

Impact of Micro and SME Financing on Financial Performance

<https://www.doi.org/10.56830/IJAMS10202406>

Ahmed Emam

DBA Researcher, Arab Academy for Science, Technology, and Maritime Transport, Egypt

Ahmedhalimeamam105@gmail.com

Farid Moharam Algarhy

Professor of Financial Accounting, Faculty of Commerce, Ain Shams University, Egypt

Received: 5 September 2024. Accepted: 13 October 2024. Published: 1 November 2024

Abstract:

This research aims to examine the relation between the access to finance by Micro/Small businesses in term of volume and number on creating new employment opportunities and hence positively impacting the country financial performance. Based on empirical literature, the model expressed the relationship of Micro and SME Financing on Financial Performance, is obviously discussed and delicately examined. Consequently, the conceptual, linkage, and research assumed four hypotheses tested the relationship between the Financed amount to micro and small enterprises and the reduction in unemployment; the financed amount to micro and small enterprises and the different economic sectors; the number of financed micro and small enterprises and the reduction in unemployment and finally the number of financed micro and small enterprises and the different economic sectors. The study gathers secondary data by obtaining all pertinent and necessary data from Egypt's "Accountability state authority" Micro Small and Medium Enterprises Development Agency. The dataset contains several significant variables, such as the number of projects, the amount of finance disbursed in the correspondent year, the number of the firm (Micro and Small), the sector classifications (animal production, industrial, commercial, liberal profession, and service), the year of observation (2008–2023), and employment statistics. This study provides empirical evidence for the positive impact of Micro / Medium financing on employment in SMEs, albeit with varying effects across different enterprise types and sectors. The findings suggest that both the amount of financing and the number of projects funded play roles in job creation, though the magnitude of these effects appears to be small. This underscores the need for targeted and efficient micro / medium financing strategies that consider the specific characteristics of different business types and industries.

Keywords: MSME, Financial Performance, Finance, Economic Growth, Economic Development, Egypt, Developing Countries

1. Introduction:

Micro Small and Medium Enterprises (SMEs) play a vital role in economic development of many countries around the world especially the developing countries as they contribute in terms of economy and employment (Mead & Liedholm, 1998); (Beck, 2005). The study of SMEs requires a clear definition, currently there is no accepted worldwide definition of SMEs (Omar, Arokiasamy, & Ismail, 2009). SMEs are defined differently by each nation according to its economic development phase and social environment (Harvie, 2004).

In the Economic Cooperation and Development organization area (OECD, 2016), SMEs are the predominant form of enterprise, accounting for approximately 99% of all firms. They provide the main source of employment, accounting for about 70% of jobs on average, and are major contributors to value creation, generating between 50% and 60% of value added on average (OECD, 2016). In emerging economies, SMEs contribute up to 45% of total employment and 33% of GDP. When taking the contribution of informal businesses into account, SMEs contribute to more than half of employment and GDP in most countries irrespective of income levels. (IFC, 2010).

Accordingly, SMEs are defined by several criteria, including number of workers, capital size or a combination of the two criteria "Each company or individual enterprise is engaged in economic activity, productive, service or commercial, whose paid capital is not less than 50 thousand pounds and not more than one million pounds, and no more than 50 workers are considered a small establishment.

Research Problem:

Multiple micro/SMEs fail to grow their businesses because of a lack of access to finance (Motta, 2020, p. 122). In the European Union (EU), 18% of SMEs failed to obtain the 2019 planned full bank financing (European Commission, 2020). Egypt is no exception, one of the major factors that hinder the growth of Micro/SMEs in Egypt is access to finance. The major factors of this problem lack of appropriate financing channels.

- Small risk appetite from banks (34 banks) for micro/SMEs.
- Lower number NBFIs targeting the segment (10 licensed companies only).
- The number is considered very modest compared to the current size of the segment.
- The general characteristic of Micro/SMEs plays a big role in this problem:
- High risk of financing due to lack of sufficient guarantees to grant credit and the nature of the composition of these projects, which depend in the majority on one person or one family.
- The lack of experience of most of these entrepreneurs to deal with lending units.
- The high cost of financing (lending rate) that the related project can bear.

- The maturity of loans required by small and medium-sized enterprises (SMEs) is not suitable for banking operations, as they often require long-term and medium-term loans for construction, while commercial banks prefer short-term loans.
- Lack of regular financial records (and sanity of the record) and documents required to deal with the banking and regulated system.

Research Gab:

Many researchers have studied the importance of SMEs in the development of economies. For example, (Mansour, Eleshmawi, & El-Ghani, 2019). However, this study reveals some research gaps:

1. Based on a review of previous research studies related to micro and SMEs there is a lack of recent studies that address the coloration of increasing finance to Micro/SME on the major economic sectors of the economic in Egypt.
2. There is a lack of recent research that study the coloration between the increase in the access to finances to Micro/SME and Un-Employment rate in Egypt.
3. Lack of comprehensive data related to the increase in volume of the Egyptian Micro/SME enterprises (a big part of them are still not included financially) and its relation with different financial factors: Employment, Export Volumes, Contribution to the GDP, Geographical and Sectorial ...etc.

Research Importance:

Small and Medium Enterprises (SMEs) are very essential to any economy, especially in Egypt being an under developed country. Their contribution is essential in various area of the economy.

1. Contribution to employment and increase job creation.
2. Developing and increasing the volume of exports.
3. Enhancement of the use of local resources.
4. Contribution to GDP.
5. Incubator of new skills and innovations.
6. Assisting social and political stability.
7. Provide support services for large industries.
8. Contribution to regional development.
9. Access to Finance and Financial Inclusion.

Research Objectives:

The main objective of this study is to examine the relation between the access to finance by Micro/Small businesses in term of volume and number on creating new employment opportunities and hence positively impacting the country financial performance.

Research Questions:

Based on the research objectives, the researcher formulates the following main questions:

1. What is the effect of increasing finance to Micro and Small Enterprises on the Egyptian Economy, specifically, Employment Development?
2. Which sector benefits the most by the increase in finance?
3. To what extent the increased number of employment have a direct correlation with the increase in the number of entities benefiting from the increase in access to finance?

Research Scope:

This document emphasizes on measuring the impact of increasing the volume of finance to different number of Micro and Small Enterprises, with a focus on the Egyptian market.

2. Theoretical background and the literature Review:

MSMEs Overview / Definitions:

MSMEs, or micro, small, and medium-sized firms, are critical to a nation's economic development. Through the provision of innumerable goods and services, the growth of regional markets and societies, the creation of job opportunities, the promotion of market competition, and the encouragement of innovation, they significantly contribute to the national economy.

Micro, Small, and Medium-sized Enterprises (MSMEs) represent the primary driver of national economic development. MSMEs should receive a lot of attention from the nations since they have a big impact on social progress, economic growth, and employment rates (Gunjati & Adake, 2020). (IMF, 2019) The MSMEs sector is a major contributor to global economic growth and development, demonstrating its exceptional position in the modern economy and its status as the most alluring and inventive system (Neagu, 2016).

Economists, policymakers, and industry specialists concurred that MSMEs are the primary forces behind economic expansion. A robust MSME sector contributes significantly to global economic growth by boosting employment, increasing production levels, boosting

exports, and introducing new and entrepreneurial technologies and skills (National Creditor Regulator, 2011).

In 2020, the Egyptian government introduced a new law to streamline the licensing process for MSMEs. Subsequently, policymakers worked tirelessly to convert informal businesses into formal ones by implementing various initiatives and offering incentives. These efforts have resulted in the MSMEs sector receiving support from the Egyptian ecosystem (Ministry of Finance, Arab Republic of Egypt, 2020).

MSMEs are important to most economies, but they are especially important in developing nations. They make up the vast majority of enterprises worldwide and are often regarded as the primary drivers of employment growth and global economic development. The MSMEs sector accounts for over 50% of employment globally and almost 90% of all enterprises. In emerging economies, formal MSMEs can account for as much as 40% of GDP and total national income. If informal ones are taken into account, this percentage could rise considerably (World Bank, 2020). The global totals for MSMEs' employment, turnover, and number of businesses are shown in Table 1 below.

Difficulties and Barriers Affecting the MSMEs Sector:

There are challenges that could arise in the management or operational functional areas of a business, endangering the expansion and existence of MSMEs. A number of fundamental barriers have been noted in the literature as endangering MSMEs in developing nations, including insufficient technical knowledge, a lack of experience in the business world, inadequate managerial and workforce abilities, and a lack of planning and market research skills (Baron & Shane, 2007). Furthermore, new research indicates that MSMEs face three primary competitive obstacles in the global economy: technological, global, and sustainability issues (Noe et al., 2017). Additionally, a number of challenges that MSMEs in developed and developing nations alike have encountered in the globalization era have been identified by literature (Naradda Gamage et al., 2020).

Environmental challenges, such as market competition, an unfavorable business environment, government laws and regulations, the global financial and economic crisis, information and communication technology, and economic conditions, also have an impact on the growth of MSMEs. The main obstacle MSMEs in developing economies face is fierce competition from established businesses both locally and internationally. Additionally, MSMEs' lack of development expertise, manpower, and access to sufficient financing limited their ability to compete in developing economies (Urban & Naidoo, 2012). The success of MSMEs in developing nations is hampered by a lack of macroeconomic policies and other types of regulatory policies (Okpara, 2011).

Overview of Micro, Small, and Medium-Sized Businesses in Egypt:

According to the MSMEs Development Law of 2020, Egyptian MSMEs are defined as follow; micro-sized businesses with fewer than 10 employees and a business volume of less than EGP 1 million. Small businesses are those with a business volume of between EGP 1 million and EGP 50 million and ten to two hundred employees, while medium-sized businesses have a business volume between EGP fifty million and EGP 200 million and two hundred employees. The primary definitions of MSMEs in Egypt are shown in Table 3, which is the following table.

In order to meet the needs of people and businesses to establish and implement small, medium, and micro enterprises and activities (new/existing) in several areas (production / service / commercial), the MSMEs development agency offers a variety of financing packages that can be obtained from multiple sources with different payment methods and facilities.

According to the Central Agency for Public Mobilization and Statistics (CAPMAS) (2020), 3.653 million Micro, small, and medium-sized businesses were established in 2017–2018. According to information sourced from the Middle East News Agency, 9.7 million workers across all MSMEs were paid a total of approximately EGP 119.2 billion in wages. With a total value added of EGP 804 billion, the production amount reached EGP 1.237 trillion.

According to (The Central Agency for Public Mobilization and Statistics (CAPMAS) – CC, 2020) In Egypt, the number of employees reached 7.7 million, or 79 percent of the total, and they received total wages of EGP 67.7 billion at a rate of 56.8 percent. Micro-sized enterprises make up 94 percent of all MSMEs, or 3.4 million enterprises. According to the central bank, micro-sized businesses produced EGP 534.9 billion, or roughly 43.2 percent, of their total output, and EGP 411.5 billion, or roughly 51.2 percent, of their value added.

While the total number of employees reached 1.9 million by 19.7 percent, with total wages of EGP 45.1 billion at a rate of 38.1 percent, small-sized enterprises reached 216.9 enterprises, or roughly 5.6 percent. Small businesses produced EGP 527.5 billion in total, or roughly 42.6 percent of the total volume of goods and services, with EGP 296.3 billion in value added, or 36.8 percent.

Global Small and Midsize Businesses (SMEs):

(Ilan Bijaoui, 2017) analyzed the changes in global production and global markets, economic growth and unemployment, and their impact on SMEs. It is argued that the role of high-growth SMEs in the formal economy is central in the SMEs globalization process and could and perhaps should be extended. And the Author presented some examples of the SMEs in several developed and developing countries in the world such as:

SMEs in the U.S.A:

A small business in the US is categorized by the Small Business Administration (SBA) based on factors like industry, number of employees, earnings, and ownership structure. For instance, a manufacturing company with 500 workers or fewer is considered a SME. Basic Requirements, U.S. Small Business Administration. On the other hand, companies that mine nickel and copper ore can employ up to 1,400 people and still qualify as SMEs. in the United States, businesses with fewer than ten employees are categorically classified as micro businesses.

SMEs in Canada:

The government of Canada releases "Micro businesses have 1-4 employees, Small businesses have 5-99 employees, Medium businesses have 100-499 employees, and Large businesses have 500+ employees," according to Canadian Industry Statistics, which classify each type of business according to the number of employees.

Businesses with less than 100 workers made up 97.9% of all Canadian employer businesses in 2023. 10.9 million people were employed by small and micro businesses, accounting for more than 62% of the workforce. "Canada's Small Businesses, Second Quarter Analysis, 2024."

SMEs in the European Union "EU":

Additionally, the European Union (EU) provides definitions of what a small-size business is. Businesses classified as small or medium-sized depend on how many employees they employ; those classified as small employ less than fifty people. There are micro-companies, which employ up to ten people, in addition to small and midsize businesses.

99% of all businesses in the EU are SMEs, as is the case in other nations. More than half of the GDP of the European Union is produced by SMEs, which are thought to employ 100 million people (European Commission).

SMEs in China:

In China, SMEs account for more than 98 % of industry and contribute to 60 % of China's GDP, 75 % of its industrial value-added output, and 50 % of its revenue (Zhang and Xia 2014). Chinese SMEs also provide for 75 % of China's urban employment opportunities and absorb more than 50 % of the workers laid off from the state-owned enterprises. They employ more than 70 % of the new entrants to the labor market (Jianjun 2006).

SMEs in Developing Countries:

In Africa, the majority of job creation results from the activities of the smallest enterprises (less than 19 employees), whereas in eastern Europe/Central Asia and Latin

America, more than 60 % of job creation comes from enterprises with less than 100 employees. In East Asia and the Pacific region, job growth is concentrated mainly in enterprises with 20–99 employees (Ayyagari et al. 2011).

The informal economy reduces the competition for workers and makes it harder for workers to locate to higher productivity firms. Increasing the costs of informality could improve the allocation of workers to better firms, increase wages, and increase overall welfare (Meghir et al. 2015).

SMEs Benefits / Importance:

As per (Neşe Algan, 2019) investigated the Importance of SMEs On World Economies, and highlighted the importance of SMEs to; economic growth, poverty reduction, innovation and job creation also social cohesion are major key.

Scholarly and policy literature (e.g. Birch, 1989; Storey, 1994; Abdullah & Beal, 2003) has acknowledged the significance of SMEs. The value of SMEs in social and economic development has been recognized by both developed and developing nations. Despite the global financial crisis, SMEs continue to be the backbone of the European Union's economy, according to the annual report of European SMEs (The European Commission, 2011).

SMEs create employment opportunities in all geographic regions and sectors, employing various parts of the work force even for low-skilled employees and allowing opportunities for skills growth and aid to assist their employees' admission for health care and social services (OECD, 2017b). SME performance also differ in size over sectors like in services, SMEs responsible for around 60% or more of whole jobs and value added in almost whole countries (OECD, 2017c).

As per Chuma-Makandwire (2004), small and medium-sized businesses are essential for mitigating poverty, fostering social progress, and advancing the economy. Economic growth will be attained through the establishment of successful industrial ventures, which will open up job opportunities for the general public in the community where they will be operating. Opportunities for employment will increase people's disposable income, which will in turn generate demand for goods and services and ultimately lead to the purchase of those in demand. In addition to lowering poverty rates, this income will raise living standards.

Makatiani (2006) asserts that the creation of jobs and the expansion and development of the economy depend on small and medium-sized businesses. To thrive in the global economy, small and medium-sized businesses require precise management. The successes of an entrepreneurial venture will demonstrate how poverty can be decreased and how people's lives can be improved in developing nations. SMEs, on the other hand, fail to fulfill their role in the global economy if they are unable to grow quickly and compete on a global scale. Small and Medium Businesses require the managerial skill of individuals who manage

and enhance their Small and Medium Businesses to compete globally and for their rewarded growth.

Previous Studies / Theoretical Models (Critical Analysis):

(Gentur Jalunggono 2022) carried out study to identify the causal relationship and co-integration relationship between MSME credit allocation variables and economic growth, this research attempts to test the relationship between MSME credit allocation and growth. The study noted that the Indonesian government is increasingly promoting "Micro, Small, Medium Enterprises" (MSMEs), even though the percentage of MSME credit to total national credit is still relatively low. Thus, the goal of this study is to determine whether the presence of MSMEs promotes economic growth or, conversely, whether increasing economic growth is necessary to increase the number of MSMEs. applying the causality of the Direct Error Correction Model to panel data. The estimation result demonstrates that, only over the long run, there is a positive and substantial association between the distribution of MSME loans and economic growth. However, the demand following hypothesis that is the idea that there is a reciprocal relationship between credit and economic growth has not been demonstrated, nor is the causal relationship between MSME lending and economic growth.

As per (Indra Maipita, 2021) investigated how small and medium-sized businesses fit into the national economic recovery plan. during the pandemic caused by COVID-19. The study examined the impact of the Micro, Small, and Medium Enterprises (MSME) sector's number of business units, workforce, and exports on Indonesia's gross domestic product (GDP). As well tested the potential impact of the national economic recovery policy (PEN) on GDP in the future, using Data from 2000 to 2020. In conclusion, the variables of the number of workers, the number of MSMEs, and the number of exports were found to have no significant short-term effects on GDP; thus, it makes sense that the simultaneous increases in the number of MSMEs, workers, and exports would account for the GDP growth. While the number of workers and MSMEs that have a substantial impact on GDP, the number of exports from the MSME sector does not have a significant impact over the long run.

(Ahmad Yani, 2023) showed that MSMEs confront a variety of difficulties, including heightened competitiveness, shifting consumer preferences, developing technology, and expanding market access. The author also examined if the MSME market may grow as a result of the product and service innovation methods. The study's findings demonstrated the critical role that product and service innovation plays in the expansion and long-term viability of micro, small, and medium-sized businesses. Furthermore, by generating jobs and promoting sustainable economic growth, MSMEs are essential to the economy. On the other hand, in a more dynamic and globally interconnected corporate world, innovation sets MSMEs apart from their rivals. In summary, MSMEs are essential because they generate jobs

and make a substantial contribution to long-term, sustainable economic growth. MSMEs can achieve more substantial and long-term success in a dynamic market and unquestionably contribute to economic growth by consistently innovating.

Financial Performance and Economic Growth:

Financial Performance Definition and Aspects:

Firm performance has been examined by academia for a considerable time as a way to measure the health of a firm. The reliability and validity of measurements of performance are critical for empirical studies. From an initial reliance on purely financial perspectives, firm performance measurement has gradually extended to consider multiple dimensions. (Venkatraman and Ramanujam, 1986) proposed that firm performance should be measured in terms of financial and operational aspects. Financial performance is measured by indicators such as sales growth, earnings per share, profitability, efficiencies and effectiveness which is reflected by return on investment, return on sales and return on equity (Taouab & Issor, 2019). However, operational (or non- financial) performance emphasizes indicating factors such as product quality and productivity, market share and marketing effectiveness (Demirbag et al., 2006).

Financial measures are usually lagging measures of performance, while non-financial measures are leading measures of performance that provide insight about future performance (Briggs, et al., 2006; Marie, et al., 2014; Ahmad and Sabri, 2016). Non-financial or subjective performance measures include employee satisfaction (employee turnover, investments in employee's development and training, and organizational climate), customer satisfaction (number of complaints, repurchase rate, customer retention), environmental performance (recycling, material usage, energy consumption, pollution, and waste), and social performance (employment of minorities, contribution to social causes) (Selvam, et al., 2016; Taouab and Issor, 2019).

Economic Growth Overview / Definitions:

Economic growth is supported by three key factors: (1) capital accumulation, which includes all new investments in real estate, machinery, and labor; (2) population expansion, which eventually leads to an increase in the work force; and (3) technological advancement (Todaro, 1997). Modern growth theories have placed a strong emphasis on the role that technology advancement plays in driving economic expansion. These theories provide credence to the idea that innovation is the primary force behind economic progress in international economies. The extent to which innovation still contributes to competitiveness and the expansion of businesses, industries, and national economies has also been the subject of numerous studies.

As a result, academics are more interested in this idea for their research. Many of the early models treated technological progress as an exogenous process driven only by time, as in the work of Robert Solow. (Griffith et al., 2004) focused on the role that capital accumulation plays in promoting economic growth and defined growth as the rise in GDP per hour of labor per unit time (Crosby, 2000). They also viewed technical advancement as exogenous.

According to the World Bank website, "local communities, the private and not-for-profit sectors, and local government can collaborate to strengthen the local economy through local economic development (led)." Enhancing competitiveness, boosting sustainable growth, creating jobs, and making sure growth is inclusive are its main objectives. A variety of fields are included in led, such as marketing, economics, and physical planning. It also encompasses a wide range of municipal and private sector activities, such as financing, real estate development, infrastructure provision, business growth, and environmental planning. Led is defined as "the structural and growth process which, by making full use of local resources, leads to a continuous increase of..." in a number of eclac contributions (Aghon, Alburquerque and Cortes, 2001; Finot, 2001) and (Albuquerque, Llorens and Del Castillo, 2002; Llisteri, 2000).

Economic Growth Aspects:

concepts of national economic development contain certain concepts of Local Economic Development (LED). The first is where the guided process is located geographically. Geographically, politically, or administratively, countries are typically divided into various territorial levels or spatial units (such as states, regions, departments, provinces, districts, municipalities, and so on); inhabitants, or social, political, and economic agents, are associated with those territories (see OECD, 2002). At least three arguments are put forth by Greffe (2004) to support the local approach to economic development. The first two relate to the unique characteristics of particular regions, which may have an impact on how well spontaneous market mechanism's function, or to policies that are developed for a region without taking local characteristics into consideration.

Therefore, activities must be developed, carried out, and coordinated at the local level because elements like health care, minimum wage restrictions, housing or mobility, training, and others can only be precisely recognized and controlled near to the players involved. The last relates to the countries' global economic setting, where the local approach is appropriate since it promotes more synergy between the social and economic underpinnings of markets.

Employment of Opportunities through MSMEs:

Numerous economic assessments conducted in India indicate that MSMEs are giving young people good job possibilities. Strong backward and forward links are being created by the MSME sector's healthy growth, which is encouraging greater investment in this area.

According to the Ministry of MSMEs' annual report, there were approximately 362 lakh businesses in 2006–07, employing about 805 lakh people. By 2014–2015, that number had risen to 510.57 lakh businesses, employing 1,171.323 lakh people, an increase of 45.5% in employment and 41% in the total number of businesses in operation. This rise has made it abundantly evident how much MSMEs contribute to the creation of job prospects.

Previous Studies / Theoretical Models (Critical Analysis):

Indeed, a lot has been accomplished by the link between loans and economic growth. According to a number of earlier studies (Economiche et al., 2005; King & Levine, 1993; Levine, 2005; Rajan & Zingales, 1998), bank credit (in its whole) significantly and favorably affects the economic growth of both developed and developing nations. Another study by Demirgüç-Kunt & Maksimovic (2002) demonstrated that beneficiaries of loans are likely to be able to grow their businesses with credit. Nonetheless, prior research has indicated that bank loans do not, in fact, empirically significantly affect economic growth.

The distribution of bank credit will have an impact on economic growth if the fundamental components of the economy—physical capital (total capital formation) or infrastructure—are suitably available to promote productivity and competitiveness in the physical sector (Augier and Soedarmono, 2011; Crouzille, etc.) Et al., 2012; Deidda and Fattouh, 2002). The inverse association between loan growth and economic growth has also been demonstrated by a number of studies.

Departmental development is not the trend. Economic growth influences the financial industry, but the financial sector itself will eventually benefit from the demand for model access, which is influenced by both factors (Calderon and Liu, 2003; Ang and McKibbin, 2007). By breaking down the composition of credit (Beck et al., 2012), Sassi and Gasmi (2014) investigated the effect of bank credit on economic growth and came to the conclusion that working capital credit, which excludes its component parts, has a beneficial effect on the economic growth of various nations.

(Cuong Vu Hung, 2021) investigated the effect of firm size on the performance of Vietnamese private enterprises. The researcher relied the secondary data on the data from the Annual Enterprise Survey from 2009 to 2018, to test the effects of firm size (growth rate, total assets, and total labor) on the performance of Vietnamese private enterprises. According to the results of the quantitative model, the total assets are the biggest factor for determining firm performance, followed by total labor and growth rate. The results highlight the issue in Vietnamese private enterprises development in terms of scale, despite the fact that their number is growing, as the scale of enterprises decreases (the proportion of micro and small enterprises increases, but the proportion of medium and big enterprises decreases).

SMEs and Economic Growth Relationship:

In Egypt, ministries create institutions and units to support the SME sector because they recognize the critical role that the SME sector plays in achieving economic growth. In November 2008, GAFI, a division of the Ministry of Investment, launched small and medium-sized investment (SMI). The four pillars are "Improving the SME's access to funds, Encouraging business development services, promoting entrepreneurial culture in Egypt and Forming competitiveness poles," and it centers around a monitoring activity with the goal of creating jobs (OECD 2010).

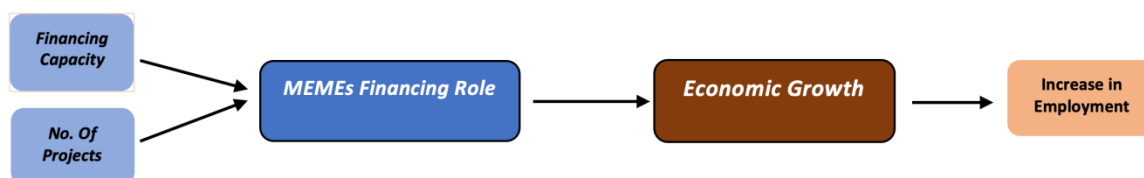
Policies promoting the growth of the SME sector are implemented by three organizations under the Ministry of Trade and Industry: The Industrial Modernization Center, the Egypt Technology Transfer and Innovation Centers (ETTICs), and the Industrial Development Authority (IDA). A section of the ministry is dedicated to SME development policies. The SME Development Unit was founded by the Ministry of Finance in 2000, with a focus on research and policy development. Egypt's sincere efforts to uphold and promote the SMEs sector are demonstrated by all of these initiatives.

Variables Types:

Based on the literature review this study attempts to contribute to the existing body of empirical studies on the relationship of "Micro and SME Financing on Financial Performance". This research involved Two variables, namely the MSMEs (Independent) and Financial Performance (Dependent).

Research Conceptual Model:

The conceptual model of The Impact of Micro and SME Financing on Financial Performance, is obviously discussed and delicately examined. Consequently, the conceptual, linkage, and research models are provided in the herein below Figure.



Hypothesis:

H1: There is a positive relationship between the Financed amount to micro and small enterprises and the reduction in unemployment.

H2: There is a positive relationship between the financed amount to micro and small enterprises and the different economic sectors (different impacts; who has the highest correlation).

H3: There is a positive relationship between the number of financed micro and small enterprises and the reduction in unemployment.

H4: There is a positive relationship between the number of financed micro and small enterprises and the different economic sectors (different impacts; who has the highest correlation).

3. Methodology and Data Analysis

3.1 Population:

The study, which was carried out in Egypt, concentrated on how Micro and Small - Sized Enterprises impacted the financial performance. The study, which covers a large dataset and covers from 2008 to 2023, enables a detailed analysis of different industry sectors and business sizes in regard to the target segment. Descriptive statistics are used at the outset of the research to give a general overview of the data across time, enterprises, and industries.

3.2. Data Collection Procedure and analysis:

The study gathers secondary data by obtaining all pertinent and necessary data from Egypt's "Accountability state authority" **Micro Small and Medium Enterprises Development Agency**. The dataset contains several significant variables, such as the number of projects, the amount of finance disbursed in the correspondent year, the number of the firm (Micro and Small), the sector classifications (animal production, industrial, commercial, liberal profession, and service), the year of observation (2008–2023), and employment statistics.

A number of diagnostic tests and robustness checks to guarantee the accuracy and dependability of our findings. The statistical language (R version 4.2.2) and the statistical package for social sciences (IBM SPSS version 29) were used for the analysis.

4. Statistical and Econometric Analysis

This chapter presents a comprehensive statistical and econometric analysis of the impact of microfinancing and Small and Medium Enterprises (MSMEs) on financial performance. The study spans from 2008 to 2023, encompassing a rich dataset that allows for

a nuanced examination of various sectors and enterprise sizes within the context of microfinance. Our analysis leverages a multifaceted approach, beginning with descriptive statistics to provide a broad overview of the data across time, enterprises, and sectors. This initial exploration sets the stage for more advanced analytical techniques, including non-parametric tests to examine differences between sectors and enterprise types, and correlation analysis to understand the relationships between key variables.

The core of our econometric analysis employs panel data models, recognizing the complex nature of our dataset, which combines cross-sectional and time-series elements. We explore various model specifications, including pooled regression, fixed effects, and random effects models, to capture both the time-invariant and time-varying aspects of our data.

Our dataset encompasses several key variables: the year of observation (2008-2023), sector classifications (Animal production, Commercial sector, Industry, Liberal profession, and Service sector), enterprise size (Micro and Small), financed amount, number of projects, and employment figures. This rich set of variables allows us to conduct a nuanced analysis of how micro and small financing impacts different sectors and enterprise sizes over time. As we progress through the chapter, we will conduct rigorous model selection procedures to determine the most appropriate econometric approach for our data. Furthermore, we will perform a series of robustness checks and diagnostic tests to ensure the validity and reliability of our findings. The analysis was done using the statistical package for social sciences (IBM SPSS version 29) and the Statistical language (R version 4.2.2).

By the conclusion of this chapter, we aim to provide a comprehensive understanding of the relationships between microfinancing, SMEs, and financial performance across various sectors and enterprise sizes. This analysis will not only contribute to the existing body of literature on microfinance and SMEs but also offer valuable insights for policymakers and practitioners in the field.

4.1 Descriptive statistics

The descriptive statistics for the variables are given in this section. These statistics are the minimum (Min), maximum (Max), mean (M) and standard deviation (SD).

4.1.1 Descriptive statistics over the Time Period

Table 1 presents a comprehensive overview of descriptive statistics for three key variables - Financed Amount, Number of Projects, and Employment - across the years 2008 to 2023.

Table 4.1: Descriptive statistics across years of interest

year		Financed Amount	No of Projects	Employment
2008	N	10	10	10

	Minimum	777500	30	210
	Maximum	377978996	100950	121140
	Mean	130181789.70	20280.50	31636.80
	Std. Deviation	121588022.089	32895.072	37311.063
2009	N	10	10	10
	Minimum	888500	17	251
	Maximum	258371659	96128	115354
	Mean	103276292.60	20370.70	28404.90
	Std. Deviation	91476534.690	33382.546	38233.126
2010	N	10	10	10
	Minimum	441500	24	127
	Maximum	270420946	76134	83747
	Mean	114329829.50	16535.20	22871.60
	Std. Deviation	93607357.226	26707.900	27550.403
2011	N	10	10	10
	Minimum	791500	51	200
	Maximum	626889518	57687	63456
	Mean	173750492.70	14513.10	21812.00
	Std. Deviation	183694673.859	20940.766	22099.935
2012	N	10	10	10
	Minimum	4129538	59	268
	Maximum	761444951	73398	80738
	Mean	216698015.90	16631.30	21372.50
	Std. Deviation	227480501.121	24466.613	25638.987
2013	N	10	10	10
	Minimum	12075573	59	590
	Maximum	787733884	95237	104761
	Mean	237223921.90	18681.90	22965.20

	Std. Deviation	244076248.589	30161.468	32024.161
2014	N	10	10	10
	Minimum	5524500	74	563
	Maximum	1167383323	87719	79909
	Mean	303037393.90	17844.00	21834.90
	Std. Deviation	349872580.294	28660.213	23679.227
2015	N	10	10	10
	Minimum	12929176	108	1052
	Maximum	1734694791	115289	132179
	Mean	448580968.70	20839.30	29967.40
	Std. Deviation	544279928.087	35931.878	38505.714
2016	N	10	10	10
	Minimum	22137351	97	709
	Maximum	1195964532	123591	138165
	Mean	379268132.20	20517.50	26544.40
	Std. Deviation	426777148.025	38139.151	40379.229
2017	N	10	10	10
	Minimum	34909014	94	738
	Maximum	1686424851	163991	190435
	Mean	507250291.50	25217.00	34170.10
	Std. Deviation	584542703.846	50224.292	56123.788
2018	N	10	10	10
	Minimum	50718887	97	863
	Maximum	2239762236	160896	230781
	Mean	547585598.50	25110.70	40720.30
	Std. Deviation	661342018.154	48981.454	69650.215
2019	N	10	10	10
	Minimum	44511714	104	989

	Maximum	1948835558	128628	181569
	Mean	550722228.20	21135.40	34548.50
	Std. Deviation	722328915.868	39137.444	55118.269
2020	N	10	10	10
	Minimum	20254771	33	254
	Maximum	1787889130	74734	107972
	Mean	437272821.20	13808.20	22481.30
	Std. Deviation	596208218.470	22610.144	32776.986
2021	N	10	10	10
	Minimum	39497097	43	535
	Maximum	3241632149	107648	250839
	Mean	718483722.80	19904.10	43078.00
	Std. Deviation	1031558921.022	32731.423	76896.549
2022	N	10	10	10
	Minimum	10236600	9	112
	Maximum	3072370507	127631	216402
	Mean	680430814.80	22179.60	36727.20
	Std. Deviation	1005955005.887	38815.387	65814.330
2023	N	10	10	10
	Minimum	4442596	3	45
	Maximum	2257807586	75498	146285
	Mean	534324051.70	15320.20	27182.30
	Std. Deviation	739935494.341	23402.316	44546.005
Total	N	160	160	160
	Minimum	441500	3	45
	Maximum	3241632149	163991	250839
	Mean	380151022.86	19305.54	29144.84
	Std. Deviation	570059619.440	32539.815	44274.780

Source: SPSS V. 29 Software

4-2-1 One-Sample Kolmogorov-Smirnov Test:

The One-Sample Kolmogorov-Smirnov Test is a powerful non-parametric test used to determine whether a sample comes from a specific distribution, in this case, the normal distribution. It is particularly useful for continuous data and can be applied to small sample sizes. In our analysis, we applied the One-Sample Kolmogorov-Smirnov Test to three key variables: Financed Amount, Number of Projects, and Employment. The null hypothesis for each test states that the distribution of the variable is normal with the specified mean and standard deviation.

Table 4.4: One-Sample Kolmogorov-Smirnov Normal Test Summary

	Null Hypothesis	Test	Test Statistic	P-value	Decision
1	The distribution of Financed Amount is normal with mean 380151023 and standard deviation 570059619.440.	One-Sample Kolmogorov-Smirnov Test	0.278	0.000	Reject the null hypothesis.
2	The distribution of No of Projects is normal with mean 19306 and standard deviation 32539.815.	One-Sample Kolmogorov-Smirnov Test	0.282	0.000	Reject the null hypothesis.
3	The distribution of Employment is normal with mean 29145 and standard deviation 44274.780.	One-Sample Kolmogorov-Smirnov Test	0.264	0.000	Reject the null hypothesis.

Source: SPSS V. 29 Software

4.2.2 Independent-Samples Mann-Whitney U Test regarding the Enterprises:

The Independent-Samples Mann-Whitney U Test is a non-parametric alternative to the independent samples t-test. It is used to compare two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed. In our study, this test is applied to examine differences in Financed Amount, Number of Projects, and Employment across categories of Enterprise (Micro and Small).

Table 4.5: Independent-Samples Mann-Whitney U Test summary

Null Hypothesis	Mann-Whitney U	Standardized Test Statistic	P-value	Decision
The distribution of Financed Amount is the same across categories of Enterprise.	3693.000	1.682	0.092	Retain the null hypothesis.

The distribution of No of Projects is the same across categories of Enterprise.	972.000	-7.603	0.000	Reject the null hypothesis.
The distribution of Employment is the same across categories of Enterprise.	1619.000	-5.395	0.000	Reject the null hypothesis.
<i>Source:</i> SPSS V. 29 Software				

Figure. 4.12: Mean rank of Employment for each enterprise

4.3 Correlation Analysis:

The purpose of conducting the correlation analysis in this study was to examine the strength and direction of the linear relationships between the variables of interest. By quantifying the degree to which variables are related, this analysis provides insight into the potential associations that may exist, thus addressing specific research objectives and hypotheses. Correlation analysis is a fundamental step in exploratory research, as it helps identify variables that warrant further investigation using more complex statistical methods. The degree of linear dependency that exists between two quantitative variables may be determined by calculating this coefficient, which is a number that ranges from -1 to 1. When the value is negative, it indicates that one variable decreases as the other variable grows, and when the value is positive, it indicates that one variable increases as the other variable increases.

Table 4.7: Correlation between the variables

Spearman's rho		Financed Amount	No of Projects	Employment
Financed Amount	Correlation Coefficient	--		
	Sig. (2-tailed)			
	N	160		
No of Projects	Correlation Coefficient	.557***	--	
	Sig. (2-tailed)	0.000		
	N	160	160	
Employment	Correlation Coefficient	.709***	.894***	--
	Sig. (2-tailed)	0.000	0.000	
	N	160	160	160

Source: SPSS V. 29 Software

r= Correlation Coefficient; P= P-value; n= Sample Size; ***P<0.001; **P<0.01; *P<0.05

The correlation values range from ± 0 to ± 0.3 , which indicates a weak correlation; r values between ± 0.3 and ± 0.7 indicate a moderate correlation; and r values between ± 0.7 and ± 1 indicate a high or strong correlation (Ratner, 2009; Akoglu, 2018). It was determined that the correlation coefficients that were marked with three stars (***) were significant at a level of 0.001, which corresponds to a confidence level of 99.9%. The correlation coefficients that were marked with two stars (**) were significant at a level of 0.01, which corresponds to a confidence level of 99%. The coefficients that were marked with one star (*) were significant at a level of 0.05, which corresponds to a confidence level of 95%. Finally, the coefficients that were not marked were not significant at 0.05, which means that the P-values were greater than 0.05.

4.4 Panel Unit Root Testing:

Before proceeding with panel data regression analysis, it is crucial to examine the stationarity of the variables to avoid spurious regression results. In panel data contexts, unit root tests are employed to determine whether the variables are stationary or contain unit roots (Maddala & Wu, 1999). This study utilizes the Augmented Dickey-Fuller (ADF) test, a widely accepted method for detecting unit roots in panel data (Baltagi, 2008). The ADF test extends the standard Dickey-Fuller test by including extra lagged terms of the dependent variable to account for serial correlation in the errors. The null hypothesis of the ADF test posits that a unit root is present, indicating non-stationarity, while the alternative hypothesis suggests stationarity (Gujarati & Porter, 2009).

Table 4.8: Augmented Dickey-Fuller Test

	Variable	Test Statistic	P-value
Dickey-Fuller	Financed Amount	-8.636	<0.01
Dickey-Fuller1	No of Projects	-7.578	<0.01
Dickey-Fuller2	Employment	-7.580	<0.01

Source: R Software Output

4.5 Estimation of Panel Data Models:

In this section, we explore the results of the three different panel data models in details.

4.5.1 Pooled Regression Model:

The pooled model, also known as the Pooled Ordinary Least Squares (POLS) model, combines all observations across time and entities into a single regression. This approach assumes that there are no significant differences across individual firms or over time,

treating the dataset as a single large sample. The pooled model is particularly useful when the researcher believes that the relationships between variables are consistent across entities and time periods (Wooldridge, 2010).

Parameter Estimation Results: The results of the pooled model estimation are summarized in the table below after taking the logarithmic function of number of employment to reach normality assumption in the panel regression model:

Table 4.9: Results of Pooled Regression Model

	Estimate	Std. Error	t-value	P-value
(Intercept)	8.42E+00	1.27E-01	66.4769	<0.001
Financed Amount	7.82E-10	2.14E-10	3.6484	<0.001
No of Projects	2.70E-05	3.75E-06	7.1799	<0.001
R-Squared: 0.45532; Adj. R-Squared: 0.44839				
F(2, 157)= 65.6224, P<0.001				
Source: R Software Output				

4.5.2 Fixed Effect Regression Model:

The Fixed Effects (FE) model also known as "One way (individual) effect Within Model" is a popular approach in panel data analysis, particularly when researchers are interested in analyzing the impact of variables that vary over time while controlling for unobserved heterogeneity across entities. This model assumes that individual-specific effects are correlated with the independent variables, thereby allowing for a more accurate estimation of the relationships (Wooldridge, 2010).

Parameter Estimation Results: The results of the fixed effects model estimation are summarized in the Table 4.10.

Table 4.10: Results of Fixed Effects Regression Model

	Estimate	Std. Error	t-value	P-value
Financed Amount	1.04E-09	2.25E-10	4.6398	<0.001
No_of_Projects	1.88E-05	4.51E-06	4.1617	<0.001
R-Squared: 0.39841; Adj. R-Squared: 0.38684				

F(2, 156)= 51.6564, P<0.001

Source: R Software Output

4.5.3 Random Effect Regression Model:

The Random Effects (RE) model also known as Oneway (individual) effect Random Effect Model is another approach to panel data analysis that assumes that individual-specific effects are uncorrelated with the independent variables. This model allows researchers to utilize both within-entity and between-entity variations, leading to efficient estimates when the assumptions hold (Wooldridge, 2010). This model treats the unobserved heterogeneity as a random variable drawn from a larger population (Baltagi, 2013).

The random effects model is a key approach in panel data analysis that assumes the individual-specific effects are uncorrelated with the independent variables.

4.6 Model Selection

To determine the most appropriate estimation method for our panel data models, we conducted a series of specification tests: The Chow test, the Breusch-Pagan Lagrange Multiplier (LM) test, and the Hausman test. These tests help us choose between pooled OLS, fixed effects, and random effects models (Baltagi, 2021). Table 4.12 states the null and alternative hypotheses for each test scenario.

Table 4.12: Panel Data Model Selection Criteria

Test	Null Hypothesis (H0)	Alternative Hypothesis (H1)	P-value > 0.05	P-value ≤ 0.05
The Chow test	The Pooled model is appropriate (no individual-level effects)	The fixed effects model is appropriate (individual-level effects are present)	Pooled model	Fixed effects model
Breusch-Pagan LM test	The pooled model is appropriate (no individual-level effects)	The random effects model is appropriate (individual-level effects are present)	Pooled model	Random effects model
Hausman test	The random effects model is appropriate (individual-level effects are uncorrelated with the	The fixed effects model is appropriate (individual-level effects are correlated with the explanatory variables)	Random effects model	Fixed effects model

	explanatory variables)			
<i>Source:</i> Researcher's development				

4.7 Robustness Checks and Diagnostic Tests

Robustness checks and diagnostic tests are crucial steps in panel data analysis to ensure the validity and reliability of our results. These tests help verify that our model meets the underlying assumptions of panel data regression and that our findings are not artifacts of model misspecification. In this section, we present a series of diagnostic tests performed on our selected fixed effects model. We evaluate the model for heteroskedasticity, serial correlation, normality of residuals, and multicollinearity. Where issues are identified, we discuss the steps taken to address them and the implications for our analysis.

Table 4.14: Robustness Checks and Diagnostic Tests

	Estimate	Std. Error	t-value	P-value	VIF
Financed Amount	1.04E-09	2.25E-10	4.6398	<0.001	1.4097
No_of Projects	1.88E-05	4.51E-06	4.1617	<0.001	1.4097
<i>Model Fit</i>	F(2,156)= 51.6564, P<0.001				
<i>Explained Variance</i>	R-Squared: 0.39841; Adj. R-Squared: 0.38684				
<i>Durbin-Watson test for serial correlation in panel models</i>	DW = 2.2558 , P=0.9558				
<i>Heteroscedasticity (studentized Breusch-Pagan test)</i>	BP (2) = 2.5454, p=0.2801				
<i>Normality of Residuals</i>	Skewness =-1.351, kurtosis = 4.393608				
<i>Source:</i> R Software Output					

4.8 Summary of Results:

This chapter presented a comprehensive statistical and econometric analysis of the impact of micro / medium financing on financial performance. The study utilized a rich

dataset spanning from 2008 to 2023, encompassing various sectors and enterprise types. Our analysis began with descriptive statistics, providing an overview of the data's characteristics across time periods, enterprises, and sectors. This initial exploration revealed notable variations in financed amounts, number of projects, and employment figures across different categories.

Non-parametric tests further corroborated these findings. The Mann-Whitney U test results showed significant differences in the distribution of number of projects and employment across enterprise categories, while the Kruskal-Wallis test indicated significant variations in financed amounts, number of projects, and employment across different sectors. These results highlight the heterogeneity in microfinancing practices and outcomes across different business types and industries.

The panel data analysis formed the core of our econometric investigation. After careful consideration of various model specifications - pooled, fixed effects, and random effects - we employed a series of tests to determine the most appropriate model. The Chow test ($F = 9.6533$, $p = 0.002246$) and Hausman test ($\chi^2 = 6.759$, $p = 0.03407$) both indicated that the fixed effects model was most suitable for our data, suggesting the presence of important individual-specific effects correlated with our regressors.

5. Conclusion, Practical Implications, Limitation and Recommendation for future research:

5.1 Conclusion:

This study provides empirical evidence for the positive impact of Micro / Medium financing on employment in SMEs, albeit with varying effects across different enterprise types and sectors. The findings suggest that both the amount of financing and the number of projects funded play roles in job creation, though the magnitude of these effects appears to be small. This underscores the need for targeted and efficient micro / medium financing strategies that consider the specific characteristics of different business types and industries.

These results contribute valuable insights to the ongoing discourse on the effectiveness of microfinancing in promoting SME growth and employment. They also highlight the importance of considering heterogeneity across enterprises and sectors when designing and implementing micro / medium financing policies. Future research could build on these findings by exploring additional factors that might influence the relationship between microfinancing and SME performance, and by investigating the long-term sustainability of the employment gains observed.

5.2 Practical Implications:

The results of the study resolved to the importance of increasing the finance to MSME to positively impact the employment and enrich this sector. The latter is considered a major contributor to the country GDP and developments.

It is highly recommended to facilitate the access to finance to this sector in general with special emphasis on the sectors / enterprises that has a comparatively higher impact on the country economy especially from the below angles.

- High utilization of local resources
 - o High labor intense.
 - o Depend on local raw materials.
- Product or output
 - o Products is potential for export in the future.
 - o The output fills a local demand that is currently fulfilled through importation.
- Geography
 - o Enterprises that encourage the reverse local migration from the main cities.
 - o Companies that are in remote governorates

Many governmental bodies have tried to execute the above, yet the results are considered modest. We strongly believe that to enforce the implementation several actions should be taken:

- Establishing specialized clusters for different segment to encourage and guide the entrepreneurs to the desired industries.
- Formulating a special fast track to erect the targeted enterprises.
- Developing special tax benefits for the mentioned categories.
- Provide the technical support in the main pillar needed by any MSME that enable the enterprises to grow their business efficiently.
- Creating a specializes bundle of services to each type / segment with the aim to help them develop their business such as support for the enterprises targeting exportation.
- Erecting a Hub for all grants, subsidies, direct and indirect support targeted to the segment with the aim to facilitate the use of such support and avoid the non-utilization or miss-use. Most importantly communicating these benefits to audience
- Establishing a unified entity that receives the suggested and complains from the enterprises in the sector and work on resolving them.

To enable the above, these key performance indicators should be assigned to one body and resources and tools should be properly allocated. Recommended to establish a new minister for MSME like several countries that were able to develop this sector such India.

5.3 Limitations and Recommendation for Future Research:

Data gathering is considered a major barrier to study the MSME from all aspects. There is no sufficient data regarding this segment and its distribution and characteristics all over the different governorates. Moreover, data is needed also to cover different aspects such as the exports by the segment, the companies that uses local resources, the gap in local production that can be covered through increasing the MSME production. The local raw materials that can be utilized by the segment and assist in either filling the importation gap in some products or export new products in which Egypt has a competitive advantage.

We have been able to study the impact of increasing finance on job creation using secondary data. It is recommended to do the same study and measure the impact on other variables such as:

- The ability of these entities to grow exportation,
- Increasing the production of goods that are currently imported.
- The relation to the GDP.
- The creation of a reverse local migration.

It is highly recommended to use primary data pending the establishment of a reliable data base that can help in better assessment of the new variables. Noting that, the government is currently working on establishing a complete data base that covers the sector through different bodies which is expected to take some time to be ready.

References

- Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., . . . Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
- Gherghina, Ş. C., Botezatu, M. A., Hosszu, A., & Simionescu, L. N. (2020). Small and Medium-Sized Enterprises (SMEs): The Engine of Economic Growth through Investments and Innovation. *Sustainability*, 12(1), 347.
- Al-Haddad, L., Sial, M. S., Ali, I., Alam, R., Khuong, N. V., & Khanh, T. H. T. (2019). The Role of Small and Medium Enterprises (SMEs) in Employment Generation and Economic Growth: A Study of Marble Industry in Emerging Economy. *International Journal of Financial Research*, 10(6), 174. <https://doi.org/10.5430/ijfr.v10n6p174>
- Malaczewski, M. (2018). NATURAL RESOURCES AS AN ENERGY SOURCE IN A SIMPLE ECONOMIC GROWTH MODEL. *Bulletin of Economic Research*, 70(4), pp.362-380. doi:<https://doi.org/10.1111/boer.12153>.
- Klasen, S. (2008). Economic Growth and Poverty Reduction: Measurement Issues using Income and Non-Income Indicators. *World Development*, 36(3), pp.420-445. doi:<https://doi.org/10.1016/j.worlddev.2007.03.008>.
- Whitacre, B., Gallardo, R. and Stover, S. (2014). Broadband's contribution to economic growth in rural areas: Moving towards a causal relationship. *Telecommunications Policy*, 38(11), pp.1011-1023. doi:<https://doi.org/10.1016/j.telpol.2014.05.005>.
- Toolis, E.E. and Hammack, P.L. (2015). The lived experience of homeless youth: A narrative approach. *Qualitative Psychology*, 2(1), pp.50-68. doi:<https://doi.org/10.1037/qup0000019>.
- Feldman, M., Hadjimichael, T., Lanahan, L. and Kemeny, T. (2015). The logic of economic development: a definition and model for investment. *Environment and Planning C: Government and Policy*, [online] 34(1), pp.5-21. doi:<https://doi.org/10.1177/0263774x15614653>.
- Nunn, N. (2019). Rethinking economic development. *Canadian Journal of Economics/Revue canadienne d'économique*, 52(4), pp.1349-1373. doi:<https://doi.org/10.1111/caje.12406>.
- Jacob, S. (2014). The Kerala Regime and Regional Disparities in Health Infrastructure Versus Outcomes. *India Review*, 13(1), pp.58-77. doi:<https://doi.org/10.1080/14736489.2014.873680>.

- The Role of the Cooperatives, Small and Medium Enterprises (SME's) and Labor Office in empowering Small and Medium Enterprises (SME's) in the Handicraft Sector in Banjarbaru City, South Kalimantan Province. (2022). *International Journal of Social Science and Human Research*, 5(9). doi:<https://doi.org/10.47191/ijsshr/v5-i9-30>.
- Becker, G.S. (2021). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76(2), pp.169–217.
- Fiseha, G.G. and Oyelana, A.A. (2015). An Assessment of the Roles of Small and Medium Enterprises (SMEs) in the Local Economic Development (LED) in South Africa. *Journal of Economics*, 6(3), pp.280–290. doi:<https://doi.org/10.1080/09765239.2015.11917617>.
- Khader, H. (2002). Small Business Development, Bridge Development journal, Arab Planning Institute, vol. 01, p. 03, Kuwait.
- Sahlawi, Khalid bin Abda Aziz.(2001) The Rate and Factors of the Spread of Small and Medium Enterprises in Saudi Arabia ", *Journal of Public Administration*, 41(2) 303-335.
- Haddad, M. (2006). Role of Banks and Financial Institutions in Financing Small and Medium Enterprises, Illuminations from the Experience of Jordan and Egypt, Research Paper for the International Meeting for Small and Medium Enterprises Qualification in Arab Countries, Hassiba Ben Ali University, Chlef, Algeria.
- Zheng, C., O'Neill, G. & Morrison, M. (2009). Enhancing Chinese SME performance through innovative HR practices. *Emerald Group Publishing Limited*, 38(2), 175-194.
- Abujazer, F. (2006). Small and Medium Enterprises in importance in Reducing Unemployment in Palestine, Conference on the Development and Development of the Gaza Strip after the Israeli Withdrawal, p. 2, Gaza, Palestine.
- National Bank of Egypt (2004) Small and Micro Enterprises under Law No. 141 of 2004, Economic Bulletin No. 4, Volume 57, p. 25, Cairo.
- Elasrag, H. (2010) Activating the role of Islamic finance in the development of small and medium Enterprises, Munich Personal RePEc Archive , Online at <https://mpa.ub.uni-muenchen.de/34398/>
- Bary, Amr. (2019). SMEa Sector; a Key Driver to The Egyptian Economic Development. *SSRN Electronic Journal*. 10.2139/ssrn.3334845.
- Boushnak, E. , Rageb, M. , Ragab, A. and Sakr, A. (2018) Factors Influencing Credit Decision for Lending SMEs: A Case Study on National Bank of Egypt. *Open Access Library Journal*, 5, 1-17. doi: 10.4236/oalib.1104996

Chatsama, David (2022), Strategies Used by Small and Medium Enterprises in Rome and Cairo to Access Finance for Growth

A Halim et al 2017 J. Phys.: Conf. Ser. 890 012138

George Nyantakyi, Francis Atta Sarpong, Philip Adu Sarfo, Nneka Uchenwoke Ogochukwu, Winnifred Coleman. (2023) A boost for performance or a sense of corporate social responsibility? A bibliometric analysis on sustainability reporting and firm performance research (2000-2022). *Cogent Business & Management* 10:2.

Lu, Z and Wu, J and Liu, J (2020) Bank concentration and SME financing availability: The impact of promotion of financial inclusion in China. *International Journal of Bank Marketing*. ISSN 0265-2323 DOI: <https://doi.org/10.1108/IJBM-01-2020-0007>

Martinez-Cillero, Maria; Lawless, Martina; O'Toole, Conor (2021) : SME investment determinants and financing constraints: A stochastic frontier approach, ESRI Working Paper, No. 699, The Economic and Social Research Institute (ESRI), Dublin

Gan, Liu & Xia, Xin, 2022. "SME financing with a combination contract of investment and guarantee," *Finance Research Letters*, Elsevier, vol. 50(C).

Marwa, Elsherif. (2019). THE RELATIONSHIP BETWEEN FINANCIAL INCLUSION AND MONETARY POLICY TRANSMISSION: THE CASE OF EGYPT. 10.20472/IAC.2019.045.014.

Metawea, Maha. (2020). The Role of financial institutions in supporting entrepreneurial success: Case of Egypt. 36-51. 10.5281/zenodo.3733841.

Ndeye Ndiaye, Lutfi Abdul Razak, Ruslan Nagayev, Adam Ng, Demystifying small and medium enterprises' (SMEs) performance in emerging and developing economies

Ogujiuba, Kanayo K., Ebenezer Olamide, Azikiwe Isaac Agholor, Estelle Boshoff, and Phetole Semosa. 2022. "Impact of Government Support, Business Style, and Entrepreneurial Sustainability on Business Location of SMEs in South Africa's Mpumalanga Province" *Administrative Sciences* 12, no. 3: 117. <https://doi.org/10.3390/admsci12030117>

Tian, Zhongkai & Sheikh Hassan, Ahmad Fahmi & Ab Razak, Nazrul. (2018). Big Data and SME financing in China. *Journal of Physics: Conference Series*. 1018. 012002. 10.1088/1742-6596/1018/1/012002.

Sooriyakumaran, Logeswary and Thrikawala, Sujani and Chandrapala, Pathirawasam, A Study Between the Association of Financial Management Practices and Performance of Small and Medium Enterprises (SMEs) Background: A Working Paper (January 22, 2022). International Journal of Research and Innovation in Social Science (IJRISS), 6(1), 16, 2022, Available at SSRN: <https://ssrn.com/abstract=4039774>

Baltagi, B. H. (2008). Econometric analysis of panel data. John Wiley & Sons.

Baltagi, B. H. (2013). Econometric analysis of panel data (5th ed.). John Wiley & Sons.

Byrne, B. (2016). Structural equation modeling with AMOS. New York, NY: Routledge.

Greene, W. H. (2012). Econometric analysis (7th ed.). Pearson.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). Multivariate Data Analysis. (7th Ed.) Pearson.

Maddala, G. S., & Wu, S. (1999). A comparative study of unit root tests with panel data and a new simple test. Oxford Bulletin of Economics and Statistics, 61(S1), 631-652.

Akoglu, H. (2018). User's guide to correlation coefficients. Turkish journal of emergency medicine, 18(3), 91-93.

Ratner, B. (2009). The correlation coefficient: Its values range between +1/-1, or do they?. Journal of Targeting, Measurement and Analysis for Marketing, 17(2), 139-142.

Cameron, A. C. (2005). Microeconometrics: methods and applications. Cambridge University.

Baltagi, B. H. (2015). The Oxford handbook of panel data. Oxford University Press.

Baltagi, B. H. (2021). Test of hypotheses with panel data. Econometric Analysis of Panel Data, 75-108