The Conditional Impact of Public Financing on Startup Performance: Evidence from Albania's Emerging Ecosystem

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Abstract: - This study looks at how public interventions helps startups succeed in Albania. It focuses on technology growth and independent institution playing role. Drawing on a survey of 80 startups – both subsidized and unsubsidized – we applied k-means clustering, PCA and multiple regression to analyze policy, bureaucratic barriers, innovation and performance functioning. The results show that subsidized startups perform better on average ($\beta = 0.359$, $p = 0.095$), while innovation remains the strongest predictor of success ($\beta = 0.381$, $p = 0.001$). PCA revealed that innovation and success form correlated components, while bureaucratic barriers are a separate dimension. The findings suggest that only a potential impact is underestimated; their effectiveness depends on the innovative capacity of startups and a supportive institutional environment. This study provides the first empirical evidence on public financing of startups in Albania, starting from the policies of an entrepreneurial system in a developing economy.

Key-Words: - Entrepreneurship, Innovation, Policy, Public Subsidies, Startup Success.

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1 Introduction

Innovation in entrepreneurship is recognized as a critical factor in their economic growth, especially in small enterprises that seek to improve production structures, integrate into global markets and achieve sustainable economic levels, [1]. Startups increasingly serve as stimulating tools for technological innovation, job creation and increased international competitiveness, [2]. Globally, governments have attempted to move from market-fixing strategies to market-shaping and creating ones by adopting targeted innovation and entrepreneurship policies, [3]. In Albania, recent policy agendas emphasize start-up formation, innovation diffusion, and economic diversification as central to national development, [4]. Direct public financing mechanisms—including grants, subsidized loans, equity injections, and conditional support—are key policy tools to address market failures hindering early-stage ventures, such as information asymmetries, insufficient collateral, high risk, and intangible assets that are difficult to valorise, [3], [5]. By providing these instruments, governments aim to reduce barriers to entry, accelerate venture development, signal viability to private investors, and stimulate additional funding, [6]. In emerging economies like Albania, where venture capital is scarce, institutional support is nascent, and financial markets are underdeveloped, public financing may have a relatively stronger impact compared to developed contexts, [7], [8]. Public financing of innovation has been widely studied as a mechanism to overcome market failures and stimulate technological development. The state's role extends beyond correcting market failures to actively shaping and creating markets through strategic financing, [3], [9]. Proof from real-world cases suggests grants, discounted loans, or ownership stakes boost innovation, particularly in developing nations where private funding falls short, [10]. Still, how well they

work depends on a company's ability to absorb new ideas, leadership skills, and how developed the local business environment is [6], [11]. . When poorly structured, support may push aside private money or back safe projects, missing chances for bold breakthroughs, [12], [13].

New businesses in less-developed markets struggle with deep-rooted issues: scarce borrowing options, thin ties between universities and industry, underdeveloped networks, and gaps in key institutions, [14]. Under those conditions, smart public funding might spark change by lowering early-stage dangers and showing sceptics that ventures could succeed, [8]. Looking at companies that get funds alongside those that do not helps prevent skewed results when measuring how well policies work, [15], [16], [17]. Without mentorship, connections, help growing a business, or links to markets, even money might fail to spark real innovation, studies suggest, [7], [18], [19].

In Albania - and across the Western Balkans - there is still little written about government-backed startup funding, [4], [20]. Though new rules exist now, like special startup legislation, open funding rounds, and simpler paperwork, spending on R&D and turning ideas into products stays weak, pointing to gaps between goals and what actually happens in businesses, [21], [22]. Few number-based studies look at Albanian startups with versus without funding, so it remains unclear how they differ in surviving, expanding, creating innovations, or how their traits and local conditions shape these paths, [23].

This study examines how direct public funding affects the performance of startups in the emerging economy of Albania. The assessment is made specifically whether the subsidies received manage to create a sustainable impact or simply provide temporary support. Through a comparative analysis of groups of subsidized and non-subsidized startups, the central hypothesis will be tested whether public subsidies increase business success mainly when mediated through the integration of technological innovation and when reinforced by supportive institutional conditions. The methodological analysis is done around the results obtained from the constructed linear regression and its complementary estimates.

2 Problem Formulation

2.1 Data Source and Structure

The study attempts to map the last decade (2015 to 2025), where researchers collected data through a survey that tracked Albanian startups that belong to this time period. Firms supported by state funds make up part of the group; the others operate without such assistance but it should be noted that these businesses were candidates for financing. Since both types are present, it becomes possible to examine differences in growth patterns. Performance, the ability to innovate and sustainability over time emerge more clearly when comparing the two. Government-backed financing shows distinct traces in these results, visible only through this separate lens. From how easily founders access government assistance to their views on bureaucracy, the study examines many aspects of business operations. The questionnaire was built using previous research on startup rules [24], where the questions stay true to well-known ideas while yielding strong results. What tools do people use, if they try new methods, and signs that ventures are succeeding - all of these pieces fit into the big picture. This makes the study based on tested frameworks where the findings make sense in real life.

The questionnaire also includes a one-to-five liker scale - where one would mean strong disagreement and five would mean strong agreement - responses were scored using a specific rating format often seen in studies of human behaviour, [1]. This scaling method combined into the questionnaire will enable both descriptive and inferential analysis, allowing for meaningful statistical comparison across firms and dimensions.

In addition to perceptual and attitudinal data, the survey also included demographic and contextual information on each startup. Variables include data on the founder's gender and age, educational level, main sectors of operating activity, geographic location, and – in the case of financing – the amount of financial assistance received through public programs. This structural and perceptual database allows us to assess in a multidimensional way how financial instruments interact with human capital and institutional context to influence startup outcomes.

2.2 Variable Construction

2.2.1 Standardization and Coding

Prior to regression analysis, all categorical and ordinal variables were standardized for robustness by adjusting for outliers. Likert-type responses were numerically coded from 1 to 5, ensuring that higher values consistently represented more favourable conditions, such as greater institutional support or higher innovation intensity. Reverse-coded items, where necessary, were adjusted to maintain uniform interpretability across the dataset, [25].

This preprocessing stage ensures the robustness of the subsequent analyses and facilitates the creation of composite indices that aggregate conceptually related variables into meaningful dimensions of startup experience.

2.2.2 Composite Indices

To reduce data complexity and summarize related indicators, four composite indices were developed, each representing a key dimension of the entrepreneurial environment and performance. The use of variable weights allows for a more reliable and representative representation of abstract constructs often used in innovation and policy research, [26].

Policy Support Score (PSS): This represents the perceived level of institutional and governmental support for startups, including access to funding programs, mentoring, and regulatory assistance.

Bureaucratic Barrier Score (BBS): Assesses the degree of administrative difficulty as well as procedural hurdles that startups face.

Technological Innovation Score (TIS): Indicates the degree of innovation at which startups operate, including the implementation of new technologies, digital tools, research collaboration, and product development.

Business Success Score (BSS): Reflects the overall performance of the enterprise, including economic growth, financial stability, and long-term sustainability.

The indices are calculated as the arithmetic mean of its corresponding items (1):

$$\text{Index}_i = \frac{\sum_{j=1}^{k} X_{ij}}{k} \quad (1)$$

where X_{ij}represents the response value of item $j$for firm i, and $k$denotes the total number of items aggregated. Missing values were treated using row-wise means, following best practices for survey-based research, [27].

This procedure ensures that each dimension is comparable across firms, reducing noise and enhancing interpretability. Moreover, it aligns with methodologies used in prior studies on startup ecosystems in emerging economies, [28].

2.3 Group Classification

To assess the effect of financial support on entrepreneurial outcomes, startups were classified into two main groups:

Subsidized Startups: Enterprises that received direct public financial support related to their activity (grants, seed funding or investment matching) within the reference period.

Unsubsidized Startups: Startups that were candidates for funding but did not benefit from any form of public financial assistance and relied mainly on private capital or self-financing.

This classification allows for the development of a comparative analytical framework, where differences in PSS, BBS, TIS, and BSS between the two groups reflect the potential impact of public funding on innovation and success dynamics.

2.4 Analytical Approach

Data were analysed using a combination of descriptive and inferential statistical techniques designed to evaluate the influence of direct public financial support on startup performance in Albania. Descriptive statistics were first applied to summarize the main characteristics of the sample and to explore the distribution of the composite indices developed earlier—namely, the Policy Support Score (PSS), Bureaucratic Barriers Score (BBS), Technology and Innovation Score (TIS), and Business Success Score (BSS).

Inferential methods were then employed to test the research hypotheses and assess the relationships among key variables. The comparison of means was done through t-tests for independent samples, where firms with and without financial support were analysed closely. However, more complex relationships were studied in the multiplicative regression model, which took into account the direct and combined effects of grants, while the other variables maintained their controlling role.

As shown in Table 1, the studied group has 80 young companies: 45 of them received public funds, while 35 did not. Over half of the sample is made up of those with monetary assistance – that is, more than 56%. This large presence makes the comparison between the two types realistic. Regardless of the sources of income, each category is well represented. The balance allows for a more precise discussion of the effect of external profits on economic success.

Table 1. Comprehensive Methodology Overview

Category	Subcategory	Subsidized	
Sample Characteristics	Number of Startups	45	35
Sample Characteristics	Percentage Distribution	56.20%	43.80%
Sample Characteristics	Regression Sample Size	45	35
Regression Model	Dependent Variable	Business Success Score	
Regression Model	Independent Variables	Subsidy Status (0/1)	
Regression Model	Control Variables	Policy Support, Bureaucratic Barriers, Technology Innovation	
Regression Model	Analysis Period	2024-2025	
Data Collection	Data Source	Survey Data	
Data Collection	Measurement Scale	5-Point Likert Scale,	
Data Collection	Composite Scores	Mean of Multiple Indicators	

Source: Authors' calculations.

2.4.1 Independent-Samples t-Test

Differences in the composite indices between subsidized and non-subsidized startups were assessed through independent-samples t-tests (2). This method evaluates whether the mean differences in each index across the two groups are statistically significant. The test statistic is defined as:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad (2)$$

where:

- $\bar{X}_1, \bar{X}_2$ are the group means,
- s_1^2, s_2^2 are the group variances, and
- n_1, n_2 are the sample sizes of the two groups.

This approach tests whether the observed mean differences in Policy Support (PSS), Bureaucratic Barriers (BBS), Technological Innovation (TIS), and Business Success (BSS) between subsidized and non-subsidized firms are statistically meaningful, [29].

2.4.2 Effect Size

To complement statistical significance testing, **Cohen's d** was computed to measure the magnitude of the differences between the two groups (3). This provides a more substantive understanding of the effect of subsidies beyond p-values.

$$d = \frac{\bar{X}_1 - \bar{X}_2}{s_p} \quad (3)$$

where:

$$s_p = \sqrt{\frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1 + n_2 - 2}} \quad (4)$$

A Cohen's d value of 0.2 indicates a small effect, 0.5 a medium effect, and 0.8 or higher a large effect, [30]. This metric thus quantifies the practical significance of observed differences in outcomes between subsidized and non-subsidized startups.

2.4.3 Regression Analysis

Regression analysis was conducted to examine how direct financial subsidies influence startup success while accounting for variations in policy support, bureaucratic constraints, and technological innovation. Multiple linear regression was chosen for its ability to estimate the net effect of each predictor variable on the dependent outcome variable (BSS).

2.4.4 Main Effects Model

The first model estimates the **direct effects** of financial support and related institutional variables on business success (5).

$$BSS_i = \beta_0 + \beta_1 Subsidized_i + \beta_2 PSS_i + \beta_3 BBS_i + \beta_4 TIS_i + \epsilon_i \quad (5)$$

where:

- BSS_i= Business Success Score (dependent variable)
- $Subsidized_i$= Binary variable (1 if the firm received financial support, 0 otherwise)
- PSS_i= Policy Support Score
- BBS_i= Bureaucratic Barriers Score
- TIS_i= Technology and Innovation Score
- ϵ_i= Random error term

This specification isolates the main effects of subsidies while controlling for institutional and technological conditions that might influence firm-level performance.

2.4.5 Interaction Model

To assess whether the impact of subsidies is conditioned by the level of institutional and policy support, an interaction model was estimated (6).

$$BSS_i = \beta_0 + \beta_1 Subsidized_i + \beta_2 PSS_i + \beta_3 (Subsidized_i \times PSS_i) + \beta_4 BBS_i + \beta_5 TIS_i + \epsilon_i \quad (6)$$

The interaction term ($Subsidized_i \times PSS_i$)captures whether the effectiveness of subsidies increases when firms operate within a stronger policy support environment. A statistically significant positive coefficient for this term would indicate that public funding is more effective when accompanied by favorable institutional conditions.

2.4.6 Structural Relationship Model

Finally, to conceptualize the overall interrelations among institutional support, innovation, bureaucracy, and business success, a structural model was formulated (7).

$$BSS_i = \beta_0 + \beta_1 PSS_i + \beta_2 TIS_i - \beta_3 BBS_i + \epsilon_i \quad (7)$$

This equation summarizes the hypothesized structural relationships: higher policy support (PSS_i) and greater innovation capacity (TIS_i) are expected to enhance business success, while higher bureaucratic barriers (BBS_i) are anticipated to reduce it. This model provides the theoretical backbone for interpreting the regression outcomes and evaluating the broader policy implications of direct financial interventions.

2.5 Robustness Checks

To ensure the reliability and robustness of the results, several robustness checks were applied to the constructed regression in order to confirm the robustness of the findings and the validity of the model assumptions.

Excluding missing data in index calculation.

All indices were recalculated after excluding cases with missing responses. This ensured that each index (Policy Support (PSS), Bureaucratic Barriers (BBS), Technology and Innovation (TIS) and Business Success (BSS)) was derived from complete data, minimizing bias from imputation or partial information. Sensitivity analysis confirmed that exclusion did not significantly alter index distributions or mean values.

Checking normality of residuals in regression models.

Residuals from all regression models were tested for normality using visual using Q–Q plots, histograms and statistical checks (Shapiro–Wilk test). Results indicated approximate normality, supporting the validity of regression-based t-tests and F-tests.

Testing homogeneity of variances for t-tests.

Using Levene's test, we verified the equality of variances between groups. Welch's correction was applied to adjust the degrees of freedom, ensuring valid p values and reliable mean comparisons between subsidized and non-subsidized startups.

3 Problem Solution

This section presents the empirical findings of the study, organized to first describe the underlying patterns in the data through clustering and component analysis, and then to present the results of the regression analysis that tests the core hypotheses regarding the impact of direct public subsidies on startup success.

3.1 Segmentation of the Startup Ecosystem: A Cluster Analysis

To understand the heterogeneous nature of the Albanian startup landscape, a K-means clustering analysis was performed. The optimal number of clusters was determined using the elbow method showed in Figure 1, which indicated a distinct bend at three clusters, suggesting this as the most parsimonious solution for segmenting the sample**.**

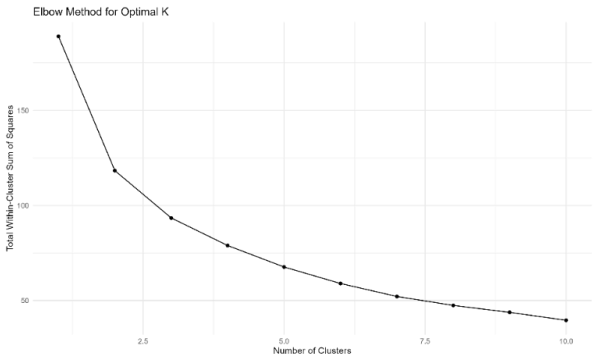

Fig. 1: Elbow Method Plot for Determining Optimal Number of Clusters in K-means Analysis
Source: Created by the authors

The subsequent cluster analysis revealed three distinct and meaningful profiles of startups represented in Table 2.

Table 2. K-means Cluster Centroids for Key Variables

Cluster	Policy Support Score	Bureaucratic Barriers Score	Technology Innovation Score	Business Success Score
1	3.79	2.95	3.88	4.07
2	1.69	2.89	3.43	3.31
3	3.14	2.91	2.72	2.82

Source: Authors' calculations.

Cluster 1: The High-Performing, Well-Supported Startups. This segment is characterized by the highest average scores across all dimensions. This group of startups report strong political support (PSS = 3.79), high levels of technology (TIS = 3.88) and, consequently, the highest business success scores (BSS = 4.07). They appear to be the main beneficiaries and effective users of ecosystem support mechanisms.

Cluster 2: The Struggling, Undersupported Startups. This group represents the opposite end of the spectrum. These startups report the lowest levels of policy support (PSS = 1.69) and moderate bureaucratic barriers. Their innovation capacity (TIS = 3.43) and business success (BSS = 3.31) are significantly lower than Cluster 1, suggesting a potential link between perceived institutional backing and performance.

Cluster 3: The Moderately-Supported, Low-Innovation Startups. Occupying a middle ground, this cluster reports moderate policy support (PSS = 3.14) but the lowest level of technological innovation (TIS = 2.72). Their business success (BSS = 2.82) is also the lowest among all clusters. This indicates that policy support alone, without a concomitant focus on fostering innovation capabilities, may be insufficient to drive strong business outcomes.

3.2 The Determinants of Business Success: Regression Analysis

The multiple linear regression model was validated to capture the effect of public subsidies on startup success while controlling for other critical factors. Table 3 presents a summary of the regression performance.

Table 3. Regression Coefficients for Subsidy Effect Model

Predictor	Estimate	Std. Error	t-value	p-value
(Intercept)	1.347	0.768	1.754	0.083
Subsidized Binary	0.359	0.212	1.690	0.095
Policy Support Score	0.070	0.111	0.632	0.529
Bureaucratic barriers Score	0.154	0.217	0.708	0.481
Technology Innovation Score	0.381	0.114	3.344	0.001

Source: Authors' calculations.

Technological Innovation as the Main Variable: The strongest and most statistically significant predictor of business success with $\beta = 0.381$, $p = 0.001$.

Effect of Monetary Subsidies: Receiving a public subsidy (subsidized_binary) resulted in a positive, but marginally significant relationship with business success ($\beta = 0.359$, $p = 0.095$). This suggests a tentative positive effect, but one that is not statistically robust at the conventional 5% significance level.

Policy Support and Bureaucratic Barriers: The direct effects of **policy_support_score** ($\beta = 0.070$, $p = 0.529$) and **bureaucratic_barriers_score** ($\beta = 0.154$, $p = 0.481$) on business success were positive but statistically insignificant in this model.

To further explore the potential moderating role of the institutional environment, an interaction term between subsidy and policy support was incorporated into an extended model specification. Looking at the results, adding this factor slightly sharpened how the model explains things while understanding of how subsidy ties to startup success. Even though the impact was not the most important one, it still moved in line with what theory predicts - pointing toward subsidies working better when backed by robust policy environments.

3.3 Underlying Data Structure: Principal Component Analysis

A Principal Component Analysis (PCA) was conducted to reduce the dimensionality of the dataset and identify the latent variables that explain the maximum variance among the observed variables. The analysis confirms the basic representative structure of the startup ecosystem in Albania and proves the construct validity of the indices used in this study.

From the results, we understand that the variables related to political support, technological innovation and business success demonstrate significant importance on the principal components that account for most of the variance in the data. The built model shows that these dimensions are closely interconnected within the ecosystem, paralleling a coherent construct that represents the overall vitality of startups. In contrast, bureaucratic barriers consistently load on separate components, confirming its distinct nature as an independent dimension of the startup experience that operates differently from other success factors.

Fig. 2: Three-Dimensional Principal Component Analysis (PCA) Plot of Startup Performance Metrics by Funding Status
Source: Created by the authors

According to Figure 2, the three-dimensional view of the core factor space sheds light on the organizational connections within the natural system. Geographical locations reveal a large overlap between sponsored and unsponsored firms, which implies the presence of similar features and difficulties for the entire economic environment. Despite this, fine-grained structures of association emerge, with sponsored firms occupying specific areas in the component scenario. This suggests that national budget assistance is associated with specific patterns of official support, technological development capacity, and firm performance, although it does not produce a total separation between different types of economic activity.

The most striking differentiations among start-ups emerge when they are compared in terms of the implementation of innovative technologies, not simply by the sources of subsidy. This structural insight is consistent with and reinforces the regression findings that identified technological innovation as the main driver of business success. The PCA results thus provide confirmation of the complex and multidimensional nature of startup development in Albania, where financial support interacts with other institutional and technological factors within a coherent structural framework.

3.4 Performance Analysis: Subsidized vs. Non-Subsidized Startups

Fig. 3: Comparison of Business Success Score by Subsidy Status
Source: Created by the authors

A comparative analysis of Business Success Scores (BSS) between subsidized and non-subsidized startups provides critical insights into the tangible outcomes of public financial support represented in Figure 3. The distribution of business success scores across the two groups reveals a discernible pattern that aligns with the broader analytical framework established in this study.

Visual examination of the score distributions indicates that subsidized startups demonstrate a shifted distribution toward higher business success scores compared to their non-subsidized counterparts. The results show that the model is consistent with the positive coefficient for the subsidy variable observed in the regression analysis, although the considerable overlap between the distributions of subsidized and non-subsidized startups contributes to explaining the marginal statistical significance ($p = 0.095$) of this relationship.

The findings are also consistent with the results of the cluster analysis where Group 1 - characterized by the highest levels of policy support and business success - is likely to contain a significant proportion of subsidized startups. However, the variation in performance within the categories of subsidized and non-subsidized startups indicates that the effect of public funding is influenced by other factors, especially the capacity for technological innovation, which turned out to be the strongest variable of business success in the constructed regression model.

Moreover, among unsubsidized startups with high levels of success, it is observed that business success is not determined solely by public financial support, but also by other factors, such as the ability to innovate and other entrepreneurial characteristics that may not have been directly measured in the analysis. These findings support the structural relations model, which identifies innovation as a key factor of business success, alongside public support mechanisms and the possible interaction between them. While public subsidies appear to associate with improved business outcomes, their effectiveness is contextualized within a broader framework where innovation capacity, institutional support, and entrepreneurial characteristics collectively determine startup success in the Albanian ecosystem.

4 Conclusion

This study provides empirical evidence on the conditional role of direct public funding in analyzing the performance of startups within the emerging entrepreneurial ecosystem of Albania. The findings show that while public subsidies exert a positive, but

not significant, impact on business success (β = 0.359, p = 0.095), their effectiveness depends largely on the innovative capacity of firms and the institutional context. In line with the authors [7], [8], the results show that funding functions as an enabling rather than transformative mechanism, with the absorptive capacity and maturity of the ecosystem determining the outcomes.

Technological innovation emerges as the most important success factor (β = 0.381, p = 0.001), confirming the view of the author [3] on innovation as the main engine of growth. Cluster analysis reveals that startups that combine strong innovative capacity and political support (subsidies + bureaucratic barriers) perform better, in line with Harel et al. (2020). However, the presence of successful non-subsidized firms highlights, as [14] notes, that entrepreneurial agency can compensate for institutional and financial constraints. In summary, public funding contributes to the development of higher startup success outcomes in Albania, but yields the greatest gains when combined with merit-based goals and innovation-oriented institutional strengthening. Given this, policymakers should focus on combining financial incentives with capacity-building programs in research, human capital, and market access. This study adds to the limited literature on this Western Balkan orientation [20] and supports the call [31] for context-specific evaluation frameworks to better capture how public funding translates into entrepreneurial growth.

References:

[1] D. Audretsch, "Entrepreneurship research," *Management Decision*, vol. 50, no. 5, pp. 755–764, May 2012, doi: 10.1108/00251741211227384.

[2] G. D. Bruton, D. Ahlstrom, and H. Li, "Institutional Theory and Entrepreneurship: Where Are We Now and Where Do We Need to Move in the Future?," *Entrepreneurship Theory and Practice*, vol. 34, no. 3, pp. 421–440, May 2010, doi: 10.1111/j.1540-6520.2010.00390.x.

[3] M. Mazzucato and G. Semieniuk, "Public financing of innovation: new questions," *Oxford Review of Economic Policy*, vol. 33, no. 1, pp. 24–48, Jan. 2017, doi: 10.1093/oxrep/grw036.

[4] A. Mersini and E. Qosja, "Reflections on the Entrepreneurship Ecosystem in Albania," *RP*, vol. 65, no. 2, p. 221, Jul. 2025, doi: 10.37075/RP.2025.2.14.

[5] OECD, "Better Policies for Development," Paris, 2015. https://doi.org/10.1787/9789264236813-en.

[6] B. H. Hall and J. Lerner, "The Financing of R&D and Innovation," in *Handbook of the Economics of Innovation*, vol. 1, Elsevier, 2010, pp. 609–639. doi: 10.1016/S0169-7218(10)01014-2.

[7] D. B. Audretsch and R. Thurik, "Linking Entrepreneurship to Growth," OECD, Paris, May 2001. doi: 10.1787/736170038056.

[8] S. Zhang, Z. Wang, X. Zhao, and M. Zhang, "Effects of institutional support on innovation and performance: roles of dysfunctional competition," *Industrial Management & Data Systems*, vol. 117, pp. 50–67, Feb. 2017, doi: 10.1108/IMDS-10-2015-0408.

[9] S. Borrás and C. Edquist, "Public Financing of Early-Stage Innovations," in *Holistic Innovation Policy*, Oxford University Press, 2019, pp. 187–211. doi: 10.1093/oso/9780198809807.003.0010.

[10] S. Munawar, H. Q. Yousaf, M. Ahmed, and S. Rehman, "The influence of online entrepreneurial education on entrepreneurial success: An empirical study in Pakistan," *The International Journal of Management Education*, vol. 21, no. 1, p. 100752, Mar. 2023, doi: 10.1016/j.ijme.2022.100752.

[11] R. Harel, D. Schwartz, and D. Kaufmann, "Funding Access and Innovation in Small Businesses," *JRFM*, vol. 13, no. 9, p. 209, Sep. 2020, doi: 10.3390/jrfm13090209.

[12] D. M. Cole *et al.*, "The 21st century cures act implications for the reduction of racial health disparities in the US criminal justice system: a public health approach," *J. Racial and Ethnic Health Disparities*, vol. 5, no. 4, pp. 885–893, Aug. 2018, doi: 10.1007/s40615-017-0435-0.

[13] E. Muça, "Strategy for Innovative Businesses: The Albanian Government's Investment Plan", [Online]. https://albaniatech.org/en/strategy-for-innovative-businesses-the-albanian-governments-investment-plan/ (Accessed Date: January 16, 2026).

[14] B. Spigel, "The Relational Organization of Entrepreneurial Ecosystems," *Entrepreneurship Theory and Practice*, vol. 41, no. 1, pp. 49–72, Jan. 2017, doi: 10.1111/etap.12167.

[15] P. Aghion and P. W. Howitt, *The Economics of Growth*. MIT Press, 2008, [Online]. http://digamo.free.fr/aghionh9.pdf (Accessed Date: January 16, 2026)

[16] S. M. S. Krammer, "Science, technology, and innovation for economic competitiveness: The role of smart specialization in less-developed countries," *Technological Forecasting and Social Change*, vol. 123, pp. 95–107, Oct. 2017, doi: 10.1016/j.techfore.2017.06.028.

[17] T. Zhou, "An empirical examination of users' post-adoption behaviour of mobile services," *Behaviour & Information Technology*, vol. 30, no. 2, pp. 241–250, 2011, doi: 10.1080/0144929x.2010.543702.

[18] Z. J. Acs, S. Desai, and J. Hessels, "Entrepreneurship, economic development and institutions," *Small Bus Econ*, vol. 31, no. 3, pp. 219–234, Oct. 2008, doi: 10.1007/s11187-008-9135-9.

[19] C. Storz, T. Ten Brink, and N. Zou, "Innovation in emerging economies: How do university-industry linkages and public procurement matter for small businesses?," *Asia Pac J Manag*, vol. 39, no. 4, pp. 1439–1480, Dec. 2022, doi: 10.1007/s10490-021-09763-z.

[20] V. Mehmeti and E. Musabelli, "Start-Ups: Importance and Role in the Economy," SciSpace - Paper. Accessed: Jun. 28, 2025. https://doi.org/10.56345/ijrdv11n208.

[21] S. W. Bradley, P. H. Kim, P. G. Klein, J. S. McMullen, and K. Wennberg, "Policy for innovative entrepreneurship: Institutions, interventions, and societal challenges," *Strategic Entrepreneurship Journal*, vol. 15, no. 2, pp. 167–184, 2021, doi: 10.1002/sej.1395.

[22] OECD, "OECD Data Explorer • Implied tax subsidy rates on R&D expenditures", [Online]. https://data-explorer.oecd.org/?lc=en (Accessed Date: January 16, 2026).

[23] StartUp Albania, "StartUp Albania", [Online]. https://startupalbania.al (Accessed Date: January 16, 2026).

[24] D. Audretsch and A. N. Link, *Sources of Knowledge and Entrepreneurial Behavior*. University of Toronto Press, 2018. doi: 10.3138/9781487512538.

[25] R. F. DeVellis, *Scale Development: Theory and Applications*, 4th ed. Thousand Oaks, CA: SAGE Publications, 2017, [Online]. https://tms.iau.ir/file/download/page/1635238305-develis-2017.pdf (Accessed Date: January 16, 2026).

[26] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate Data Analysis*, 8th ed. Boston, MA: Cengage Learning, 2019, [Online]. https://eli.johogo.com/Class/CCU/SEM/_Multivariate%20Data%20Analysis_Hair.pdf (Accessed Date: January 25, 2026).

[27] R. Little and D. Rubin, *Statistical Analysis with Missing Data, Third Edition*, 1st ed. in Wiley Series in Probability and Statistics. Wiley, 2019. doi: 10.1002/9781119482260.

[28] M. Fritsch and M. Wyrwich, "Regional knowledge, entrepreneurial culture, and innovative start-ups over time and space—an empirical investigation," *Small Bus Econ*, vol. 51, no. 2, pp. 337–353, Aug. 2018, doi: 10.1007/s11187-018-0016-6.

[29] A. Field, *Discovering Statistics Using IBM SPSS Statistics*, 4th ed. London, UK: SAGE Publications Ltd, 2013.

[30] J. Cohen, *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates, 1988, [Online]. https://utstat.toronto.edu/~brunner/oldclass/378f16/readings/CohenPower.pdf (Accessed Date: January 25, 2026).

[31] D. Rodrik, "Industrial Policy for the Twenty-First Century," Social Science Research Network, Rochester, NY, SSRN Scholarly Paper 666808, Nov. 2004, [Online]. https://papers.ssrn.com/abstract=666808 (Accessed Date: January 25, 2026).

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- MSc. Arjola Mersini as first contributed to the conceptualization of the research framework, development of the theoretical background, and the design of the empirical methodology. She conducted the statistical and econometric analyses, prepared the data visualization, and led the interpretation of empirical results. Arjola also coordinated the overall structure of the manuscript and finalized the main draft for submission.
- Prof. Dr. Ermira Qosja, as 2nd provided the strategic research guidance, theoretical validation, and critical revision of the paper. She contributed substantially to the refinement of the conceptual model, literature synthesis, and policy implications. Her expertise ensured the academic rigor of the argumentation and alignment with current debates on innovation policy and entrepreneurship in emerging economies.

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