

SMEs as Catalysts for Entrepreneurial Growth in Algeria: Analyzing the determinants of investment, policies, challenges and future prospects

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Abstract:

This study explores the role of investment in SMEs as a key factor in supporting entrepreneurship in Algeria. This is done by analyzing the impact of three key variables on the dynamics of entrepreneurial growth. The first variable is the annual new investment flows, the second is related to the transition of enterprises towards more profitable areas, reflecting an improvement in the business climate, while the third variable deals with the role of competitiveness in affecting distressed investments and its implications for the investment environment. The research adopts a descriptive and analytical approach to study the growth of entrepreneurship in Algeria by analyzing a set of economic indicators associated with investment in the SME sector. It focuses on market dynamics and entrepreneurial behavior, based on a statistical analysis of data over 19 years (2003-2021), a period marked by economic reforms that had a significant impact on the business environment. The results reveal fluctuations in annual new SME investments in Algeria, with investment opportunities created by the exit of some enterprises from the market. The reorientation of investments towards more competitive sectors, supported by government policies, contributes to improving the business environment and enhancing investment competitiveness. The results also showed that the services sector is the most competitive and growing area of entrepreneurship in Algeria, indicating a growing structural shift towards a service-based economy. The study suggests that a favorable business environment, supported by effective economic incentives, plays a crucial role in encouraging the establishment and sustainability of entrepreneurial ventures. These factors also contribute to revitalizing stalled businesses by improving investment conditions and boosting entrepreneurs' confidence in the market.

Keywords : Entrepreneurship; SMEs; Investment; Competitiveness ; Business Economics.

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1. Introduction

The intersection between entrepreneurship and development economics is a research area rich in challenges and opportunities and a valuable source of inspiration and analysis for social scientists. Its influence extends to policymakers, donors and development agencies, as well as business owners and managers seeking to understand the dynamics of sustainable economic growth. Despite its critical importance, the field has traditionally been neglected, highlighting the urgent need for further research to explore its role in promoting economic development and social progress (Bruton et al, 2008 ; Naudé, 2010).

Entrepreneurship is one of the main pillars of economic and social development in various countries, including Algeria, as it effectively contributes to economic growth, job creation, innovation, and sustainable development. Entrepreneurship empowers individuals and communities and enhances the competitiveness of the national economy at the regional and international levels.

One such theory can be found in the ideas of Joseph Schumpeter, in his work “theory of economic development”, where he first argues that entrepreneurship causes economic growth by allowing a society's means of production to be used in newer and more efficient combinations (Schumpeter, 1943, p.74). In the modern business and economic landscape, entrepreneurship stands out as a dynamic and transformative force, acting as a cornerstone for innovation, economic growth, and societal progress (Sahil, 2024). Entrepreneurship also plays a vital role in a country's economic growth and development, through new product formation, technological change in the production process and economic transformation due to effective entrepreneurship (Aakash, 2019).

Productive entrepreneurship also plays a key role in promoting economic development. Through innovation and supporting the institutional framework, entrepreneurship can contribute to job creation and sustainable economic growth (Baumol et al, 2007). It can also contribute to economic growth, job creation and improved living standards (Jorgenson, 2001). In this context, the state plays a crucial role in supporting innovation and entrepreneurship, as it has been emphasized that government investments have been and continue to be the basis for significant technological progress and sustainable economic growth (Mazzucato, 2013).

Algeria has sought to promote entrepreneurship by providing multiple facilities to support investment in the SME sector. This has manifested itself in the creation of specialized governmental bodies, as well as the improvement of the legislative and legal framework for the development of these enterprises, growth and sustainability, with a focus on improving quality, encouraging innovation, and enhancing the skills and management capacities of SMEs. These include a variety of government organizations that play a pivotal role in supporting entrepreneurship and SME development, such as the National Investment Promotion Agency (ANDI), the National Agency for the Development of Entrepreneurship (NESDA), the National Agency for the Management of Microcredit (ANGEM), and others. These organizations provide technical and financial assistance, mentorship and guidance to entrepreneurs, as well as access to finance and administrative services to promote the success and sustainability of micro and small enterprises.

Despite intensive efforts to support and develop entrepreneurship in Algeria, the sector still faces many challenges that may hinder the achievement of sustainable and inclusive economic growth. These challenges include difficulties related to the business environment, such as bureaucratic complexities and lengthy administrative procedures, as well as limited access to finance and the absence of appropriate financial mechanisms for startups. SMEs also suffer from poor competitiveness and difficulty integrating into international markets, which significantly affects the success and sustainability of entrepreneurial investments.

1.1. Problem of study: The main issue of this study is to analyze three main determinants that affect the dynamics of entrepreneurship in the SME sector in Algeria. The first determinant focuses on analyzing the dynamics of creating new investments annually, while the second determinant looks at analyzing the reactivation of some enterprises to other more successful activities. The third determinant analyzes the number of investments that have ceased activity altogether. By focusing on the challenges facing investment in the SME sector and assessing the effectiveness of government policies designed to overcome these difficulties." What is the effect does the movement of investments in the SME sector affect the dynamism and development of entrepreneurship in Algeria?".

1.2. Research Questions: Based on the main question of the study, a set of sub-questions that aim to analyze the dimensions of the phenomenon under research, which can be formulated as follows:

- To what extent do new investment flows contribute to supporting and stimulating the growth of entrepreneurship within the SME sector?
- To what extent can the return of some enterprises to activity be considered an indicator of an improved business environment and its ability to incubate entrepreneurial initiatives?
- What is the impact of the level of competition in the market on the sustainability of SMEs? Is the failure of these enterprises or their withdrawal from the market related to the intensity of competition in this sector?
- To what extent does the type of economic activity sector affect the dynamics of entrepreneurship and the sustainability of SMEs in the Algerian market?

1.3. Study objectives : This study aims to analyze the dynamics of entrepreneurship in Algeria through three main determinants. The first determinant focuses on analyzing the role of creating new investments annually as a key factor in promoting entrepreneurship in this sector, while the second determinant seeks to analyze the transformation of some enterprises' economic activity to other more successful activities, reflecting a qualitative improvement in the business environment. The third determinant seeks to analyze the impact of entrepreneurial competitiveness on the number of investments that have ceased activity permanently, indicating a weak investment environment in the SME sector. To achieve the objectives of the study, the potential for growth and competitiveness of SMEs in the Algerian environment was critically assessed, using time and the increase in the volume of investments by type of economic activity as key factors.

1.4. Study hypotheses: Based on the objectives of the study, three main hypotheses were identified to test the impact of certain determinants on the dynamics of entrepreneurship in the SME sector in Algeria.

- The annual new investment flows positively affect the promotion of entrepreneurship within the SME sector.
- The transition of enterprises towards more profitable activities reflects an improvement in the business environment and supports the entrepreneurial trajectory.
- A high degree of entrepreneurial competitiveness reduces the number of permanently inactive investments, which is an indicator of the strength or weakness of the investment environment in this sector.
- The services sector is the most competitive and growing area of entrepreneurship in Algeria, and the increasing revitalization of some companies reflects a structural shift towards a more service-based economy.

1.5. The importance of the study : Given the growing role of entrepreneurship as an effective engine for achieving sustainable economic development and diversifying the productive base, it is important to study the dynamics of entrepreneurship in Algeria, especially within the SME sector, as a strategic option to enhance national economic performance. SMEs are one of the main pillars of inclusive growth due to their contribution to job creation, stimulating innovation, and increasing the competitiveness of the economy. In this context, the factors determining the development of entrepreneurship in this vital sector have been analyzed and interpreted by addressing three main variables. The first variable is the annual new investment flows, which are supposed to contribute to revitalizing entrepreneurial activity and supporting the economic dynamism of SMEs. The second variable is related to the number of SMEs moving towards more profitable activities, which is a qualitative indicator of an improved business environment and enhances the chances of success and sustainability of entrepreneurial initiatives. The third variable is the volume of inactive or suspended investments, as it is affected by the level of competitiveness in the field of entrepreneurship, which directly reflects the attractiveness of the investment climate in this sector. The academic importance of this research in Algeria is also evident in the fact that it contributes to a deeper understanding of the dynamics of entrepreneurship within the SME sector, which is a key axis in national economic development, and provides a scientific framework for analyzing the impact of investments, profitability, and competitiveness on entrepreneurial activity.

2. Methodology

Due to the nature of this research, which falls within the field of macroeconomic studies, it was necessary to use various research techniques that contribute to understanding and analyzing the main components of the study in depth. Descriptive and analytical approaches were used to build theoretical frameworks and clarify the concepts associated with entrepreneurship in the SME sector, as well as its impact on economic performance in Algeria. This was done by studying and analyzing several economic indicators related to investment in the SME sector.

The themes of the analytical study were divided into two main phases: The first concerns the analysis of data on indicators of entrepreneurial competitiveness in Algeria, which includes the number of SMEs that ceased activity or were permanently inactive each year, as well as indicators of improving the business environment, which were linked to the number of existing SMEs that reorganized, and the entrepreneurial innovation and productivity index, which refers to the number of new SMEs created annually.

In the second stage, the relationship between the various study variables was analyzed and the mutual influences between them were studied by applying a multiple linear regression model, using the *Python* methodology to ensure the accuracy and reliability of the results.

The statistical analytical study was associated with the use of data on the variables under study, during the time period from 2003 to 2021, as this period was characterized by a set of economic reforms, especially in the field of supporting entrepreneurship and investment in the SME sector in Algeria.

This data enabled us to understand the dynamics of business creation, failure rates, and the ability to recover after crises. The number of new businesses created is an important indicator of the attractiveness of the market for investment and entrepreneurship, while the number of businesses that ceased operations reflects the challenges and difficulties they face in the economic environment. The number of revitalized enterprises also reflects the resilience and dynamism of the market, as well as the effectiveness of policies that support the economic reintegration of struggling enterprises. Over the ten years covered by the study, we were able to understand the various developments and changes in these three indicators, which reflect the economy's response to a variety of internal and external factors, such as changes in economic policies, the effects of global and local crises, changes in the regulatory and legislative environment, as well as shifts in consumer behavior and market needs.

This type of analysis is essential for understanding the factors affecting the business environment and provides the basis for strategic decision-making that supports the sustainability and growth of SME investment and economic growth. It can also help identify areas or sectors that need improvements or interventions by policymakers to stimulate business growth and stability, thereby boosting the economy as a whole.

3. Literature review

This section aims to provide a brief review of key literature on entrepreneurship and its role in fostering economic development, emphasizing the importance of creating an enabling business environment and financing policies necessary for successful entrepreneurial investments.

Some theories are based on need analysis, describing behavioral and cognitive approaches in the context of creating enterprises. According to these theories, the entrepreneur is part of a complex process of creating a new entity, where the organization is seen as a key element of the analysis, and the individual is seen through the activities necessary for the emergence of the enterprise (Krueger, 1993).

Boyd and Vozikis (1994), proposed a socio-cognitive model that includes a series of personal and contextual factors that predispose individuals to entrepreneurial intentions,

such as experiences and personality traits. On the other hand, the work focuses on a behavioral approach that focuses on the entrepreneurial process, emphasizing the identification of competencies and linkages between the entrepreneur and the creation and development of the business (Boyd & Vozikis, 1994).

One of the most common terms in the literature on entrepreneurship is ‘innovation’. This is related to technology, strategy, or industry, but most importantly, to ‘social entrepreneurship’, which goes beyond the pursuit of profits, tackling social, cultural, and environmental issues (Robertson et al, 2020). Entrepreneurs are a driving force for economic growth, creating new jobs and fostering innovation (Stoica et al, 2020). Research (Surya et al, 2021) suggests that empowering SMEs is a key factor in fostering economic growth. Innovative products developed by entrepreneurs often have a higher competitive advantage, due to their role in enhancing the ability of enterprises to expand and reach wider markets (Galindo & Méndez, 2014). Gaba and Gaba (2022) posit that entrepreneurship contributes to economic growth by raising employment rates and fostering levels of innovation (Gaba & Gaba, 2022). Shkolnykova and Kudic (2021) find that small and medium-sized enterprises, which produced radical innovations in the German biotech sector, enjoy superior innovation performance in subsequent periods. Further, firms that cooperate directly with radical innovators enjoy higher innovation performance than firms that do not (Shkolnykova & Kudic, 2021).

Acs and Szerb (2007), highlighted the relationship between entrepreneurship and economic growth, reviewing the role of public policies in fostering this relationship. They noted that government intervention by improving the business environment and providing appropriate infrastructure can have a significant impact on the success of investments (Acs & Szerb, 2007).

Lerner (2010) studied the role of government policies in promoting entrepreneurship by facilitating access to investment financing. He highlighted the importance of financing policies that contribute to supporting startups and providing the investment capital they need to grow and develop (Lerner, 2010). Cressy (2006) also sees the relationship between funding and the survival of startups, pointing out that lack of funding is one of the main reasons for the failure of enterprises in their early stages. He highlights the importance of financing policies designed to support the survival of these enterprises (Cressy, 2006). Porter (1990) reviews the impact of state strategies on enhancing national competitive advantage and shows that improving the business environment through effective government policies can increase the ability of entrepreneurs to innovate and expand, leading to greater success (Porter, 1990).

Entrepreneurship is one of the most important foundations for socio-economic transformation and development. It is closely linked to private sector development, SME policies, job creation, innovation, and competitiveness. Various economies recognize entrepreneurship as an indispensable element for maintaining the viability and competitiveness of a country's economy. Entrepreneurship is also seen as the study, evaluation and exploitation of sources of opportunities (Shane & Venkataraman, 2000). Therefore, nowadays, a pro-entrepreneurial environment is often seen as a requirement for governments in order to ensure the development of the regions (Mempel-Sniezyk et al, 2020).

Studying entrepreneurship in Africa is of paramount significance in the global economic landscape (Gobena & Kant 2022). The continent's diverse markets, untapped potential, and the resilience of its entrepreneurs present unique opportunities and challenges that merit thorough examination (Liu, 2020). Beyond economic implications, entrepreneurship in Africa holds the key to addressing societal issues, fostering inclusive growth, and unlocking the full potential of local communities. Moreover, Africa's entrepreneurship narrative challenges prevailing stereotypes and underscores the importance of understanding business dynamics within the context of diverse cultural, economic, and infrastructural environments (Diko, 2023).

SMEs are widely recognized as the backbone of many economies, contributing to job creation, innovation, and economic diversification (Beck, Demirguc-Kunt, & Levine, 2005). The strategic orientation of these enterprises plays a pivotal role in harnessing their potential. High EO within SMEs fosters an environment conducive to innovative practices and proactive market behaviors, thereby enabling these firms to seize emerging opportunities and navigate competitive landscapes effectively (Miller, D, 1983 ; Rauch, et al., 2009).

In their study, Amokrane and Bekhti (2019) analyzed and measured the levels of innovation and competitiveness of SMEs in Algeria through the variables of time and the growth rate of investments in this sector. The results showed that the cessation of investments in this field is mainly due to the weak competitiveness of these enterprises. On the other hand, the study revealed that the return of some investments to activity was associated with an increase in the competitiveness of the concerned institutions, as a result of the field experience gained from previous unsuccessful experiences in other sectors. The study also concluded that the increasing volume of new investments in this sector is contributing, in relative terms, to raising the levels of innovation within the Algerian economy (Amokrane & Bekhti, 2019).

Most of the studies conducted in Algeria on entrepreneurship dealt with this topic from different angles than the one we adopted in our research, as these studies focused on traditional aspects such as financing barriers, personal characteristics of entrepreneurs, or the business environment in general. In contrast, this research focuses on a set of variables that have been hypothesized as direct determinants of entrepreneurial dynamism in Algeria: The creation of new enterprises as an indicator of a favorable business environment, the return of some enterprises to activity as an indicator of an improved investment climate, and the cessation of the activity of some enterprises due to weak competitiveness as one of the factors inhibiting the growth of entrepreneurship. Based on the above, the research offers a different analytical approach that contributes to enriching the local literature in this field.

4. Basic concepts of entrepreneurship

4.1. Definition of entrepreneurship: Schumpeter (1934) defines entrepreneurship as “the ability to introduce innovation by combining resources in new ways to create new products or services”. He also believes that entrepreneurship is a creative process that depends on introducing new products or services or radically improving production processes, making changes in the market and contributing to economic growth. However, the Austrian economist Joseph Schumpeter believes that “the function of entrepreneurs is to reform or

revolutionize the mode of production by exploiting an invention or, more generally, an untried technological possibility to produce a new good or produce an old good in a new way, by opening a new source of supply of materials or a new outlet for products, by reorganizing an industry, and so on” (Schumpeter, 1942).

Entrepreneurship is defined as taking advantage of opportunities to create and manage a new business venture for profit (Drucker, 1985). On the other hand, it is defined as the process of creating a new enterprise, including identifying opportunities and gathering resources to create a new venture (William, 1989). Entrepreneurship is also considered to be the process of entrepreneurship, as the process by which individuals discover, evaluate, and exploit opportunities to create new value (Shane & Venkataraman, 2000).

4.2. The entrepreneurial ecosystem: The entrepreneurial ecosystem is similar to a biological system where each member is affected by the strength or weakness of the network as a whole, which in turn affects the performance of enterprises. Recent attempts have begun to describe and measure the nature and sustainability of entrepreneurship in specific geographic areas, focusing on the role of interactions between actors and technological policies in the success of innovation (Freeman, 1978 ; Lundvall et al, 1988 ; Fischer, 2006). This concept emphasizes the importance of knowledge sharing between industry and academia. The concept of the “triple helix” (Etzkowitz, 2002 ; Etzkowitz , 2008) highlights the importance of collaboration between industries, universities, and governments to achieve sustainable economic development. (Wilson, 2012) suggests that innovation relies on the interdependent collaboration of four key sectors: government, business, civil society and academia: Government, business, civil society and academia in what is known as the “quadruple helix”. The success of these networks depends on mutual trust, which develops through social infrastructure such as associations and clubs (Fuerlinger, 2015).

Entrepreneurship studies range from those that focus on the national macro level to those that look at the micro level in small communities. The Aspen Network of Development Entrepreneurs (2013) summarized research in this area and identified different frameworks for assessing entrepreneurial ecosystems (OECD: 57 indicators, Asset Mapping Roadmap: 157 indicators). These frameworks vary in terms of complexity and number of indicators, ranging from models with extensive indicators to more flexible assessment models. An entrepreneurial ecosystem is defined as a set of interconnected enterprises designed to help an entrepreneur go through all stages of the new venture process (Isenberg, 2010).

4.3. The role of government policies in enhancing the ecosystem for entrepreneurship development: Porter (Porter, 1990) in his book “Competitiveness Policy” discussed how state strategies can influence the enhancement of national competitiveness. He explained that government policies that focus on improving the business environment by providing adequate infrastructure, encouraging innovation, and facilitating access to resources can enhance the ability of firms to succeed and expand. Rodrik (2004) highlighted how improved institutions and policies can enhance economic performance, addressing how the state's role in improving business can be supported by adopting appropriate policies to

promote firm success (Rodrik, 2004). Similarly, Drucker (1985) explained the role of the state in improving the business environment through policies that support innovation and provide the necessary infrastructure for startups to succeed, emphasizing that government policies that support innovation promote business success.

Zhang and Yang (2022), also analyzed the effectiveness of government policies in promoting business success in emerging markets, indicating that policies that focus on improving the regulatory environment and providing financial support play an important role in the success of firms (Zhang & Yang, 2022).

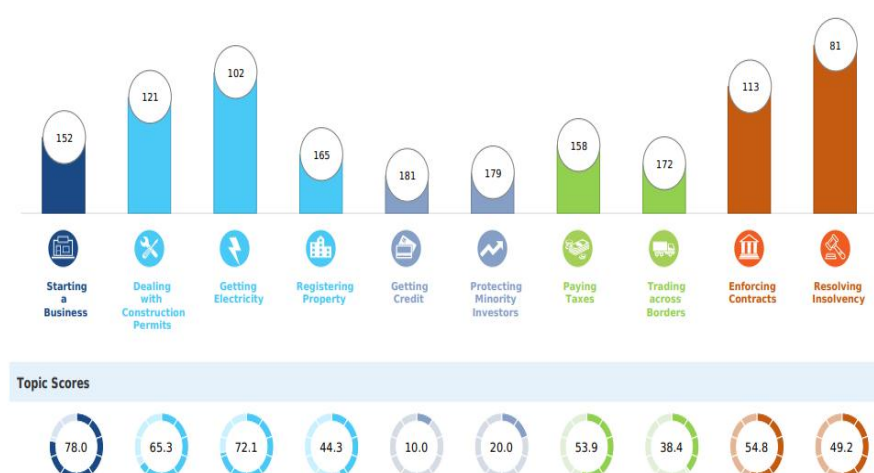
5. Entrepreneurship in Algeria

With its currently well-developed energy and transportation infrastructure, making it among the most advanced countries in Africa, as well as its human potential and geographical location, Algeria is fostering an entrepreneurial ecosystem that is undergoing major transformations and has enormous potential. However, Algeria still needs to interact with regional and global ecosystems to capitalize on the opportunities it currently lacks, which will enable it to rise to a higher level.

Recognizing the importance of the SME sector, the government has taken several steps in order to promote entrepreneurial activity and stimulate economic growth. However, despite this, it cannot hide the fact that Algeria lags behind neighboring countries in terms of many entrepreneurship assistance indicators according to the Global Entrepreneurship Index. This may be related to the fact that Algeria started developing an entrepreneurship ecosystem very late (Soraya Sedkaoui, 2019, p.479).

5.1. The assessment of Algeria's business climate: The assessment of Algeria's business climate is based on the analysis of several key parameters. According to the World Bank, ten fundamental criteria are taken into consideration to measure the country's attractiveness and competitiveness. These criteria help identify the opportunities and challenges facing investors. When combined, they provide a comprehensive view of the economic and regulatory environment.

Fig (1) : Indicators of Algerian entrepreneurial initiatives



Source: Doing Business 2020, World Bank Group (2020)

Data from the World Bank (2020) shows that Algeria ranks 152nd in the Entrepreneurship Index, with 12 procedures that take 18 days and cost 11.3% of per capita income. Building permits rank 121st, requiring 19 procedures that take 131 days, with a cost equivalent to 6.5% of the value of the warehouse. In terms of obtaining electricity, Algeria ranks 102nd, requiring 5 procedures and 84 days, with a high cost equivalent to 967% of per capita income. Property registration suffers from great complexity, as Algeria ranks 165th, with 10 procedures that take 55 days, and a cost equivalent to 7.1% of the value of the property.

In the Access to Credit Index, Algeria ranks 181st, reflecting weak legal safeguards and difficult access to credit information, with credit registries covering only 3.6% of adults and credit bureaus completely absent. Protection of minority investors also suffers, with Algeria ranking 179th due to poor transparency and financial disclosure. In paying taxes, Algeria ranks 158th, requiring 27 annual payments and 265 hours, with a high tax rate of 66.1% of profits. It also faces significant challenges in cross-border trade (172nd), with customs procedures requiring a long time and high cost, such as 149 hours to finalize documents and 80 hours for border procedures. In contract enforcement, Algeria ranks 113th, with a litigation time of 630 days and a cost equivalent to 21.8% of the value of the claim. In bankruptcy resolution, Algeria fares better (81), with a debt recovery rate of 50.8 cents to the dollar, a process that takes 1.3 years at a cost equivalent to 7% of the value of the assets.

Tab (1): Strating a Business (Rank)

Country	Algeria	Morocco	Tunisia
Procedures (number)	12	4	3
Time(Days)	18	9	9
Cost (Number)	11.3	3.6	2.9
Paid-in min.Capital	0.00	0.00	0.00
Score	78	93	94.6
Rank	152	43	19

Source: Doing Business, World Bank Group, Algeria, Morocco and Tunisia, 2020.

Algeria has less favorable business start-up indicators than Morocco and Tunisia. It requires 12 procedures and 18 days, compared with only 4 and 9 days for Morocco, and 3 and 9 days for Tunisia. Costs are also higher (11.3% of per capita income, compared with 3.6% in Morocco and 2.9% in Tunisia). As a result, Algeria ranks far behind its neighbors, with a rank of 152, while Morocco and Tunisia occupy 43rd and 19th places respectively, reflecting a more competitive business environment.

5.2. Small and Medium Enterprises (SMEs): SMEs are usually defined by legal limits on the number of employees and total annual revenue, which vary from country to country. In the European Union, SMEs are categorized as those that employ fewer than 250 people and have an annual turnover of no more than 50 million euros or an annual balance sheet of no more than 43 million euros.

In order to improve performance levels by encouraging innovation and competitiveness in SMEs and start-ups, Algeria has developed the legislative system for this sector through several stages, starting with the 2001 SME Directive Law until its

amendment in January 2017. These legislations and laws came in order to try to revive and activate the role of this sector by supporting economic growth (Amokrane & Bekhti, 2019); improving the environment for SMEs; encouraging the creation and preservation of SMEs, especially innovative ones; improving the competitiveness of SMEs and their export capabilities; promoting the culture of entrepreneurship; improving the rate of national integration and promoting outsourcing. Despite these measures, they have not been sufficient to reduce the failure rates of SMEs through the variables of stoppage and revitalization.

In Algeria, SMEs are defined as any company providing services or goods that employs between 1 and 250 employees, whose turnover does not exceed 2 billion Algerian dinars (about 18.6 million euros), whose total annual budget does not exceed 500 million Algerian dinars (4.6 million euros), and respects the criteria of autonomy (Mosbah & Debili, 2014). Respecting the autonomy criteria means that the company is purely autonomous and is not a division or subsidiary of a parent company. Another enterprise cannot own more than 25% of the shares.

6. Results and discussion

6.1. The growth of entrepreneurship in Algeria: Current Trends and Challenges. Entrepreneurship in Algeria has witnessed remarkable growth in recent years thanks to intensive government efforts to enhance competitiveness and attract investment in small and medium-sized enterprises (SMEs). The Algerian government has taken a set of strategic measures to support entrepreneurs and startups, with the aim of providing a favorable environment for the growth and competitiveness of this vital sector.

The relationship between these three variables reflects the economic challenges faced by entrepreneurship. Difficult economic conditions lead to increased rates of inactivity and a slowdown in new business creation, which negatively affects the development of competitiveness. However, attempts to restore economic activity appear in subsequent periods, indicating efforts to improve entrepreneurship and enhance competitiveness under changing global conditions.

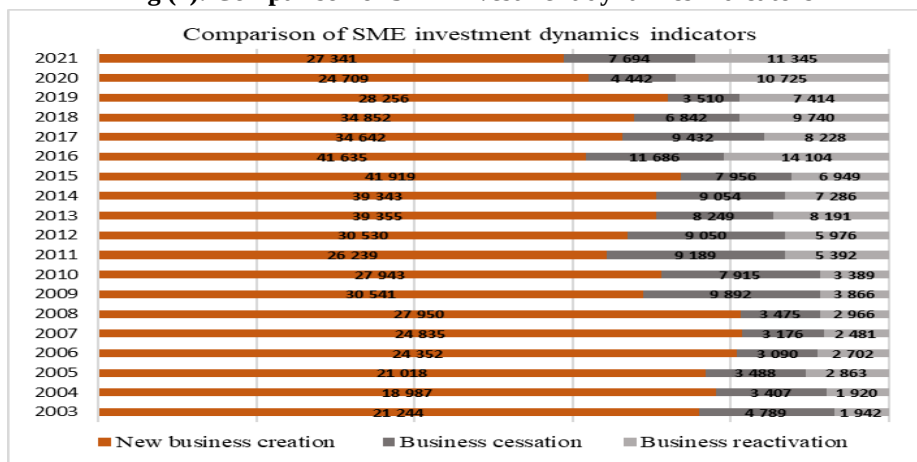
Through our analysis of simple and multiple linear regression relationships, we were able to assess the impact of both inactivity (i.e., firms going out of business) and reorientation of economic activity (after firms fail in their previous activity) on the creation of new investments in the SME sector. This analysis aims to understand the mechanisms that stimulate the business environment and support market dynamism, thereby enhancing competitiveness and stimulating entrepreneurship. In addition, the relationship between firms' inactivity (failure) and reactivation (a more favorable business environment) was studied to determine the extent to which inactivity affects the economic reactivation rates of these enterprises. The importance of this analysis lies in understanding the mechanisms of reintegration into the market, especially in the SME sector, and assessing the ability of the economic system to absorb and rehabilitate troubled enterprises.

6.1.1. Analyzing the evolution of SME investments in Algeria (Entrepreneurship Growth Index): Algeria has witnessed a remarkable increase in the volume of investments in SMEs in recent years, reflecting a growth in entrepreneurship and enhancing

competitiveness in this sector. The Algerian government has taken several initiatives to support this type of investment, including the provision of financing and tax facilities. It has also allocated significant financial resources to support startups and encourage innovation, resulting in significant growth in the number of SMEs. The beneficiary sectors include services, industry, agriculture and construction. These investments contribute to strengthening the national economy, creating new job opportunities, supporting the entrepreneurial environment and contributing to improving the country's competitiveness.

- **Analyzing the evolution of New Business Creation:** Algeria witnessed a remarkable growth in the number of new enterprises during the period from 2003 to 2016, rising from 21,244 in 2003 to a peak of 41,919 in 2015, an increase of about 97% during this period. After 2016, a downward trend in the number of new enterprises was observed, dropping to 28,256 in 2019 and reaching its lowest level during the COVID-19 crisis in 2020 (24,709 enterprises) (Figure 2).

Fig (2): Comparison of SME investment dynamics indicators



Source: Amokrane & Bouaziz, based on the Ministry of Industry data, 2024

The growth in the number of new enterprises until 2016 reflects an improved business climate, especially in light of economic reforms and programs to support SMEs. As for the decline after 2016, it may be related to economic instability and low oil prices, which affected project financing and investments. The negative impact of the pandemic was evident in 2020 and 2021, but it did not prevent a slight recovery in 2021 with 27,341 new enterprises.

- **Business Cessation Analysis:** The number of shuttered enterprises ranged between 3,000 and 4,800 during 2003-2008, before rising sharply to 9,892 in 2009 due to the financial crisis. Discontinuation rates peaked at 11,686 in 2016, influenced by structural factors such as bureaucracy and lack of competitiveness. Between 2017-2019, the number dropped to 3,510, indicating a slight improvement in the business environment, but rose back to 7,694 in 2021 due to the impact of the pandemic.

The theory of "financial crises" and their impact on economic activity This theory explains how financial crises, such as the global crisis of 2008-2009, lead to financing difficulties, reduced demand, and an increase in business closures as a result of poor viability. This explains the sudden spike in closures in Algeria in 2009. The cost of doing business theory also suggests that structural factors such as high taxes,

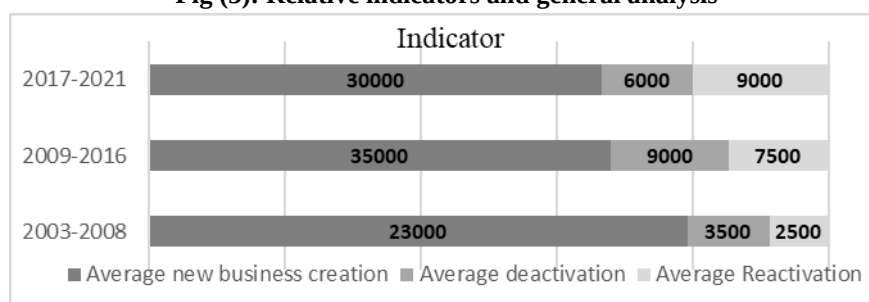
bureaucracy, and weak competitiveness negatively affect the sustainability of enterprises, leading to higher closure rates as seen between 2010-2016. The slight improvement between 2017-2019 may reflect economic reforms, while the spike in 2020-2021 is due to the direct impact of the COVID-19 pandemic, which imposed restrictions on economic activities and weakened the viability of enterprises.

▪ **Business Reactivation Analysis:** The number of enterprises reactivating was limited in 2003-2008, ranging from only 1,900 to 2,900. The number increased significantly after 2009, reaching 5,392 in 2011 and 8,191 in 2013. It peaked in 2016 at 14,104, reflecting an improvement in institutional rehabilitation programs. In 2019, the number declined to 7,414, but rose again in 2020 (10,725) and 2021 (11,345).

Reactivation may be driven by government support programs, especially in 2016 where the Algerian economy saw support for small businesses. The rise in reactivation in 2020 and 2021 may be related to attempts to recover from the effects of the pandemic and restart halted projects.

The ratio of deactivation to enterprise was 15% between 2003-2008, rising to 25% during 2009-2016 before dropping to 20% between 2017-2021, reflecting a slight improvement in the sustainability of enterprises (Figure 3) .

Fig (3): Relative indicators and general analysis



Source. Amokrane & Bouaziz, based on the Ministry of Industry data, 2024

The ratio of reactivation to discontinuation increased from 70% to 80-90% after 2009, indicating partial success in reintegrating discontinued enterprises. The business environment was affected by economic crises and fluctuating oil prices, which called for supporting small enterprises and improving the investment climate. The period 2003-2008 witnessed relative stability, while 2009-2016 suffered from challenges that affected the continuity of projects, while 2017-2021 recorded a gradual improvement as the economy recovered after the pandemic.

"Business Cycle Theory" states that the economy goes through boom and bust phases as a result of changes in macro factors such as oil prices, financial crises, and changes in monetary and fiscal policy. According to this theory, the stability between 2003-2008 can be explained by the bullish period of the economic cycle supported by high oil prices, while the turbulence between 2009-2016 can be explained by negative shocks resulting from the decline in oil revenues (Schumpeter, 1939). The "endogenous growth" theory emphasizes that investment in human capital, technology, and innovation promotes sustainable economic growth. It also supports the idea that improving the business climate and supporting SMEs promotes investment creation and enterprise sustainability in Algeria (Romer, 1990). Economic Resilience Theory explains the ability of an economy to adapt and recover from

crises, such as the oil crisis or the COVID-19 pandemic. The slight improvement between 2017-2021 reflects the resilience of the Algerian economy after the crisis thanks to the government's revitalization programs (Martin & Sunley, 2015).

- **Analyzing the relationship between discontinuation and reactivation of enterprises on the creation of new investments in Algeria:** As part of the study of investment dynamics in Algeria, we analyzed the relationship between new enterprise creation (Y), inactivity (X_1) and reactivation (X_2), using a multiple linear regression model. This model allows estimating the impact of SME-related factors on new investment creation rates, a key indicator of private sector dynamism and the resilience of Algeria's economic fabric.

The results of the multiple linear regression analysis indicate that there is a relationship between new enterprise creation, inactivity, and reactivation, where the following equation was estimated: $Y = 16790 + 1.345(X_1) + 0.653(X_2)$, where Y represents the number of new enterprises, X_1 the number of enterprises that ceased activity, and X_2 the number of enterprises that reactivated. The model showed that the coefficient of determination (R^2) was 0.591, which means that 59.1% of the changes in the number of new enterprises can be explained by the two independent variables, while the adjusted coefficient of determination (R^2_{adj}) was 0.540, which is good after correcting for the number of variables. The F-statistic was 11.58 with a p-value = 0.0007, indicating the significance of the model as a whole. As for the independent variables, it was found that inactivity (X_1) has a significant effect with a coefficient of 1.345 and a p-value of 0.012, while the effect of reactivation (X_2) was less significant with a coefficient of 0.653 and a probability value of $P = 0.101$, indicating that its role is less influential at the 5% significance level.

Business cessation positively affects the creation of new enterprises, as an increase in each cessation leads to the creation of 1.345 new enterprises, reflecting the role of firm exit in freeing up market shares and enhancing competition. As for revitalization, although it has a positive effect (0.653), it is not statistically significant at the 5% level, but it approaches significance at 10%. This suggests that revitalization may contribute to stimulating the business environment, but to a lesser degree compared to going out of business.

- **The impact of cessation of activity on market dynamics:** The results suggest that the discontinuation of enterprises does not necessarily reflect an economic downturn, but rather may be an impetus for the creation of new enterprises that capitalize on the opportunities created by the exit of some actors from the market. In the Algerian economy, where many sectors rely on government subsidies and tax exemptions, the failure of some enterprises may be related to weak competitiveness and not necessarily market contraction, which may allow more efficient enterprises to enter and take advantage of the vacuum.

The theory of market structure and dynamic efficiency is a reference point for interpreting these results. This theory suggests that market dynamics depend not only on the number of operating firms, but also on their efficiency and ability to adapt to economic changes. In the Algerian economy, the discontinuation of some enterprises

may be a reflection of their lack of competitiveness rather than a contraction in demand, allowing the entry of new players who are better able to utilize resources and subsidies effectively.

- **Reactivation as an indicator of economic resilience:** Although reactivation has a positive effect, its low statistical significance suggests that restructuring is not always sufficient to ensure market vitality.

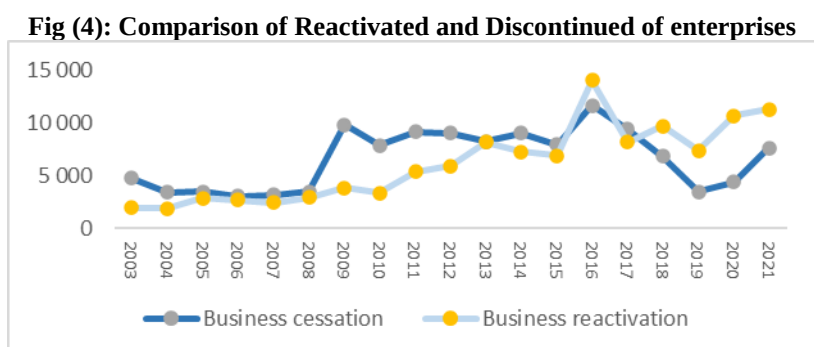
This could reflect administrative obstacles or difficulties in reintegrating shuttered enterprises into the market, which calls for strengthening business support policies and reforming legal regulations to facilitate reactivation.

- **The importance of incentivizing investment through reforms:** The results indicate that the Algerian economic environment is significantly affected by the exit of enterprises from the market, which means that improving the business climate by simplifying administrative procedures and reducing bureaucracy can have a positive impact on the continuity of enterprises and create more investment opportunities.

Supporting SMEs through financial facilities and tax incentives can boost new investments and reduce the rate of inactivity.

Economic resilience depends on the ability of enterprises to reintegrate after crises, but administrative barriers in Algeria limit the revitalization of closed firms, calling for reforms to strengthen the business environment. The theory of enterprise-driven growth emphasizes that improving laws and procedures can reduce firm closures and stimulate investment. Regression analysis shows that business interruption contributes to the creation of new investments, but faces challenges that prevent a strong revitalization effect, requiring more efficient support policies to ensure the sustainability of enterprises.

6.1.2. Analyzing the relationship between deactivation and reactivation of some SMEs in Algeria: The data shows an unstable relationship between inactivity and reactivation, as there is no direct correspondence between changes in the two variables. For example, in 2009, inactivity rose to 9,892 enterprises, but reactivation did not exceed 3,866 enterprises. In contrast, 2016 saw a peak in reactivation at 14,104 enterprises despite a rise in inactivity to 11,686 (Figure 4).



Source: Amokrane & Bouaziz, based on the Ministry of Industry data, 2024

In general, the rate of reactivation as a percentage of deactivation ranges from 40% to 120%, reflecting periods of economic crisis that hindered the continuity of enterprises,

while government interventions and support programs contributed to bringing some enterprises back to activity.

The results of the multiple linear regression model reflect a positive relationship between deactivation and reactivation. The mathematical equation for this relationship is estimated as $Y = 1563.00 + 0.695X$. The p value for the slope coefficient, which is 0.0159, confirms that the relationship between the two variables is statistically significant at the 95% confidence level, which means that the effect of inactivity on reactivation is not random but statistically significant.

These findings also suggest that every one-unit increase in the number of stalled enterprises leads to an expected 0.695-unit increase in the number of revitalized enterprises, with a fixed threshold of 1,563 enterprises, which reflects the baseline revitalization rate even in the absence of stalling.

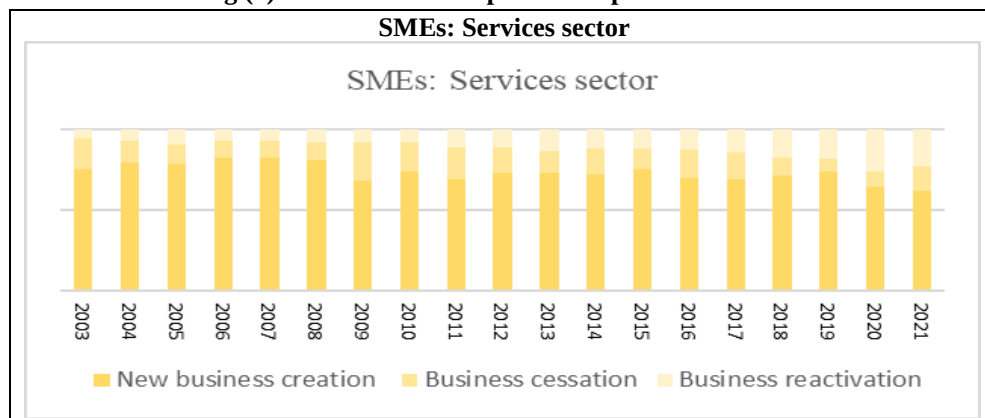
The results reflect a positive correlation between deactivation and reactivation, suggesting that some firms that exit the market may be able to reactivate after a short period. However, the low value of R^2 ($R^2 = 0.297$) indicates that other factors (29.7%) play a role in revitalization, such as government policies, access to finance, and the level of market demand. Improving the business environment by simplifying administrative procedures, providing financial facilities, and adopting investment incentives can help support the sustainability of enterprises and enhance their ability to return to economic activity.

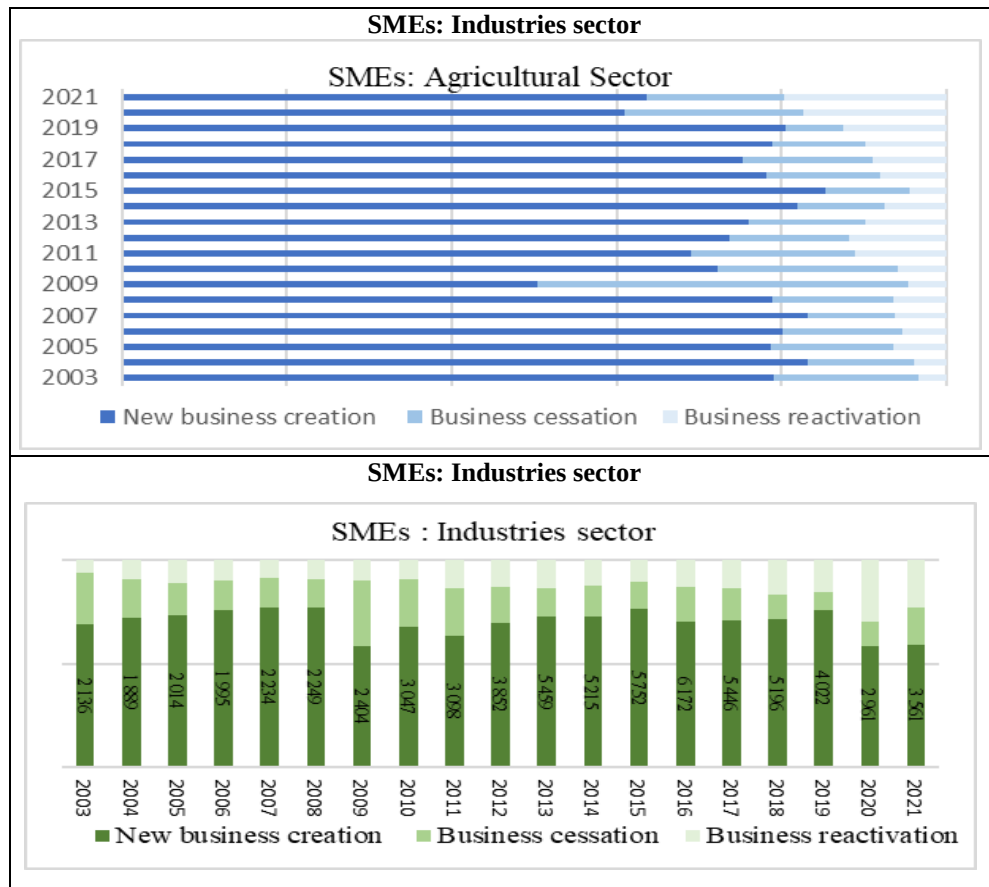
These findings are in line with Joseph Schumpeter's Creative Destruction theory, where markets undergo changes that render some institutions unsustainable, while others take advantage of new opportunities provided by government policies. It is also supported by John Maynard Keynes' "Crisis Government Intervention Model," which emphasizes the role of the state in boosting economic activity during recessions through fiscal policies and public spending.

6.2. Analyzing the vital sectors of entrepreneurship in Algeria's economic activity

The following curves reflect the results of the study, showing the evolution of entrepreneurship in the services sector, industry, agriculture, in terms of new business creation, discontinuation, and reactivation.

Fig (5) : Growth of Entrepreneurship in Vital Sectors





Source. Amokrane & Bouaziz, based on the Ministry of Industry data, 2024

I. Services sector: Algeria's services sector saw the number of new firms grow by 6.2% annually between 2003 and 2016, reaching 27,386 before declining to 18,996 in 2021. The inactivity rate peaked at 7,085 firms in 2016, while the reactivation-to-inactivity ratio reached 65%, reflecting the sector's resilience to economic crises throughout the study period (Figure 5).

Despite economic challenges, Algeria's service sector has remained active, with a general trend towards an increase in the number of new enterprises. However, fluctuations in stoppage and reactivation rates reflect the need for more sustainable support policies, especially during periods of economic crisis.

Naudé (2010) examines the role of entrepreneurship in emerging economies, explaining the impact of economic factors, financing, and the regulatory environment on the sustainability of enterprises, especially during economic crises (Naudé, 2010). David & Zoltan (1990) discussed the relationship between innovation and the growth of small enterprises, explaining how the economic environment and government policies affect the survival and activity of these enterprises, especially in the service sectors (David & Acs, 1990).

II. Agriculture sector: The data shows a gradual growth in the creation of new enterprises, rising from 285 in 2003 to 628 in 2015, before declining in recent years, reaching 306 in 2021 (Figure 5). This trend is related to the “institutional life cycle” theory (Greiner, 1972), where periods of economic stability and government investments boost creation rates, while economic shocks lead to slower growth.

The business closure rate saw a sharp rise in 2009 (198 enterprises) due to the financial crisis, and in 2020 (124 enterprises) as a result of the COVID-19 pandemic, but remained relatively stable compared to enterprise. This reflects the “theory of creative destruction” (Schumpeter, 1942), where the exit of inefficient enterprises provides opportunities for the growth of more productive firms.

Reactivation rates improved after 2011, reaching 94 enterprises in 2021, reflecting the success of support programs for farmers and small businesses, according to the “social capital theory” (Putnam, 1993). Despite the impact of economic, political, and health factors on agricultural investment, support programs have contributed to the reactivation of some enterprises, which calls for strengthening financing and infrastructure to increase the sustainability of the sector.

V. Industries sector: The manufacturing sector has seen fluctuations in SME investments, with the period 2003-2008 recording an annual growth of 1.5% with relative stability. But after 2009, the number of shutdowns increased by 234% due to the financial crisis. The number of new business peaked at 6,172 in 2016 with the support of government policies, although the stoppage rate rose to 23.3%. Between 2017 and 2021, the number of installations declined to 2,961 in 2020, affected by the slowdown in economic activity and the coronavirus pandemic (Figure 5).

Business reactivations recorded a marked improvement after 2015, reaching 1,509 in 2020, accounting for 50% of new enterprises. Although stoppages rose to 1,094 in 2021, reactivations remained at a high level at 1,403, reflecting the sector's resilience and potential for recovery with a stable investment environment.

The statistical analysis of the evolution of the volume of investments across different economic sectors in Algeria has shown that the majority of SME creation is concentrated in the services sector compared to other sectors, reflecting the structural challenges facing entrepreneurship in other sectors. A notable increase in discontinuation rates was observed, especially in vital sectors such as construction and public works, indicating a difficult economic environment that negatively affects the viability of these enterprises. Despite these challenges, there are clear efforts to revitalize economic activity in most sectors, indicating that there are trends to revive entrepreneurship and ensure the viability of SMEs, even under unstable economic conditions.

7. Conclusion

The data shows that the Algerian economy has experienced periods of growth and challenges, with the global economic crises having a notable impact on the development of entrepreneurship. In spite of these difficulties, the high rates of SME revitalization reflect the resilience of the market and the ability of entrepreneurship to adapt and innovate under difficult conditions.

The results of the study show that the volume of new annual investment in the SME sector in Algeria fluctuated significantly during the studied period, rising in some phases and falling in others. In terms of business revitalization, the study period revealed a gradual improvement in business revitalization. This reflects a gradual improvement in the business environment and increased entrepreneurial competitiveness, while also highlighting the effectiveness of government policies aimed at supporting struggling

businesses. This resilience demonstrates the ability of some businesses to adapt to economic challenges, underscoring the importance of a competitive and supportive regulatory framework that helps businesses overcome crises and revitalize. This contributes to long-term sustainability and economic growth.

Taken together, the results of the study confirm the validity of the proposed hypotheses and highlight the importance of adopting effective policies aimed at enhancing the business environment and creating a more competitive and sustainable investment climate for the SME sector in Algeria.

The results show that annual new investment flows contribute positively and effectively to fostering entrepreneurship within the SME sector. The results indicate that the rise in the number of new projects until 2016 is evidence of an improved business climate, driven by economic reforms and SME support programs. The decline thereafter is attributed to the repercussions of the economic crises and the decline in oil prices, as well as the effects of the COVID-19 pandemic. However, the end of 2021 saw signs of recovery, with a significant increase in the volume of new investments in the SME sector, a pace that continues to this day.

The transition of SMEs to more profitable activities has shown an improvement in the business environment, contributing to the revitalization of entrepreneurship and attracting more investment. This is evidenced by the remarkable rise in the number of revitalized companies after 2009, peaking in 2016, and then recovering again in 2020 and 2021, in light of attempts to overcome the repercussions of the pandemic. Together, these indicators point to a gradual and tangible improvement in the investment climate, supported by stimulus policies and successive institutional measures directed at the SME sector.

Regarding the third hypothesis, the results showed that a higher level of entrepreneurial competitiveness is associated with a lower number of permanently suspended investments, which reflects the strength and attractiveness of the investment environment in this sector. Data analysis showed that the number of discontinued SMEs fluctuated significantly between 2003 and 2021, peaking in 2016 due to structural factors, then gradually declining before rising again in 2021 as a result of the pandemic repercussions.

The study concluded that the services sector is the most competitive and growing in terms of entrepreneurship. There has also been a significant increase in the reactivation of some enterprises. This growth reflects the structural shift towards a more service-based economy, a sector that is thriving thanks to innovation and entrepreneurial initiatives. The manufacturing sector is the second most competitive, with growth in the number of new investments and an increase in revitalization. This development reflects the role of entrepreneurship in fostering innovation and growth in this sector, despite challenges related to the need for advanced technologies. The results also indicate that the rest of the economic sectors witnessed a marked decline in SME creation, with an increase in permanent inactivity rates, especially in vital sectors such as construction and public works. Despite these challenges, there are notable efforts to revive activity in most sectors.

As for the analysis of the linear regression relationship between exit and reactivation and the creation of new investments in Algeria, it indicates that exit has a positive and statistically significant effect, as each exit leads to the creation of 1.345 new enterprises,

reflecting the role of firm exit in liberalizing market shares and enhancing competition. Revitalization, on the other hand, shows a positive effect (0.653), which is statistically significant, suggesting that it can contribute to stimulating the business environment to a lesser degree compared to exit. The results also show that the regression analysis shows a positive and statistically significant relationship between disruption and revitalization of SMEs in Algeria, where every one unit increase in the number of disrupted enterprises is associated with an expected increase of 0.695 units in the number of revitalized enterprises, with a constant baseline revitalization rate of 1563 enterprises even without disruption. These results suggest that disruption contributes significantly to stimulating revitalization within this sector.

In terms of future trends, it is necessary to continue supporting enterprises, especially those led by entrepreneurs, as well as investing in SMEs, providing stimulating economic policies to ensure economic growth and sustainability, and promoting entrepreneurship as a key factor in economic recovery. The focus should be on supporting SMEs to minimize downtime and increase the chances of revitalization. Improving the business environment and providing economic incentives can boost entrepreneurship by increasing the creation and sustainability of new ventures. In addition, plans and strategies to cope with economic and social crises should be provided to ensure continuity of economic activity and minimize the impact of future crises.

The limitation of this study is that it focuses on analyzing the development of entrepreneurship in Algeria within the SME sector only during the period 2003-2021, without expanding to other economic sectors. It is also limited to studying three main determinants (new investments, orientation towards profitable activities, and the level of competitiveness by addressing the number of failed enterprises in their activities), which may not cover all the factors influencing the entrepreneurial dynamic. In addition, the findings are specific to the Algerian economic and institutional context, which may limit their generalizability to other environments.

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