15, more of sample SMEs engaged in manufacturing and services sectors followed by agro-processing, construction, agriculture, mining and quarries which are 27.47%, 27.47%, 23.08%, 9.89%, 7.69% and 4.40% respectively from high to low economic sectors practiced in the study area.

4.1.14. Numbers of SMEs participated in lease financing from Lease Company

Table 4.14: Distribution of SMEs participated in lease financing in different lease companies

Sector engaged in	Frequency	
	Numbers	Percentages
DBE	9	34.62%
OCGFC	11	42.31%
DCGFC	6	23.08%
Total	26	100%

Source: own computation from survey data, 2020

According to above table, the sample SMEs participated in lease financing services in DBE, OCGFC and DCGFC. About 42.31% of SMEs received lease financing services from OCGFC about 34.62% received lease financing services from DBE and about 23.08% small and medium enterprises received lease financing from DCGFC. This implies that small and medium enterprises in Jimma and Bench Sheko zones received lease financing service from two capital good finance company (Oromia Capital Good Finance Company and Debub Capital Good Finance Company); and one bank (Development Bank Of Ethiopia).

4.2. Results of the Econometric Model

In this part, to identify and analyze determinants of lease financing practice and its effect on SMEs' income, Heckman two stages procedure model has been used to analyze.

Based on the first stage of the Heckman two stage model i.e. SMEs participation in lease financing, Probit estimation was used with eleven variables such as age of the SMEs, education level of SMEs managers, experiences of the SMEs managers, capital of SMEs, quality and process of lease financing, access to working premises, awareness about lease financing, access to market, credit worthy of SMEs, access to sufficient electricity and access to sufficient clean water are entered and analyzed with the help of STATA version 14.

For the second stage of Heckman estimation i.e. outcome equation again age of the SMEs, education level of SMEs managers, experiences of SME managers, capital of SMEs, access to working premises, awareness about lease financing, access to market, credit worthy of SMEs, access to sufficient electricity and access to sufficient clean water and inverse mills ratio (λ) are used. Heckman two stages procedure model suggested that, if all explanatory variables used in selection equation incorporated in outcome equation again multicollinearity may occur. Therefore, to solve the problem, at least one explanatory variable should exclude from outcome equation (Heckman, 1979). Accordingly quality and process of lease financing was excluded from outcome equation model in order to capture selection bias.

4.2.1. Estimation Procedure

Prior to the estimation of the parameters of the model, the data have been tested for multicollinearity, heteroscedasticity and normality problems using different STATA commands. If there is multicollinearity problem: standard errors are inflated (creates very large standard errors), sign of the estimated regression coefficients may be opposite of hypothesized direction, smaller t-ratios that might lead to wrong conclusions (Wooldridge, 2003).

Thus, the existence of serious problem of multicollinearity among the variables is examined by the help of variance inflation factor (VIF) for the continuous variables and the values of contingency coefficient (CC) for the discrete variables. For the continuous variables the VIF greater than ten (10) reveals strong correlation and measures inflation in variance due to multicollinearity and the value of contingency coefficient is a chi-square based measure of association where a value above 0.8 shows the existence of strong multicollinearity problem (Greene, 2003).

Based on the results of VIF, the data had no serious problem of multicollinearity. This is because, for all continuous explanatory variables, the values of VIF are by far less than 10. Therefore, these continuous explanatory variables were included in the model. Similarly, the contingency coefficient (CC) results showed absence of strong association between different hypothesized discrete explanatory variables, since the respective coefficients were very low (less than 0.8) as given on (appendix II). Therefore, the dummy variables were included in the model. For this reason, all of the explanatory variables were included in the final analysis.

Heteroscedasticity for outcome equation and normality of the error terms for the different data has been tested. The Breusch-Pagan heteroscedasticity test to check existence of heteroscedasticity problem for errors was used. One of the assumptions in regression analysis is that the errors term (ui) has a constant variance (δ^2). If the error terms do not have constant variance they are heteroscedastic. In the general linear model, OLS estimate are consistent but not efficient when the disturbances are heteroscedastic (Gujarati, 2004). Accordingly, the data implied the absence of the problem of heteroscedasticity (refer Appendix II).

According to (Park, 2008) to check for normality of data, in STATA, we can test normality by either graphical or numerical methods. Through graphical method it has checked the data by drawing histogram and through numerical methods Shapiro-Wilk and Shapiro-Francia tests are used. In all these numerical tests, the null hypothesis states that the variable is normally distributed. The homoscedasticity for the outcome equation and normality assumption for both the participation and outcome equation of the models are not rejected. But for probit it is difficult to test heteroscedasticity problem. Thus, we assumed the presence of Heteroscedasticity and apply robust during analysis to correct the problem for the participation equations.

The goodness-of-fit of the models were assessed using pseudo R-squared and probability of joint model significance value for probit model and probability of joint significance and adjusted R-squared values for OLS model (Madalla, 1983).

Pseudo R-squared of obtained values indicated that the independent variables included in the regression explain significant proportion of the likelihood to participate in the lease financing. The pseudo R-square, value ranges from zero to one with higher values indicating a good fit of the model (Madalla, 1983).

In first stage regression pseudo R-square value is 83.67 percent indicating the fitness of the model and probability chi square is also indicator of goodness of fit (probability chi square =0.0000). When probability of joint significance of the model is significant, then this indicates that the independent variables explained the dependent variable, indicating fitness of the model (Appendix III). The model chi-square tests applying appropriate degrees of freedom indicate that the overall goodness of fit for the Heckman second stage model is statistically significant at a probability of less than 5% level of significance. This shows that jointly the independent variables included in the selection model regression explain the lease financing income of SMEs (Appendix IV).

4.2.2. Results of Probit Model for the Determinants of Decision of the Sample SMEs in Participation in Lease financing services

As already mentioned in the methodology section, this study employs the Heckman two stage procedure models to estimate and infer the parameters of the determinants SMEs decision in participation of lease financing services and its effect on its income in the study area. The results of the maximum likelihood estimation of the first stage of the Heckman model showed that education level of SMEs managers, capital of the SMEs, awareness about lease financing, access to sufficient working premise and access to sufficient electricity have significant effect on the probability SMEs participation decision.

Out of the total eleven explanatory variables, output for the Probit or selection equation shows that five variables were found to be significantly creating variation on the probability of SMEs' participation or determine the probability participation decision. The significant explanatory variables which have an effect on participation in lease financing are discussed below.

Table 4.15: Summary of results for Probit model estimation factors affecting participation in lease financing services

Variables	Robust Coefficient	Std. Err.	Z-value	P > z	Marginal effect(dy/dx)
Age of the firm (AGE)	.1682111	.1090261	1.54	0.123	.0198257
Education level of the SMEs managers (EDU)	.3766175***	.1358502	2.77	0.006	.0297197
Experience of the SMEs manager (EOM)	.1209658	.0957528	1.26	0.206	.0142572
Capital of SMEs (CPT)	.0015947***	.000526	3.03	0.002	.000188
Quality and process of lease financing (QPLF)	.8854332	.7894489	1.12	0.262	.1052279
Access to working premises (AWP)	.9049979**	.4145595	2.18	0.029	.0998995
Awareness of lease financing (ALF)	.9336041**	.375484	2.49	0.013	.1014125
Access to market (AM)	.0590208	.7175286	0.08	0.934	.006863
Credit worthiness of SMEs (CW)	.5399561	.609828	0.89	0.376	.0549686
Access to sufficient electricity (ASE)	1.441066***	.4781523	3.01	0.003	.1949126
Access to sufficient clean water (ACW)	.4042	.469968	0.86	0.390	.0431607
Log pseudo likelihood = -8.8899198				Number of obs = 91	
				Wald chi2(12) = 43.98	
				Prob> chi2 = 0.0000	
				Pseudo R2 = 0.8367	

Note ***, ** &* are statistical significant at p<1%, p<5% and p<10% respectively

Source: Computed from own survey data (2020)

Education level of the SMEs managers: The study result showed that education is positively related to small and medium enterprises participation in lease financing services. This variable is significant at 1% significance level. The marginal effects of the regression revealed that, increasing in one year of schooling of small and medium enterprises managers approximately increased the probability of SMEs participation in lease financing by 2.97 percentage points.

This result is a positive as the results of (Nguyen, 2017) that concluded education level of the SMEs managers is positively related to SMEs decision to loan.

The result of this study shows more educated SMEs' managers are more participant in lease financing in the study area. This is due to the fact that education of the small and medium enterprises managers can raise their information acquisition capacity and adjustment or resource allocation abilities of the manager thereby-providing awareness concerning opportunities for productive employment and rational expectation for decision making. The result found was agreed with hypothesized effect of education on lease financing participation decision.

Capital of SMEs: capital is an important for operating business for SMEs. It is required for working capital and equity contribution to receive lease financing service. SMEs which have higher capital could increase their production to escape capital shortages. The result showed that, capital has a significant and positive association with participating in lease financing at 1% significance level. This result agreed with the prior expectation about having sufficient capital for equity contribution positively related to the participating in lease financing. This is because SMEs which have high capital would build their capacity to produce more through purchasing of all necessary inputs and enable to contribute expected equity from them for lease financing project.

Small and medium enterprises with more capital have the possibility to participate in lease financing services than those which have small capital. The marginal effects of the regression found that, increasing in one unit more of capital of small and medium enterprises approximately increased the probability of SME participating in lease financing by 0.02 percentage point. The same with the expectation by Development Bank of Ethiopia lease manual (DBE, 2016).

Access to working premises: It is positively related to the probability of participation in lease financing practice which is the same with prior hypothesized effect. This variable is significant at 5% significance level. The marginal effects of this variable is that SMEs which had working premises access are approximately 9.99 percent more likely to participate in lease financing as compared to SMEs that did not have access to working premises keeping all other variables remain constant at its mean value. Or the discrete effect of a change from 0 to 1 in access to working premises of the SME increases the probability of participation in lease financing by 9.99 percentage points while keeping all other variables constant at their mean value, from document review of DBE lease manual (2016) SMEs which apply to lease financing should have access to sufficient working premises.

Awareness of lease financing: The study result showed that giving awareness about lease financing is positively related to SMEs participation in lease financing services. This variable is significant at 5% significance level. The marginal effects of this variable is that SMEs which got awareness about lease financing are approximately 10.14 percent more likely to participate in lease financing as compared to SMEs that did not have awareness about lease financing keeping all other variables remain constant at its mean value. Or the discrete effect of a change from 0 to 1 in having lease financing awareness of the SME increases the probability of participation in lease financing by 10.14 percentage points while keeping all other variables constant at their mean value, from previous literature review, Meghana et al (2017) suggested that lack of awareness about lease financing affect the finance of SMEs.

Access to sufficient electricity: it is positively related to the participation of lease financing practice. This variable is significant at 1% significance level. The marginal effects of this variable is that SMEs which have access to electricity are approximately 19.49 percent more likely to participate in lease financing as compared to SMEs that did not have access to electric power keeping all other variables remain constant at its mean value. Or the discrete effect of a change from 0 to 1 in having access to sufficient electricity of the SME increases the probability of participation in lease financing by 19.19 percentage points while keeping all other variables constant at their mean value. The same with the expectation by development bank of Ethiopia lease manual (DBE, 2016).

4.2.3. Heckman two stage Model Estimates for the Effect on Lease Financing Income

This section attempts to address the effect of explanatory variables on SMEs' lease financing project income in Jimma and Bench Sheko zones. Applying ordinary least square (OLS) method by using data from the participant samples only without correcting for selection bias can give unbiased and inconsistent coefficients. For this reason we apply Heckman two stage selection models to estimate the income equations, because Heckman model helps as to consider observations that have missed data. Heckman model has also been used by other authors in similar contexts (Abbas 2016; Gariba, 2015). The explanatory variables that we used to analyze the participation in lease financing are also used to identify their effect on income from lease financing services.

To avoid identification and collinearity problem that could arise during estimation, quality and process of lease financing variable has been excluded from the income equation. According to Heckman selection model, if the same and all explanatory variables used for selection equation

used again for outcome equation collinearity may occur. Therefore, at least one variable should exclude from the outcome equation (Heckman, 1979). The results for the outcome equations (income equation in this case) of the Heckman two-stage selection models are presented in table below and attached on annex.

Table 4.16: Summary of results Heckman two stage estimation for the outcome equation

Explanatory variables	Coefficient	Std. Err.	p-value
Age of the firm (AGE)	11.63102	38.88314	0.769
Education level of the SMEs managers (EDU)	-12.82608	35.96815	0.727
Experiences of SMEs' managers (EOM)	18.16631	18.16631	0.644
Capital of SMEs (CPT)	.2234282*	.1128404	0.068
Access to working premises (AWP)	-61.63802	210.452	0.774
Awareness of lease financing (ALF)	47.08489	295.246	0.876
Access to market (AM)	32.89944	161.3875	0.841
Credit worthiness of SMEs (CW)	119.7129	234.1298	0.617
Access to sufficient electricity (ASE)	-149.9557	325.068	0.652
Access to sufficient clean water (ACW)	67.423	182.2508	0.717
Inverse Mills Ratio	12.81716	225.1474	0.955
Constant	20.88937	1003.801	0.984

Source: Computed from own survey data (2020)

Note: ** and * indicate statistically significant at 5% and 10% level, respectively

Here, results for the outcome equations are estimation results for determinants of income after correcting for selection bias. According to the model output, the estimates of mills ratio/ lambda (inverse Mills ratio), is statistically insignificant providing evidence for the presence of selectivity bias is not significant issues in this case and hence justifying the use of Heckman's two-stage procedure. As the first stage represents participation, which has discussed above, here we focus on the second stage, which describes the effect of hypothesized variables on SMEs income given 26 sampled SMEs are participant.

Among explanatory variables, output for SMEs' lease financing income equation of the Heckman second stage estimation, capital of SMEs variable is found to be significant determinant of SME

income. All other explanatory variables are not significant determinants of SMEs income from lease financing project. With this background, the effect of the significant explanatory variable on lease financing project income level is discussed below.

Capital of SMEs: capital level of small and medium enterprises is significantly affects lease financing project income of the SMEs in the study area. High capital level enables them to diversify their business and increases production and productivity. In doing so, it helps SMEs to increase production and income. Therefore, capital of SMEs influence the SME total income significantly with a positive sign as expected. It is statistically significant at 10% level of significance.

The result of the study shows that, in the study area SMEs which have higher capital have the chance of participating in lease financing. The coefficient of this variable revealed that, keeping all other variables constant, on average annual income of SME would be increase by 22.34% resulted from one unit increase in capital.

4.2.4. Relative Importance of Significant Variables determine lease financing practices and Income

The relative importance of the variables for the SMEs' participating decision of lease financing can be seen by comparing the variables level of significance and the coefficients (the probabilities) that would result from changes in values of these variables. Accordingly; education level of SMEs managers, capital of SMEs and access to electricity are statistically significant variables influencing decision to participate in lease financing at 1% level of significance and awareness about lease financing as well as access to working premises are statistically significant variables influencing decision to participate in lease financing at 5% level of significance.

Similarly, the relative importance of this statistically significant explanatory variable influencing the SME's income from lease financing project can be seen by comparing the total variation of the variables. Capital of SMEs statistically significant at 10% levels of significance that influencing SMEs' income from lease financing project.

CHAPTER FIVE

5. CONCLUSION AND RECCOMENDATION

5.1. Conclusion

Financing of SMEs by the form of lease financing contribute to the economic development through income and employment generation, import substitution and export promoting. However, lease financing services is not well practiced and taken in to consideration in the study area. As per the results of this study, education level of the SMEs managers, capital of SMEs, access to working premises, awareness of lease financing and access to electricity variables are significantly affects the SMEs lease financing participation in the study area.

On the other hand, capital of SMEs significantly affects lease financing participation and income of the SMEs. SMEs, which have higher capital, have higher probability of participation in lease financing than SMEs which have low capital. This shows that, lease financing require initial capital of SMEs that used as working capital and equity contribution. Other variables other than capital do not significant effect on income of the firms.

Moreover, from the result of the study, it could be concluded that, education level of the SMEs has great role in raising SMEs decision to participate in lease financing. Both informal and formal education obtained through training, workshop, experience sharing and observation increase capacity and awareness of the SMEs managers to practice lease financing within study area. Here we can conclude that, economic growth is driven by change in people's capabilities or their human capital, as affected particularly by their education. Educated people can more easily contribute to the generation of new technologies and more readily utilize the technologies.

Access to electricity significantly affects the participation in lease financing. SMEs that have access to electricity were participated in lease financing than those not access electricity. This shows that availability of electricity has significant role to receive capital goods from Capital Good Finance Companies.

There are three capital good finance companies that have been providing lease financing services for SMEs in the study area. These companies are Development Bank of Ethiopia, Oromia Capital Good Finance Company and Dehub Capital Good Finance Company. The SMEs which received lease financing service from those companies are 34.62%, 42.31% and 23.08% respectively. The main economic activities practiced in the study area were manufacturing, agro-processing, constructions, mining and quarries and services sectors.

5.2. Recommendation

Understanding the determinants of lease financing practice is essential in planning and executing related programs for meeting the challenges of lease financing in our country. Therefore, in order to enhance participating in lease financing services by SMEs, it's important for policy-makers and planners to understand SMEs need as well as its ability to receive the lease financing services in order to come up with a practice that will suit them.

Based on the findings of the study, the following policy recommendation can be drawn for further consideration and improvement of lease financing practices in Jimma and Bench Sheko zones in particular and in other zones of the country at large. Even though the study revealed that participation in lease financing could contribute to SMEs income from lease financing project and economic growth of the country, there is shortage of sufficient awareness creation made by capital good financing companies and concerning government body about lease financing for the potential SMEs in the study area. Therefore, Capital Good Financing Companies and concerning government organ has to give attention to give awareness about lease financing to encourage potential SMEs in order to participate in available lease financing service in the study area.

Making available production premises is important to increase SMEs participation in lease financing. This is due to the fact that access to working premises influences the SMEs to participate in lease financing. Hence concerning government body or other nongovernmental organization had better to work on making available of working promises for potential SMEs.

Concerning government and nongovernmental organs should give due attention to develop electricity station for SMEs. Availability of electricity is positively contributes to participation of SMEs in lease financing. Even if electricity is available in the area, the existing electric power is not sufficient to run lease machineries. Therefore, to mitigate the problem of shortage of electricity concerning body should provide electricity for potential SMEs for the further increase the participation of SMEs in lease financing.

Since education is the key for development of human capital, governmental organs and other stake holders had better to invest on education in the form of human capital through different channels such as providing short training and workshop beside formal education. SMEs also should focused and invest on education due to the fact that educated people are capable to adopt technology and diversify their source of income by participating in different activities. Education enhanced knowledge and awareness of people how to develop their business by resource utilization for more production and productivity.

Because of SMEs participation in lease financing and their income generated from lease financing project affected by the capital of the firm, it is important to improve saving capacity of SMEs. Capital of the SMEs is very essential to develop their business. It services as working capital and equity contribution to apply for lease financing services. All capital good finance companies require equity from the potential of SMEs. Hence, SMEs should raise their saving capacity to participate in lease financing services. Government and other nongovernmental organization had better to give advice and training how to they handle financial track records because it's essential to improve their saving and participation in lease financing.

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Appendix

JIMMA UNIVERSITY

DEPARTMENT OF ECONOMICS

MASTER'S PROGRAM: IN DEVELOPMENT ECONOMICS

RESEARCH QUESTIONNAIRE

Dear Sir/Madam,

This questionnaire is designed to conduct academic research on determinant of lease financing practice and its effect on income of SMEs in case of Jimma and Bench Sheko Zones as part of the fulfillment of master's degree in developmental economics at Jimma University. The data you provide in response to the questionnaires will be only used for academic purpose in accomplishment of the study.

Thus, respondents are encouraged to provide their opinions objectively, independently and free from any bias. Your responses are strictly kept confidential and they are used solely for this research.

If you have any clarifications, kindly please contact me through my Email: bedadagudeta@gmail.com or my phone number: 09-22-943-563.

Sincerely Yours,

Bededa Gudeta

SECTION I: RESPONDENT PROFILE

Please kindly put 'X' mark or respond in writing as appropriate

1. Sex Male Female
2. Age _____
3. Educational Qualification: First Degree above Diploma
Technical/Vocational certificate High School
elementary school
4. Working Experience: _____
5. Current position in your firms _____

SECTION II: SME PROFILE

Please kindly put "X" mark in writing as appropriate

1. Age of your SME from its establishment: _____
2. Education level of your SME Manager:- _____
3. Working Experience of your SME manager:- _____
4. How much of your SME capital in birr? _____ Birr
5. Sectors of your firm engaged in

Sectors	
Agriculture	
Agro-processing	
Manufacturing	
Construction	
Tour Industries	
Mining and Quarries	
Service	

SECTION III:

In the following sections, the study is seeking your specific perceptions towards each question as mentioned below. Please kindly circle to express the extent to which you believe in the given statement from the choices:

Sr. No	Please indicate the answer on the following statements in relation to assess SME regarding lease financing	
1.	Does your firm participated in lease financing services?	1 Yes 0 No

1.1	If your answer for Q 1 is YES, from which you participated in lease financing?	A. DBE B. OCGFC C. DCGFC D. Others; if any specify_____
1.2.	If your answer for Q1 is no, what is your source of finances?	A. Own A. Commercial banks B. Micro finances C. Other leasing company
2	If your SME participated in lease financing, what is your SME average annual income that you get from lease financing service (without including income from other activity)?	A. Your SME's average annual income due to only lease financing service is _____ birr
3	Is the quality and process of lease financing service is acceptable to receive in lease financing services?	1 Yes 0 No
3.1.	If your answer for Q4 is no, what is the reason with quality and process of lease financing unacceptable?	A. High cost B. Low quality services C. Delay in time possibility D. Others; if any specify_____
4	Does your firm have sufficient premises (working area) for your project?	1 Yes 0 No
4.1.	If your answer for Q5 is YES, from which organization do you rent the premises?	A. Government B. Privates C. Owners D. Others; if any specify_____
4.2.	If your answer for Q5 is no, what is the reason do not have the premises?	A. Un availability of the premises B. High renting prices of the premises C. Others; if any specify_____
5	Did you receive awareness creation made about lease financing service?	1 Yes 0 No
5.1.	If your answer for Q6 is no, what is the reason for SME have not got awareness about lease financing services?	A. No awareness creation made with the firm about lease financing? B. Others; if any specify_____

6	Does your SME access to markets for your SME's product and raw material?	1 Yes 0 No
6.1.	If your answer for Q7 is YES, who are your costumers of your products?	A. End user B. Traders C. Producers D. All
6.2.	If your answer for Q7 is no, what is the reason do not have the market for your SME product?	A. Lack of transportation B. Lack of quality of the product C. High price of the product
6.3.	If your answer for Q7 is yes, what is your SME source of raw material?	A. Local market B. Foreign market
6.4.	If your answer Q7 no for raw material, what is your SME raw material market problem?	A. Lack of foreign currency B. Others specify _____
7	Is your SME credit worthy with any credit institutions?	1 Yes 0 No
7.1.	If your answer for Q8 is no, what is the reason for your SME credit default?	A. Management problem B. Market problem C. Others specify if any ____
8	Do you access to sufficient electricity for your SME's project?	1 Yes 0 No
8.1.	If your answer for Q10 is no, what is the problem of access to electric power?	A. Existing electricity has no enough power supply for the project B. There is no any electricity around your project area. C. Others; if any specify _____
9	Do you access to sufficient clean water for your project?	1 Yes 0 No
9.1.	If your answer for Q11 is no, what is the problem of access to water?	A. Existing water around the project is not sufficient for the project B. There is no clean water around your project area.

		C. Others; if any specify _____
--	--	---------------------------------

Please indicate if you have other idea rather than mentioned above regarding factors affecting lease financing service?

Thank you very much for your cooperation!

Appendix II: - Correlation, Multicollinearity and Heteroscedasticity

A) Result for test of Multicollinearity

```
. corr age edu eom cpt qplf awp alf am cw ase acw
(obs=91)
```

	age	edu	eom	cpt	qplf	awp	alf	am	cw	ase	acw
age	1.0000										
edu	0.1840	1.0000									
eom	0.7473	0.1471	1.0000								
cpt	0.4837	0.2615	0.5676	1.0000							
qplf	0.2796	0.0316	0.3233	0.3108	1.0000						
awp	0.3278	0.1552	0.3097	0.1969	0.1359	1.0000					
alf	0.2556	0.0559	0.2089	0.1891	0.1128	-0.1565	1.0000				
am	0.1020	0.0627	0.1874	0.2034	0.2710	0.1231	-0.0942	1.0000			
cw	0.2316	0.1238	0.1963	0.2545	-0.0110	0.0631	0.1752	-0.0921	1.0000		
ase	0.3905	0.0160	0.4013	0.3647	0.2991	0.1058	0.3532	0.2060	0.0257	1.0000	
acw	0.2233	0.0823	0.2344	0.1937	0.3195	0.0698	-0.0094	0.3648	0.0896	0.0704	1.0000

B) Variance inflation factors for Continuous variables to test Multicollinearity

. vif

Variable	VIF	1/VIF
eom	2.97	0.336596
age	2.69	0.371819
edu	1.13	0.885954
cpt	1.08	0.923998
Mean VIF	1.97	

C) Contingency coefficient for discrete variables to test Multicollinearity

. corr qplf awp alf am cw ase acw
(obs=91)

	qplf	awp	alf	am	cw	ase	acw
qplf	1.0000						
awp	0.1359	1.0000					
alf	0.1128	-0.1565	1.0000				
am	0.2710	0.1231	-0.0942	1.0000			
cw	-0.0110	0.0631	0.1752	-0.0921	1.0000		
ase	0.2991	0.1058	0.3532	0.2060	0.0257	1.0000	
acw	0.3195	0.0698	-0.0094	0.3648	0.0896	0.0704	1.0000

D) Omitted variable test

. ovtest

Ramsey RESET test using powers of the fitted values of iflf

Ho: model has no omitted variables

F(3, 11) = 0.49

Prob > F = 0.6949

E) Test of Heteroscedasticity of the error term

```
. hettest
```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of iflf

chi2(1) = 0.23

Prob > chi2 = 0.6325

Appendix- III: Probit Regression and Its Marginal Effect Result.

```
. probit plf age edu eom cpt qplf awp alf am cw ase acw,r
```

```
Iteration 0: log pseudolikelihood = -54.442533  
Iteration 1: log pseudolikelihood = -10.879195  
Iteration 2: log pseudolikelihood = -9.0706269  
Iteration 3: log pseudolikelihood = -8.8921727  
Iteration 4: log pseudolikelihood = -8.88992  
Iteration 5: log pseudolikelihood = -8.8899198
```

```
Probit regression                               Number of obs   =           91  
                                                Wald chi2(11)  =           43.98  
                                                Prob > chi2    =           0.0000  
Log pseudolikelihood = -8.8899198             Pseudo R2      =           0.8367
```

plf	Robust		z	P> z	[95% Conf. Interval]	
	Coef.	Std. Err.				
age	.1682111	.1090261	1.54	0.123	-.0454761	.3818983
edu	.3766175	.1358502	2.77	0.006	.1103559	.642879
eom	.1209658	.0957528	1.26	0.206	-.0667062	.3086378
cpt	.0015947	.000526	3.03	0.002	.0005638	.0026256
qplf	.8854332	.7894489	1.12	0.262	-.6618583	2.432725
awp	.9049979	.4145595	2.18	0.029	.0924763	1.717519
alf	.9336041	.375484	2.49	0.013	.197669	1.669539
am	.0590208	.7175286	0.08	0.934	-1.347309	1.465351
cw	.5399561	.609828	0.89	0.376	-.6552849	1.735197
ase	1.441066	.4781523	3.01	0.003	.5039048	2.378227
acw	.4042	.469968	0.86	0.390	-.5169203	1.32532
_cons	-12.40748	2.754855	-4.50	0.000	-17.8069	-7.008065

. mfx

Marginal effects after probit

y = Pr(plf) (predict)
= .0591906

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
age	.0198257	.01405	1.41	0.158	-.007708	.047359		6.30769
edu	.0443888	.01323	3.35	0.001	.018451	.070327		12.0989
eom	.0142572	.00932	1.53	0.126	-.004002	.032516		6.18681
cpt	.000188	.00006	2.90	0.004	.000061	.000315		973.151
qplf*	.1052279	.10139	1.04	0.299	-.093483	.303939		.527473
awp*	.0998995	.05341	1.87	0.061	-.004788	.204587		.582418
alf*	.1014125	.05292	1.92	0.055	-.002302	.205127		.593407
am*	.006863	.08294	0.08	0.934	-.155693	.169419		.648352
cw*	.0549686	.06296	0.87	0.383	-.06844	.178377		.692308
ase*	.1949126	.08937	2.18	0.029	.019759	.370066		.483516
acw*	.0431607	.0502	0.86	0.390	-.055235	.141557		.67033

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Appendix IV: Heckman two stage regression result on outcome equation.

. reg iflf age edu eom cpt awp alf am cw ase acw imr

Source	SS	df	MS	Number of obs	=	26
				F(11, 14)	=	1.31
Model	752628.85	11	68420.8045	Prob > F	=	0.3106
Residual	729143.801	14	52081.7001	R-squared	=	0.5079
				Adj R-squared	=	0.1213
Total	1481772.65	25	59270.906	Root MSE	=	228.21

iflf	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
age	11.63102	38.88314	0.30	0.769	-71.76502 95.02706
edu	-12.82608	35.96815	-0.36	0.727	-89.9701 64.31793
eom	18.16631	38.45532	0.47	0.644	-64.31216 100.6448
cpt	.2234282	.1128404	1.98	0.068	-.0185905 .4654469
awp	-61.63802	210.452	-0.29	0.774	-513.0127 389.7367
alf	47.08489	295.246	0.16	0.876	-586.1548 680.3246
am	32.89944	161.3875	0.20	0.841	-313.2424 379.0413
cw	119.7129	234.1298	0.51	0.617	-382.4455 621.8713
ase	-149.9557	325.068	-0.46	0.652	-847.1573 547.2458
acw	67.423	182.2508	0.37	0.717	-323.466 458.312
imr	12.81716	225.1474	0.06	0.955	-470.0759 495.7102
_cons	20.88937	1003.801	0.02	0.984	-2132.05 2173.829

Appendix IV: Heckman command result for two stage simultaneously

```
. heckman iflf age edu eom cpt awp alf am cw ase acw , select(age edu eom cpt awp qplf alf am cw ase acw) twostep
```

```
Heckman selection model -- two-step estimates   Number of obs   =           91
(regression model with sample selection)       Censored obs    =           65
                                                Uncensored obs  =           26

                                                Wald chi2(10)   =          21.66
                                                Prob > chi2     =          0.0169
```

	iflf	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
iflf							
	age	11.31978	28.56794	0.40	0.692	-44.67236	67.31192
	edu	-11.59995	25.74637	-0.45	0.652	-62.0619	38.86201
	eom	19.52936	28.84661	0.68	0.498	-37.00896	76.06769
	cpt	.230306	.0898016	2.56	0.010	.0542981	.4063139
	awp	-56.64146	155.9642	-0.36	0.716	-362.3257	249.0428
	alf	48.14964	216.7944	0.22	0.824	-376.7595	473.0588
	am	35.60475	119.7325	0.30	0.766	-199.0666	270.2761
	cw	126.8588	170.9605	0.74	0.458	-208.2176	461.9353
	ase	-139.6662	239.2076	-0.58	0.559	-608.5045	329.1722
	acw	69.12192	133.8808	0.52	0.606	-193.2797	331.5235
	_cons	-44.96039	773.7668	-0.06	0.954	-1561.515	1471.595
select							
	age	.1682111	.2651307	0.63	0.526	-.3514355	.6878578
	edu	.3766175	.2329126	1.62	0.106	-.0798828	.8331177
	eom	.1209658	.240355	0.50	0.615	-.3501212	.5920529
	cpt	.0015947	.0006095	2.62	0.009	.0004	.0027893
	awp	.9049979	.9420745	0.96	0.337	-.9414341	2.75143
	qplf	.8854332	.8319072	1.06	0.287	-.745075	2.515941
	alf	.9336041	.9105346	1.03	0.305	-.851011	2.718219
	am	.0590208	1.050531	0.06	0.955	-1.999983	2.118025
	cw	.5399561	.9301751	0.58	0.562	-1.283154	2.363066
	ase	1.441066	.9188322	1.57	0.117	-.3598119	3.241944
	acw	.4042	.9146088	0.44	0.659	-1.3884	2.1968
	_cons	-12.40748	4.120046	-3.01	0.003	-20.48262	-4.332341
mills							
	lambda	33.5445	179.527	0.19	0.852	-318.322	385.411
	rho	0.19967					
	sigma	168.00387					