



Review Article

Entrepreneurship and Sustainable Development: Exploring the Relationship in the Moroccan Context through an Econometric Study

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Abstract	Manuscript Information
<p>Entrepreneurship and sustainable development are significantly interconnected, as entrepreneurs play a crucial role in creating innovative solutions that address economic, social and environmental challenges. Sustainable businesses seek to balance financial profitability with social and environmental responsibility. This often involves adopting ethical business practices, reducing the environmental footprint, and promoting social well-being. In the Moroccan context, there are a number of opportunities and challenges. Morocco, as a developing country, can benefit from sustainable entrepreneurship to stimulate economic growth while addressing issues such as poverty, access to education and natural resource management. Sectors such as renewable energy, sustainable tourism and environmentally friendly agriculture offer opportunities for sustainable entrepreneurship. However, persistent challenges, such as access to finance, entrepreneurial training, and awareness of sustainable practices, can hinder the full potential of sustainable entrepreneurship in Morocco. Collaborative efforts between government, the private sector and civil society can play a key role in creating an environment conducive to sustainable entrepreneurship and fostering inclusive and environmentally friendly economic development.</p>	<ul style="list-style-type: none"> ▪ ISSN No: 2583-7397 ▪ Received: 27-02-2024 ▪ Accepted: 25-03-2024 ▪ Published: 27-03-2024 ▪ IJCRM:3(2);2024:102-110 ▪ ©2024, All Rights Reserved ▪ Plagiarism Checked: Yes ▪ Peer Review Process: Yes <p>How to Cite this Manuscript</p> <p>ERROUD Abderrahim, DABNICHY Youness. Entrepreneurship and Sustainable Development: Exploring the Relationship in the Moroccan Context through an Econometric Study. International Journal of Contemporary Research in Multidisciplinary.2024; 3(2): 102-110.</p>

Keyword: entrepreneurship, economic challenges, social challenges, environmental challenges, sustainable development, Morocco

Introduction

The rise of sustainable entrepreneurship in developing countries such as Morocco is attracting growing interest because of its potential to stimulate economic growth while addressing pressing environmental and social challenges. This econometric study is part of this research trend and seeks to unravel the complex relationship between entrepreneurship and sustainable development in the specific Moroccan context. By combining

economic profitability with social and environmental responsibility, sustainable enterprises are key actors in the transition to a more prosperous and equitable future. Morocco, a developing country facing challenges such as poverty, access to education and natural resource management, is fertile ground for this type of entrepreneurship to flourish. Sectors such as renewable energy, sustainable tourism and organic agriculture offer concrete opportunities to create innovative and responsible

solutions. Despite this potential, several obstacles stand in the way of the full realisation of sustainable entrepreneurship in Morocco. Limited access to finance, a lack of entrepreneurial training adapted to the challenges of sustainability and insufficient awareness of sustainable practices remain major challenges. To overcome these obstacles, the collective mobilisation of public, private and civil society actors is essential. The creation of an enabling ecosystem for sustainable entrepreneurship, in particular through incentive-based public policies, targeted training programmes and adequate financial support, is essential to promote inclusive, green economic development. Based on a rigorous econometric analysis, this study examines the Moroccan entrepreneurial landscape through the prism of sustainable development. By systematically analysing the interactions between these two concepts, it aims to identify promising levers for unlocking the full potential of sustainable entrepreneurship in Morocco. The findings of this study are of particular relevance not only for Morocco, but also for other developing countries seeking to reconcile economic growth and sustainable development.

THEORETICAL FRAMEWORK

Entrepreneurship and sustainable development:

1. Entrepreneurship theories

1.1. Entrepreneurial alert theory (Opportunity Theory)

This theory emphasizes the notion of entrepreneurial opportunity. Entrepreneurs are seen as individuals who identify and exploit opportunities, and entrepreneurship is seen as a process of identifying, evaluating and exploiting opportunities.

1.2. Theory of resources

Resource theory suggests that a company's sustainable competitive advantages come from its unique resources and skills. Entrepreneurs can create and exploit resources that give them a competitive edge.

1.3. Network effect theory (Network Theory)

Social network theory asserts that entrepreneurs benefit from interpersonal connections and relationships. Social networks provide information, resources and opportunities that facilitate the entrepreneurial process.

1.4. Financial leverage theory (Financial Capital Theory)

This theory highlights the importance of financial capital in the entrepreneurial process. Entrepreneurs use financial resources to create value by developing new businesses.

1.5. Social capital theory

Social capital theory emphasizes the value of social relationships and networks to entrepreneurial success. Entrepreneurs can draw on social capital to obtain information, advice and support.

1.6. Entrepreneurial cognition theory

This theory explores how entrepreneurs think and make decisions. It examines how cognitive differences influence the

entrepreneurial process. By exploring these theories, we can deepen our understanding of the different theories of entrepreneurship and the perspectives that underpin them.

2. Sustainable development theories

2.1. Theory of sustainable development as a process of dialogue and negotiation

This theory emphasizes sustainable development as an ongoing process of dialogue and negotiation between various stakeholders (governments, business, civil society) to balance the economic, social and environmental aspects of development.

2.2. Green and circular economy theory

Circular economy theory argues that economic systems should be designed to eliminate waste and promote resource regeneration. It proposes economic models based on the reuse, repair, recycling and regeneration of resources.

2.3. Capability-based sustainable development theory (Capability Approach)

Capability theory emphasizes sustainable development as an increase in people's capabilities to lead the lives they have reason to value. This goes beyond mere economic growth to include freedom, education, health and other dimensions.

2.4. Integrated sustainable development theory

The theory of integrated sustainable development, popularized by the report "The Limits to Growth", maintains that uncontrolled economic growth can lead to planetary limits in terms of natural resources, energy and waste absorption capacity.

2.5. Environmental justice theory

Environmental justice theory examines how environmental problems disproportionately affect disadvantaged communities. It calls for an equitable distribution of environmental costs and benefits.

2.6. Socio-ecological resilience theory:

This theory revolves around the capacity of socio-ecological systems to absorb shocks, adapt and transform while maintaining their essential functions. By exploring these sources, you can deepen your understanding of the different theoretical perspectives on sustainable development and the mechanisms that can foster a more balanced and holistic approach to economic, social and environmental progress.

The link between entrepreneurship and sustainable development

Entrepreneurship and sustainable development are two concepts that can be closely linked, as sustainable entrepreneurship aims to create businesses and economic activities that take into account social, environmental and economic aspects to ensure long-term growth. Using the various theories of entrepreneurship and sustainable development, we can identify these key points about the relationship between entrepreneurship and sustainable development:

1. Conceptual framework: entrepreneurship and sustainable development:

The intersection between entrepreneurship and sustainable development can be approached through a number of theories and conceptual frameworks.

1.1. Social Innovation Theory

Social innovation theory focuses on the creation of enterprises oriented towards innovative solutions to social and environmental problems. Social entrepreneurs are seen as key players in promoting sustainable development by introducing innovative business models.

1.2. Resources and Capacities Theory (RCT):

According to the Resources and Capacities Theory, companies that integrate specific resources and skills in favor of sustainable development can achieve a sustainable competitive advantage. This can include environmental skills, socially responsible partnerships, etc.

1.3. Resource dependency theory (RDT)

The RDT suggests that businesses depend on their environments, including natural, social and economic resources. Entrepreneurs can adopt sustainable practices to reduce their dependence on non-renewable resources.

1.4. Circular Economy Theory

Circular economy theory advocates waste reduction by designing economic systems that mimic natural cycles. Entrepreneurs can adopt circular business models, promoting reuse, repair and recycling.

1.5. Social capital theory

Social capital theory suggests that strong social networks can foster sustainable development. Entrepreneurs can help build social capital by establishing partnerships, engaging the community and fostering trust.

1.6. Theory of Corporate Social Responsibility

The theory of Corporate Social Responsibility emphasizes the importance of companies taking responsibility beyond mere profit maximization. Entrepreneurs can integrate CSR practices to contribute to social and environmental well-being.

1.7. Shared Value Creation Theory

The theory of shared value creation suggests that businesses can simultaneously create economic and social value. Entrepreneurs can identify opportunities where the creation of social value also contributes to profitability.

2. Expected impact of entrepreneurship on sustainable development

1.1. Innovation & sustainable solutions

Entrepreneurs can play a key role in sustainable development by

identifying innovative solutions to environmental or social problems. This can include developing clean technologies, promoting sustainable business practices, and creating products or services that have a positive impact on society and the environment.

1.2. Sustainable business models

Entrepreneurs can design business models that incorporate sustainability principles. This can take the form of ethical business practices, reducing carbon emissions, using resources responsibly, and taking stakeholders into account in decision-making.

1.3. Corporate Social Responsibility (CSR)

Sustainable entrepreneurship is often associated with CSR, which implies that companies consider social and environmental dimensions in their activities. Entrepreneurs can integrate CSR initiatives into their businesses, thereby contributing to sustainable development.

1.4. Local job creation

Entrepreneurs can foster sustainable development by creating local jobs, contributing to the economic stability of communities and supporting fair trade practices.

1.5. Access to emerging markets

Sustainable entrepreneurship can also open up opportunities to access emerging markets, by meeting the growing demand for environmentally friendly and socially responsible products and services.

1.6. Education and awareness

Entrepreneurs can play a role in educating and raising public awareness of sustainable development issues. They can promote sustainable lifestyles, raise awareness of responsible consumption, and encourage environmental awareness.

1.7. Sustainable financing

Entrepreneurs can seek sources of financing aligned with sustainability principles, such as social or environmental impact investments, to support the development of their businesses. It's important to note that sustainable entrepreneurship can take different forms and depends on specific industries, markets and contexts. Entrepreneurs can contribute to sustainable development in a variety of ways, and there are many examples of successful companies that have successfully integrated sustainable practices into their business models.

3. Review of the empirical literature on entrepreneurship and sustainable development

The relationship between entrepreneurship and sustainable development has been the subject of several studies by economists around the world. A number of studies have found that entrepreneurship can create new jobs and opportunities. For example, a study by the World Bank found that small and medium-sized enterprises (SMEs) create more jobs than large

firms in most countries do. These jobs are often located in rural areas and in sectors that are important for sustainable development, such as agriculture, renewable energy, and social services. Entrepreneurship can also promote innovation and new technologies. This is because entrepreneurs are often willing to take risks and experiment with new ideas. They are also more likely to be open to new technologies and to use them to improve

their businesses. Entrepreneurship can enhance social inclusion and equity. This is because entrepreneurs often come from disadvantaged backgrounds and are motivated to create businesses that will benefit their communities. They are also more likely to hire people from disadvantaged backgrounds. The table below shows the main studies that have been carried out to understand the relationship between these two variables:

Table 1: The main studies that have analysed the relationship between entrepreneurship and sustainable development

Auteurs	Titre de l'étude	Résultats de l'étude	Sources
Arash Najmaei	"Sustainability, Innovation, and Entrepreneurship"	This book examines the interrelationships between sustainability, innovation and entrepreneurship, highlighting how these fields can work together to promote more sustainable business activities.	Routledge, 2020.
Norris Krueger	"Entrepreneurship and Sustainable Development: Exploring the Opportunities and Challenges"	This study explores the opportunities and challenges of entrepreneurship in the context of sustainable development, highlighting the potential role of entrepreneurs in promoting sustainable business practices.	Journal of Business Venturing, Volume 16, Issue 1, 2001.
Peter Schulte et Petra Molthan-Hill	"Sustainable Entrepreneurship: Business Success Through Sustainability"	This book examines the concept of sustainable entrepreneurship, focusing on how entrepreneurs can integrate sustainable business practices to achieve long-term success.	Routledge, 2017.
Carlo Bagnoli et Massimiliano M. Pellegrini	"Entrepreneurship and Sustainability: Can Business Really Save the World?"	This study examines the role of entrepreneurship in promoting sustainable development and analyses the ability of businesses to make a significant contribution to social and environmental objectives.	Journal of the Academy of Business Ethics, Volume 1, 2017.
Dana T. Redford et W. Gibb Dyer Jr.	"Sustainable Entrepreneurship: A Review and Synthesis"	This review examines the different perspectives and approaches to sustainable entrepreneurship, highlighting theoretical models and emerging practices.	Journal of Business Venturing, Volume 32, Issue 3, 2017.
Patricia McDougall-Covin et Benjamin M. Oviatt	"Entrepreneurship and Sustainable Development: The Innovation Connection"	This study explores the link between entrepreneurship, innovation and sustainable development, highlighting how entrepreneurs can be agents of positive change in society.	Journal of Business Venturing, Volume 30, Issue 2, 2015.

Source: developed by the authors based on the results of each study.

METHODOLOGY

Analysing the relationship between entrepreneurship and sustainable development using an econometric study involves using statistical methods to quantitatively assess the links between the relevant variables.

1. The methodology adopted

A robust and transparent methodology is essential to guarantee the validity of the results obtained from an econometric study on the relationship between entrepreneurship and sustainable development. The methodology adopted in this paper can be summarized in the following steps:

Definition and choice of Variables

Dependent variable: unemployment rate

Independent variables: GDP, Domestic investment, CO2 emissions.

Choice of Econometric Model

The most appropriate model in our case is the multiple regression model to assess the relationship between the variables studied.

Data collection

Data collection on the selected variables based on official sites, such as the WORLD BANK, HIGH COMMISSIONER FOR PLANNING, OFFICE DES CHANGES...ETC.

Data processing

Perform descriptive analyzes to understand the distribution of variables and detect possible issues such as collinearity between independent variables.

Model Estimation

The software used is Eviews 10 in order to measure the relationship between the variables studied, while going through the various key stages of the econometric model chosen.

Analysis and interpretation of the results

Examine the estimated coefficients to assess the strength and direction of the relationship between entrepreneurship and the dimensions of sustainable development. Test the statistical significance of the coefficients to determine whether the relationship is statistically robust. Interpret the results in the light of economic theory and initial expectations. Conclude on the nature and extent of the relationship between entrepreneurship and sustainable development.

LIMITATIONS AND RECOMMENDATIONS

Identify limitations of the study, such as data constraints or simplifying assumptions. Provide recommendations for future research.

2. Presentation and discussion of results :

This study focuses on entrepreneurship and its impact on sustainable development, looking specifically at the case of Morocco over the period 2000-2022. The analysis is based on a model that includes several key variables, each of which contributes to the understanding of economic and environmental dynamics.

2.1. Model variables :

GFCF (gross fixed capital formation): Represents investment in durable goods, contributing to the expansion and modernisation of productive capital. The data, expressed in constant 2015 US dollars, are taken from the World Bank database.

GDP (Gross Domestic Product): Aggregate measure of the wealth generated by the Moroccan economy, expressed in tonnes per capita.

Data are also taken from the World Bank database.

CO₂ EMISSIONS (carbon dioxide): Represents carbon dioxide emissions per capita, providing a perspective on the environmental impact of economic activity in Morocco. The data are taken from the World Bank database.

T CHO (Unemployment rate): Measures the percentage of the labour force without a job in Morocco. Data are taken from the World Bank database.

2.2. Presentation and discussion of results

The study aims to explore the links between these variables and to understand how territorial entrepreneurship can influence sustainable development in Morocco. By analysing the impact of gross fixed capital formation, gross domestic product, CO₂ emissions and the unemployment rate, the aim is to identify potential levers for stimulating sustainable economic growth in the Moroccan context. The diversity of these variables provides a holistic perspective for assessing the sustainability of economic and entrepreneurial activities in the study area.

Table 2: Variables in the econometric study

Abréviation	Signification	Unité de mesure	Source de données
GFCF	Gross fixed capital formation	Constant in 2015 US dollars	World Bank database
GDP	Gross domestic product	Metric tons per capita	World Bank database
CO ₂ EMISSIONS	Carbon dioxide	Kilograms per capita	World Bank database
T CHO	Unemployment rate	Percentage	World Bank database

Source: Compiled by the authors from Eviews 10

Table 2 provides key information on the variables examined in this study, including the sources from which the data were extracted and the units of measurement associated with each of these variables. This methodological presentation provides essential transparency on the database used, allowing the reader

to fully understand the context and reliability of the information analysed. By clearly explaining these aspects, the table provides a solid basis for a correct interpretation of the results and strengthens the credibility of the study as a whole.

Table 3: Stationarity

Variables	Level		First Différence		Order of intégration
	ADF	PP	ADF	PP	
GFCF	0.1497	0.15	0.0136	0.0002***	I (1)
GDP	0.0000***	0.0000***	0.0044	0.000***	I (0)
CO ₂ EMISSIONS	0.1208	0.9627	0.0004***	0.0041***	I (1)
Unemployment rate	0.3422	0.5510	0.0090	0.0112***	I (1)

Source: Compiled by the authors from Eviews 10

When analysing time series, it is essential to check the stationarity of the variables before carrying out the cointegration test. The stationarity of a time series is crucial as it indicates the absence of trend, seasonality and evolving time factors, all of which are essential to avoid spurious regressions and forecasting errors. Two different approaches are generally used to assess the stationarity of time series. On the one hand, there are stationarity tests, such as the KPSS test, which formulate the null hypothesis (H₀) that the series is stationary. On the other hand, unit root tests, such as the Dickey-Fuller (ADF) and Phillips-Perron (PP) tests, formulate the null hypothesis that the series has a unit root,

i.e. it is not stationary. The results of the ADF and PP unit root tests, presented in the table below, show that all variables are stationary at the first difference, with a significance level of 1%. However, it should be noted that both the GDP and FDI variables remain stationary even at the level. This suggests that the series associated with these two variables do not require differentiation to achieve stationarity. In contrast, the other variables show an improvement in stationarity after an initial difference. This rigorous approach to assessing stationarity thus paves the way for more advanced analyses, such as cointegration tests, which provide a solid basis for more reliable forecasts.

Table 4: Cointegration results

Model	GFCF= GDP +CO2 +T CHO	
F-stastic	5.034099***	
Critical threshold :	Borne <	Borne >
1%	4.29	5.61
5%	3.23	4.35
10%	2.72	3.77

Source: Compiled by the authors from Eviews 10 /Results d*** 1%, ** 5%, * 10%.

The results of the cointegration analysis show the existence of a long-run relationship between the variables under consideration, namely GFCF, GDP, CO2 and the unemployment rate. This conclusion is supported by the robustness of the statistical F (5.034099***), which exceeds the critical value (5.61) at the 1% level of significance. This result indicates a significant relationship between the variables, suggesting an interdependence that goes beyond short-term influences. The high statistical F highlights the importance of examining cointegration, which provides insights into the persistent links between these parameters. These results are particularly important as they highlight the need for further analysis, paving the way for a deeper understanding of the long-term dynamics between GFCF, GDP, CO2 and the unemployment rate. This

methodological approach strengthens the credibility of the study's conclusions and provides a solid basis for informed recommendations and projections. The F-limits test statistic highlights the possibility of rejecting the null hypothesis, indicating a significant relationship between levels for both asymptotic and finite samples. These results underline the likely existence of a long-run relationship between the variables under study. The co-integration equation then provides insight into how these variables interact in the long run, adding a valuable dimension to our understanding of the underlying dynamics. This long-term perspective strengthens the relevance of the conclusions drawn and helps to shed further light on the relationships between the variables under consideration.

Table 5: Study results

Variables	Coefficient	td.Error	T_statistic	Prob
Long-term coefficients				
GDP GROWTH	0.698616	0.331644	2.106522	0.0552
CO2 EMISSIONS	0.000189	2.11E-05	8.958457	0.0000***
Unemployment rate	-2.078796	0.362084	-5.741194	0.0001***
Short-term coefficients				
GDP GROWTH	0.179806	0.108573	1.656080	0.1216
CO2 EMISSIONS	3.27E-05	6.65E-05	0.491853	0.6310
Unemployment rate	-2.150591	0.529121	-4.064458	0.0013***

Source: Compiled by the authors from Eviews 10

The table above shows the long and short run coefficients associated with the variables examined. The results show that the coefficient associated with GDP is positive and statistically significant, indicating that a 1% increase in the GFCF variable is associated with a 0.7% increase in GDP in the long term. However, this relationship is not significant in the short run. As for the unemployment rate, the associated coefficient is negative and significant in both the long and the short run. Thus, a 1% increase in the unemployment rate leads to a 2.087% decrease in the GFCF variable in the long term, while a similar increase in the unemployment rate leads to a 2.015% decrease in the GFCF variable in the short run.

With regard to the CO2 variable, the results show a positive and significant relationship in the short run, although this relationship is not significant in the long term. A 1% increase in the CO2 variable is associated with a 0.000189% increase in the GFCF variable. Note that the adjustment coefficient is negative and statistically significant (2.16), adding an important dimension to the understanding of the adjustment mechanisms in the model. These results provide important insights into the complex dynamics between the variables studied, both in the short and long term.

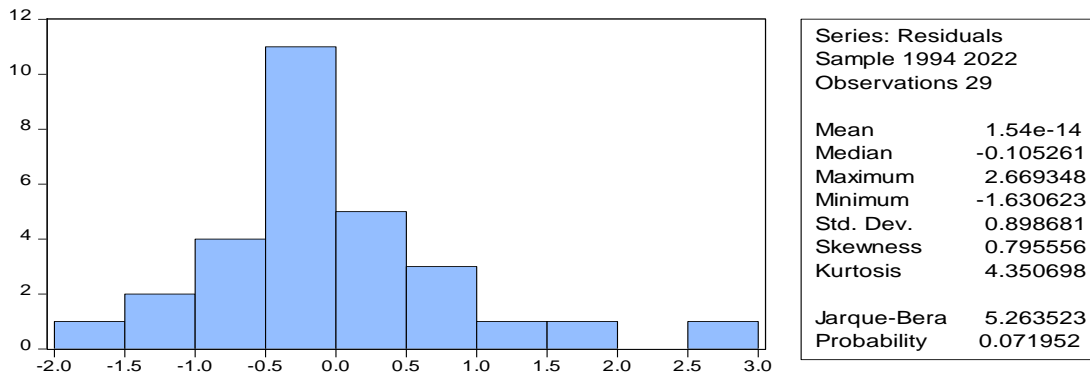
Table 4: Autocorrelation, Heteroscedasticity and Normality tests

Test hypothesis	Tests	Values (probabilities)
Autocorrelation	Breusch-Godfrey	0.018525(0.9817)
Heteroscedasticity	Breusch-Pagan-Godfrey	0.307499(0.9840)
Normality	Jarque-Bera	5.263523 (0.071952)

Source: Compiled by the authors from Eviews 10

An in-depth analysis of Table 5 focuses on several key test hypotheses designed to assess the intrinsic robustness of the model. First, with regard to autocorrelation, the Breusch-Godfrey test yields a value of 0.018525, with a probability of 0.9817. These results indicate that there is no significant autocorrelation, which reinforces the reliability of the model's estimates. Secondly, with regard to heteroscedasticity, the Breusch-Pagan-Godfrey test reveals a value of 0.307499, with a probability of 0.9840. These results indicate the absence of

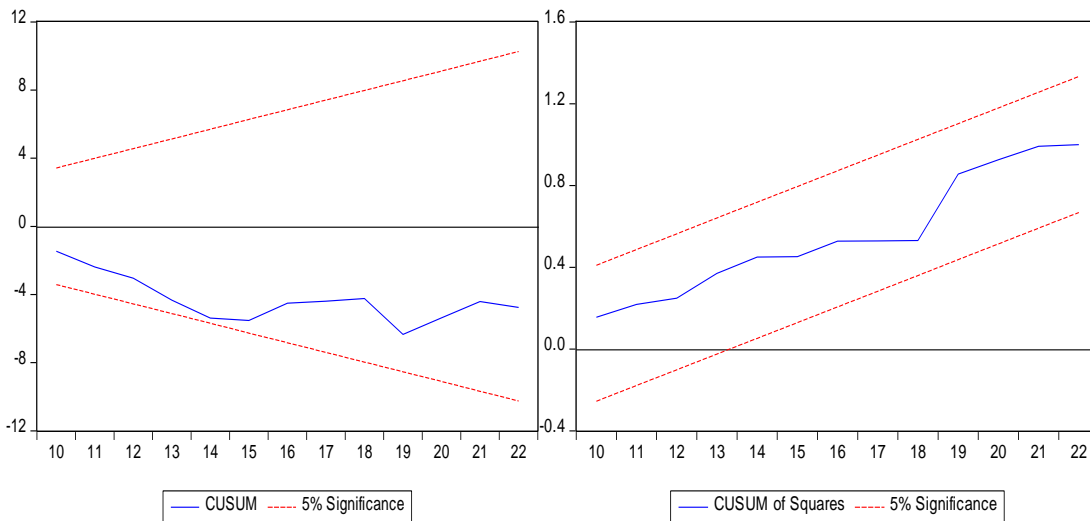
residual homoscedasticity, which implies a constant variability of the error across observations. Thirdly, as regards the normality of the residuals, the Jarque-Bera test gives a value of 5.263523, with a probability of 0.071952. Although the probability is slightly higher than the conventional threshold of 0.05, this indicates that the residuals follow a normal distribution. Overall, these results highlight the overall robustness of the model, with favourable indications of the absence of autocorrelation and the normal distribution of the residuals.



After the normality analysis, the Jarque-Bera statistic shows a value of 0.07, which exceeds the 5% threshold. This result indicates that the residuals follow a normal distribution. In other words, the probability associated with this statistic is greater than 5%, reinforcing the idea that the model residuals follow a normal distribution. This implies that the errors of the model are

uniformly distributed around the mean, reinforcing the validity of the results obtained in the analysis. This observation confirms the relevance of statistical modelling in describing the phenomenon under study and underlines the robustness of the methodological approach adopted.

Figure 1: CUSUM and CUSUMSQ tests of parameter stability



The assessment of the stability of the model parameters is based on the application of the cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares (CUSUMSQ) tests, according to the methodology proposed by Pesaran and Pesaran in 1997. These tests are designed to detect any systematic changes in the regression coefficients over time. More specifically, the CUSUM test identifies systematic variations in

these coefficients, while the CUSUMSQ test is dedicated to detecting abrupt changes in their constancy.

Figure 1 provides a visual representation of the results of these tests, offering a clear graphical representation of the CUSUM and CUSUMSQ statistics. Careful observation of these graphs shows that the statistics remain within the critical bands of the

5% confidence intervals, underlining the absence of instability in the coefficients over the sample period for Morocco.

These results suggest a remarkable stability of the model parameters, indicating that the regression coefficients remain relatively constant over time. In other words, no systematic or abrupt changes in these coefficients are observed, which reinforces the robustness of the model's estimates throughout the period studied in Morocco. This stability of the parameters is crucial to ensure the validity of the conclusions drawn from the analysis and reinforces the reliability of the forecasts and interpretations based on the model.

CONCLUSION

The study on the relationship between entrepreneurship and sustainable development in Morocco highlights the crucial importance of entrepreneurship in promoting balanced economic growth that respects the environment. The results suggest that the development of a dynamic entrepreneurial ecosystem focused on sustainability can have a significant positive impact on the economic, social and environmental aspects of the country. Entrepreneurship education, targeted financial support for sustainable start-ups, encouraging technological innovation and promoting corporate social responsibility have all been identified as levers to maximise the positive impact of entrepreneurship on sustainable development in Morocco. If implemented consistently, these recommendations could help strengthen the country's economic resilience while promoting more responsible management of natural resources. However, it is crucial to recognise that the implementation of these recommendations will require close cooperation between government, the private sector, educational institutions and civil society. A concerted effort by all these stakeholders is essential to overcome the challenges and fully exploit the opportunities associated with sustainable entrepreneurship.

Recommendations for maximising the impact of entrepreneurship on sustainable development in Morocco

In order to maximise the impact of entrepreneurship on sustainable development in Morocco, here are some recommendations that could be considered by policy makers, entrepreneurs and other stakeholders:

Promote entrepreneurship education: Integrate entrepreneurship education programmes into schools and universities to promote an entrepreneurial culture from an early age. Establish specific training courses on sustainable entrepreneurship, focusing on ethical and responsible business practices.

Support green start-ups: Establish specific financial and technical support programmes for sustainable development start-ups. Facilitate access to sustainable finance, such as social and environmental impact investments.

Facilitate access to finance: Establish mechanisms to facilitate entrepreneurs' access to affordable finance, in particular by

strengthening links with financial institutions. Encourage the development of investment funds focused on sustainable entrepreneurship.

Promoting technological innovation: Supporting research and development in areas related to sustainable development, such as renewable energy, waste management and energy efficiency. Building partnerships between businesses, universities and research centres to stimulate innovation.

Strengthen the entrepreneurial ecosystem: Create a favourable environment for entrepreneurship by simplifying administrative procedures, reducing bureaucratic obstacles and promoting transparency. Encourage the creation of clusters and incubators specialised in sustainable development.

Promote corporate social responsibility: Make companies aware of the importance of CSR and encourage them to integrate responsible practices into their operations. Introduce tax incentives for companies that adopt sustainable practices.

Strengthen Public-Private Partnerships: Facilitate collaboration between government, the private sector and civil society organisations to develop joint initiatives for sustainable development. Build partnerships to share resources and knowledge.

Promote social entrepreneurship: Support social entrepreneurs who develop innovative solutions to social and environmental problems. Create recognition and reward mechanisms for initiatives with high social impact.

Awareness raising and education: Conduct awareness campaigns to inform citizens and businesses about the benefits of sustainable entrepreneurship. Organise events and forums to share best practice and inspire new initiatives.

Evaluate and monitor progress: Establish regular evaluation mechanisms to measure the impact of entrepreneurship initiatives on sustainable development. Use these evaluations to adapt policies and programmes to changing needs.

Consistent application of these recommendations could help create an environment conducive to sustainable entrepreneurship in Morocco, thereby promoting more balanced economic development that respects the environment.

LIMITATIONS OF THE STUDY

Data limitations: The study may be limited by the availability and quality of data. Gaps in the available information may affect the accuracy of the results.

Econometric model: Econometric models are simplifications of reality and may not capture all the complex aspects of the relationship between entrepreneurship and sustainable development. Unmeasured variables may affect the results.

Changing economic context: Economic conditions may change over time, which could affect the validity of long-term conclusions. External factors such as economic crises or political changes may also play a role.

Generalisability: The results of the study are specific to the Moroccan context and may not be directly generalisable to other contexts. Specific cultural, economic and institutional nuances need to be taken into account.

Measuring sustainability: The definition and measurement of sustainability can vary. The study could focus on specific indicators, but it is important to recognise the diversity of dimensions of sustainability. Despite these limitations, this study provides a solid basis for understanding the relationship between entrepreneurship and sustainable development in Morocco. Future research could extend these findings and address some of the limitations identified.

REFERENCES

1. Barney J. Firm resources and sustained competitive advantage. *J Manag.* 1991;17(1):99–120.
2. Barney JB. Firm resources and sustained competitive advantage. *J Manag.* 1991;17(1):99-120.
3. Carroll AB. The pyramid of corporate social responsibility: toward the moral management of organizational stakeholders. *Bus Horiz.* 1991;34(4):39–48.
4. Casson M. *The entrepreneur: an economic theory.* Oxford: Martin Robertson; 1982.
5. Dees JG. The meaning of "social entrepreneurship." *Stanf Soc Innov Rev.* 1998.
6. Ellen MacArthur Foundation. *Towards the circular economy: economic and business rationale for an accelerated transition.* 2013.
7. Ellen MacArthur Foundation. *Towards the circular economy.* 2013.
8. Folke C, Carpenter S, Elmqvist T, Gunderson L, Holling CS, Walker B. Resilience and sustainable development: building adaptive capacity in a world of transformations. *AMBIO.* 2002;31(5):437-440.
9. Granovetter M. The strength of weak ties. *Am J Sociol.* 1973;78(6):1360-1380.
10. Meadows DH, Meadows DL, Randers J, Behrens WW. *The limits to growth.* Universe Books; 1972.
11. Mitchell RK, Smith B, Seawright KW, Morse EA. Cross-cultural cognitions and the venture creation decision. *Acad Manag J.* 2000;43(5):974-993.
12. Nahapiet J, Ghoshal S. Social capital, intellectual capital, and the organizational advantage. *Acad Manag Rev.* 1998;23(2):242-266.
13. Pfeffer J, Salancik GR. *The external control of organizations: a resource dependence perspective.* Stanford University Press; 1978.
14. Porter ME, Kramer MR. Creating shared value. *Harv Bus Rev.* 2011.
15. Putnam RD. Bowling alone: America's declining social capital. *J Democr.* 1995;6(1):65–78.
16. Sachs W. Planetary boundaries: exploring the safe operating space for humanity. *Ecosystems and human well-being: policy responses, volume 3.* 1999:309-344.
17. Schlosberg D. Reconciling environmental justice: global movements and political theories. *Environ Polit.* 2004;13(3):517-540.
18. Sen A. *Development as freedom.* Oxford University Press; 1999.
19. Shane S, Venkataraman S. The promise of entrepreneurship as a field of research. *Acad Manag Rev.* 2000;25(1):217-226.

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