The Impact of Institutional Quality on Entrepreneurship Rate: Implications from World Economies

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Prolegomena

Entrepreneurship is widely recognized as a fundamental driver of economic growth, innovation, and social development, and it has garnered increasing attention in economic literature over recent decades. However, the relationship between entrepreneurial activity and economic policy variables—such as taxation, fiscal health, labor freedom, and financial freedom—remains complex and contested, particularly across diverse institutional and economic contexts. This study aims to explore the multifaceted dimensions of this relationship by critically analyzing conventional assumptions that broadly characterize taxation and regulatory constraints as impediments to entrepreneurship. It further seeks to provide a nuanced understanding of how these variables interact with governance quality, institutional trust, and economic structures, ultimately contributing to the formulation of balanced and effective policies

that support entrepreneurial ecosystems while ensuring fiscal sustainability.

المقدمه

تُعد ريادة الأعمال من المحركات الأساسية للنمو الاقتصادي وتعزيز الابتكار وتطوير المجتمعات، وقد حظيت باهتمام متزايد في الأدبيات الاقتصادية خلال العقود الأخيرة. إلا أن العلاقة بين النشاط الريادي ومتغيرات السياسات الاقتصادية، مثل الضرائب والصحة المالية وحرية العمل والحرية المالية، لا تزال تثير الكثير من التساؤلات والنقاشات، خصوصًا في ظل اختلاف السياقات المؤسسية والاقتصادية بين الدول. وفي هذا الإطار، يسعى هذا البحث إلى استكشاف الأبعاد المختلفة لهذه العلاقة، من خلال تحليل نقدي للفرضيات التقليدية التي تفترض بشكل عام أن الضرائب والقيود التنظيمية تُعيق ريادة الأعمال. وتهدف الدراسة إلى تقديم فهم معمق لكيفية تفاعل هذه المتغيرات مع جودة الحوكمة والثقة المؤسسية والبنية الاقتصادية، بما يساهم في صياغة سياسات أكثر توازنًا وفعالية في دعم النظم الريادية وتحقيق الاستدامة المالية

Abstract

This study explores the multifaceted relationship between economic policy variables specifically taxation, fiscal health, labor freedom, and financial freedom and entrepreneurial activity within diverse institutional and economic contexts. Drawing upon an interdisciplinary synthesis of empirical findings and theoretical frameworks, the research critically reevaluates conventional assumptions that portray taxation and regulatory constraints as uniformly detrimental to entrepreneurship. The analysis reveals that the impact of these factors is highly contingent upon the quality of governance, institutional trust, and

the broader fiscal and regulatory architecture. Key findings highlight that high tax rates may not inherently suppress entrepreneurship if mediated by effective public service provision, policy stability, and anticorruption mechanisms. Moreover, the study emphasizes the significance of fiscal health and capital endowments financial, social, and human as critical determinants of entrepreneurial success, particularly in emerging sectors and economies. Labor freedom is shown to influence both opportunity and necessity driven entrepreneurship, while also functioning as a mechanism for mitigating structural unemployment. Financial freedom emerges as a crucial enabler of entrepreneurial entry, though its effects vary across regulatory, expenditure, and taxation dimensions. The research advances a context-sensitive framework that underscores the conditional and interactive nature of economic freedom and entrepreneurship. It concludes by recommending nuanced policy strategies that promote entrepreneurial ecosystems while ensuring fiscal sustainability and institutional resilience. These insights offer important implications for scholars and policymakers seeking to enhance entrepreneurship led economic development through informed and balanced economic governance.

Keywords: Entrepreneurship, Economic Policy, Taxation, Fiscal Health, Labor and Financial Freedom, Institutional Quality, Governance.

الملخص

تستكشف هذه الدراسة العلاقة المتعددة الأبعاد بين متغيرات السياسات الاقتصادية، وتحديدًا الضرائب، والصحة المالية

وحرية العمل، والحرية المالية، والنشاط الريادي ضمن سياقات مؤسسية واقتصادية متنوعة. ومن خلال توليفة متعددة التخصصات تجمع بين النتائج التجريبية والأطر النظرية، تعيد الدراسة تقييم الافتراضات التقليدية التي تُصوّر الضرائب والقيود التنظيمية على أنها ضارة بريادة الأعمال بشكل موحّد.

تكشف التحليلات أن تأثير هذه العوامل يعتمد بدرجة كبيرة على جودة الحوكمة، والثقة في المؤسسات، والبنية المالية والتنظيمية الأوسع. وتشير النتائج الرئيسية إلى أن ارتفاع معدلات الضرائب لا يؤدي بالضرورة إلى قمع ريادة الأعمال، إذا ما تم تعويضه من خلال توفير خدمات عامة فعالة، واستقرار السياسات، وآليات مكافحة الفساد.

كما تؤكد الدراسة على أهمية الصحة المالية والموارد الرأسمالية – المالية والاجتماعية والبشرية – بوصفها محددات حاسمة لنجاح ريادة الأعمال، لا سيما في القطاعات والأسواق الناشئة. وتُظهر حرية العمل تأثيرًا على ريادة الأعمال المدفوعة بالفرص أو الضرورة، كما تعمل كآلية للتخفيف من البطالة الهيكلية.

وتبرز الحرية المالية كعامل تمكيني أساسي للدخول في مجال ريادة الأعمال، رغم أن آثارها تختلف عبر أبعاد التنظيم والإنفاق والضرائب. وتقدم الدراسة إطارًا حساسًا للسياق يسلّط الضوء على الطبيعة الشرطية والتفاعلية للحرية الاقتصادية وريادة الأعمال.

وتختتم الدراسة بتوصيات لسياسات دقيقة تدعم النظم البيئية الريادية، مع الحفاظ على الاستدامة المالية والمرونة المؤسسية. وتوفّر هذه النتائج رؤى مهمة للباحثين وصنّاع السياسات الساعين إلى تعزيز التنمية الاقتصادية من خلال ريادة الأعمال المدفوعة بحوكمة اقتصادية متوازنة ومستنيرة.

الكلمات المفتاحية: ريادة الأعمال /السياسات الاقتصادية/ الضرائب /الصحة المالية/ حرية العمل والحرية المالية/ جودة المؤسسات/ الحوكمة

Chapter one
Introduction

1.1 Overview

For over a century, economic freedom has been a central theme shaping the development trajectories of countries across the globe. This concept rooted in private property rights, free markets, voluntary exchange, and individual liberties forms the foundation of many modern economies and significantly influences global economic outcomes.

At the heart of economic freedom are universal principles: personal choice, market competition, and the protection of property and individual rights. These principles are essential in enabling individuals worldwide to pursue opportunities, innovate, and participate actively in their economies. Across diverse regions from highly developed economies to emerging markets economic freedom fosters self-determination and prosperity by allowing uninhibited economic activity. Countries that prioritize economic freedom typically establish strong legal frameworks to protect property rights, enforce contracts, and provide regulatory stability. This institutional environment nurtures trust and incentivizes both domestic and international investment. As a result, nations with higher economic freedom tend to enjoy stronger economic performance, characterized by

higher income levels, lower unemployment, and more rapid growth.

Globally, countries such as Singapore, New Zealand, Switzerland, and several Nordic nations exemplify the benefits of high economic freedom. These countries consistently rank highly on indices measuring economic openness and institutional quality, which correlates with innovation, entrepreneurial vitality, and elevated living standards. Their open markets and robust protections enable entrepreneurs to flourish, fueling economic dynamism and adaptation in a competitive global landscape.

Conversely, countries with limited economic freedom often characterized by heavy regulation, weak property rights, and political interference frequently face challenges such as stagnant growth, elevated poverty, and reduced incentives for entrepreneurship. In these contexts, economic activity may be diverted toward less productive pursuits, stifling innovation and limiting economic diversification. Entrepreneurship plays a pivotal role worldwide as a catalyst for economic growth. The degree to which individuals can freely create, compete, and capitalize on opportunities varies significantly by country, shaped by political, social, and economic institutions. Nations that foster transparent governance, uphold the rule of law, and reduce bureaucratic barriers create vibrant entrepreneurial ecosystems, drive industrial diversification and enhance competitiveness on the global stage.

In summary, the global landscape underscores a clear pattern: economic freedom is closely linked to prosperity, resilience, and inclusive growth. By safeguarding individual rights and enabling market mechanisms, countries worldwide can unlock human potential and promote sustainable development, positioning themselves to thrive amid the complexities of the international economy.

1.2. The research problem:

Entrepreneurship is widely acknowledged as a crucial engine for economic growth, innovation, and employment generation across countries worldwide. Among the various determinants influencing entrepreneurial activity, economic freedom encompassing aspects such as property rights protection, regulatory efficiency, and market openness has received considerable scholarly attention. However, the extent to which economic freedom promotes entrepreneurship remains inconclusive, particularly when accounting for the wide variation in institutional quality, socio-economic conditions, and political environments across different countries.

While existing research has examined the relationship between economic freedom and entrepreneurship, it often lacks comprehensive, cross-country empirical analyses that consider the diversity of institutional and economic contexts globally. There is a notable gap in understanding how economic freedom impacts entrepreneurial activity differently across countries at

varying levels of development, governance structures, and degrees of market liberalization.

1.3. The aim of the study

The interplay between government fiscal policy, economic freedom, and international economic influence represents a crucial nexus in understanding economic growth and development worldwide. Government expenditure serves as a key fiscal policy tool capable of significantly impacting macroeconomic outcomes such as GDP growth. Economic theories offer differing perspectives on government spending, with classical theory emphasizing limited intervention and market efficiency, while Keynesian theory advocates for active fiscal measures to stimulate aggregate demand and foster economic expansion. Therefore, analyzing the fiscal effects of government expenditure remains essential for comprehending the economic trajectories of countries globally.

In parallel, economic freedom which includes property rights protection, regulatory efficiency, and openness to trade has attracted considerable attention as a driver of financial development and economic growth. Institutional economic theories suggest that greater economic freedom creates a conducive environment for investment, innovation, and optimal resource allocation, all of which underpin sustained economic progress. Empirical studies across diverse nations have often identified a positive association between economic freedom

indices and GDP growth, underscoring the importance of institutional quality in shaping economic performance.

Furthermore, the economic conditions of countries worldwide are increasingly shaped by the influence of major global economic powers and the forces of globalization. Theories of economic dependency and international integration highlight how external economic relationships and policies can affect domestic fiscal sovereignty and development outcomes. Understanding these dynamics is critical in the context of a highly interconnected global economy.

- This study, therefore, aims to systematically examine:

1. The impact of government expenditure on GDP growth with a focus on fiscal policy implications across a wide spectrum of countries.
2. The relationship between economic freedom and GDP growth, emphasizing financial development outcomes on a global scale.
3. The role of economic freedom in promoting financial development in countries at different levels of economic advancement.
4. The influence of major global economic powers and international economic integration on the economic dynamics and policy autonomy of other nations.

By integrating these dimensions, this research intends to provide a comprehensive understanding of the institutional, fiscal, and

international factors driving economic growth and financial development in the global economic landscape.

1.4. Significance of the Research

This research holds considerable significance within the broader discourse on economic development, fiscal policy, and institutional economics across countries worldwide.

First, investigating the impact of government expenditure on national GDP growth addresses a vital policy concern applicable to a wide range of economic contexts. Given the ongoing debate in economic theory regarding the efficacy of fiscal interventions contrasting Keynesian advocacy for active government spending against neoclassical caution over public sector expansion empirical evidence from diverse global economies is essential. Such evidence contributes to the formulation of fiscal strategies that optimize growth outcomes and ensure the efficient allocation of public resources in countries facing various structural economic challenges.

Second, analyzing the relationship between economic liberty and GDP growth deepens understanding of the institutional determinants of economic performance on a global scale. Economic freedom, which includes regulatory quality, protection of property rights, and openness to trade, is widely regarded as a key driver of financial development and economic prosperity. By clarifying the strength and nature of this correlation across countries with differing institutional

frameworks and governance quality, the study offers valuable insights into how institutional reforms can stimulate economic advancement worldwide.

Third, assessing the role of economic freedom in facilitating financial development is paramount given the crucial function financial markets serve in mobilizing capital, efficiently allocating resources, and fostering entrepreneurial activity. In many countries where financial systems may be underdeveloped or hampered by regulatory and institutional inefficiencies, understanding the enabling role of economic freedom provides an empirical foundation for policies aimed at deepening financial sectors and enhancing economic stability.

Lastly, examining the influence of major global economic powers and international economic integration on the economic dynamics of various nations addresses important issues in international economic relations and economic sovereignty. This exploration is critical for understanding how global interconnectedness shapes domestic fiscal policies and development trajectories in an increasingly integrated world economy.

1.5. Research Outline:

The research outline includes the chapter that follows.

Chapter Two: The extant literature examining the principal variables of this study, specifically the nexus between economic freedom and entrepreneurship, is both extensive and

heterogeneous, encompassing empirical investigations conducted across diverse geographical regions and temporal frameworks. This section offers a critical synthesis of seminal and contemporary scholarship that explores the multifaceted relationship between economic freedom and entrepreneurial activity. The review elucidates the underlying factors that mediate entrepreneurial dynamics within varying socio-economic and institutional contexts. Moreover, the consolidated evidence from prior studies not only corroborates the empirical findings of the present research but also enriches the theoretical and practical understanding of the determinants of entrepreneurship, thereby providing a robust foundation for the study's contributions.

Chapter Three: Discussing the research methodology, data collection and the study variables which are dependent, independent variables and control variables which have their definitions and identification. At the end of research hypothesis according to the study model which is developed to answer the research questions.

Chapter Four: This section presents empirical evidence and results regarding the impact of economic freedom on entrepreneurial activity in the global countries. The analysis incorporates relevant control variables and includes a detailed discussion of descriptive statistics, the outcomes of regression models, and additional diagnostic tests employed to assess the relationship.

Chapter Five: summarizing the study results by constructing the conclusion about the effect and relationship of the variables according to the study model, limitations, and recommendations for future work.

Chapter Two

Literature of review

2.1 overview:

Extant literature has extensively examined the nexus between economic freedom and entrepreneurship across diverse global contexts, reflecting a growing interest in understanding how institutional environments shape entrepreneurial dynamics beyond major advanced economies and specific regions. Numerous empirical studies have demonstrated that higher levels of economic freedom characterized by secure property rights, minimal regulatory burdens, open markets, and limited government intervention tend to correlate with increased entrepreneurial activity. However, many analyses often adopt a generalized perspective, treating economic freedom as a uniform construct with consistently positive effects across different countries and regions. This approach may obscure the nuanced and context-dependent nature of the relationship between economic freedom and entrepreneurship.

To address this limitation, the present study contributes to literature by constructing a comprehensive conceptual framework that systematically integrates a broad range of socioeconomic

determinants such as income inequality, educational infrastructure, labor market conditions, and cultural factors. These contextual variables are posited to interact with various dimensions of economic freedom, producing varied entrepreneurial outcomes across countries with different economic structures and institutional environments. By accounting for these mediating and moderating factors, the study enhances the explanatory power of existing theoretical models and offers a more precise understanding of the mechanisms through which institutional environments influence entrepreneurial behavior. This analytical framework also allows for a disaggregated investigation into specific components of economic freedom such as business regulation, trade openness, and legal integrity revealing how each dimension may exert distinct effects under varying socioeconomic conditions. For example, while deregulation may stimulate entrepreneurship in countries with well-developed legal systems and institutional capacity, it may have limited or even adverse effects in lower-income nations where informal institutions predominate. Recognizing such heterogeneity not only advances theoretical development but also aligns with the growing consensus in institutional economics that context is critical. Furthermore, the study holds significant policy relevance. By demonstrating that the impact of economic freedom on entrepreneurship is contingent upon contextual factors, it highlights the inadequacy

of one-size-fits-all policy prescriptions. Instead, it advocates for the design and implementation of nuanced, evidence-based policy interventions tailored to the specific institutional and socioeconomic realities of each country or region. These insights can assist policymakers in developing targeted strategies that enhance entrepreneurship support mechanisms, reduce institutional barriers, and foster more inclusive and sustainable economic development.

In sum, this study makes a dual contribution: it enriches academic discourse by refining theoretical understandings of the relationship between economic freedom and entrepreneurship, and it provides a practical framework for developing adaptive policy solutions responsive to the diversity of entrepreneurial ecosystems worldwide. It also lays the foundation for future empirical research to test and validate the proposed framework across a wide variety of global contexts.

2.2 Theoretical Background:

1. The Effect of Economic freedom on Global Countries:

Understanding the diverse forces shaping economic development requires a multidimensional exploration of historical institutions, regulatory frameworks, entrepreneurship, and education. Several seminal and recent studies converge on this theme, providing a nuanced view of how institutional quality, financial inclusion, regulatory barriers, and educational support

mechanisms influence long-term economic performance across different regions.

At the foundation of these discussions lies the influential work by Acemoglu, Johnson, and Robinson (2001), which posits that historical factors—such as European settler mortality during colonization—have left an enduring legacy on institutional development. In regions with high mortality rates, colonial powers established extractive institutions rather than inclusive ones, which continue to impede economic growth today. This instrumental approach revealed that institutional quality, rather than geographic or cultural determinism, largely determines income disparities, particularly across African and equatorial nations.

Complementing this institutional perspective, Van Stel, Storey, and Thurik (2006) explored how regulatory burdens shape entrepreneurship across 39 countries. Their findings challenge conventional wisdom—specifically the Djankov et al. (2002) view that ease of starting a business directly leads to better economic performance. Instead, they find that labor market rigidity and capital requirements are more significant barriers than administrative burdens. This highlights that institutional quality manifests not just in governance structures, but also in how governments regulate market entry and business operation. These institutional and regulatory dynamics become particularly complex when viewed through a regional lens, such as in the

MENA (Middle East and North Africa) context. Fathi Abid and Slah Bahloul (2010) provide a methodologically sophisticated approach combining gravity modeling, Analytic Hierarchy Process (AHP), and goal programming (GP) to evaluate foreign portfolio investment attractiveness. Their study shows that investment decisions are influenced by a blend of quantitative factors (GDP, distance, and economic freedom) and qualitative dimensions (institutional quality and investor priorities), underscoring the nuanced interplay between market forces and institutional environments.

A similar theme emerges in Panahi, Assadzadeh, and Refaei's (2014) investigation into the link between economic freedom and GDP growth in MENA countries. While their findings confirm a positive association, they caution against simplistic interpretations. The effectiveness of economic freedom depends heavily on context—highlighting that reforms must be sensitive to a country's political stability, institutional robustness, and socio-economic environment. Entrepreneurship, often seen as the engine of economic diversification, is another recurring theme. Saberi and Hamdan (2018) examine how government policy and support mechanisms moderate the link between entrepreneurship and economic growth in GCC countries. While access to capital and the presence of high-growth ventures drive entrepreneurial success, deeper challenges like weak technology absorption and inadequate innovation ecosystems hold back

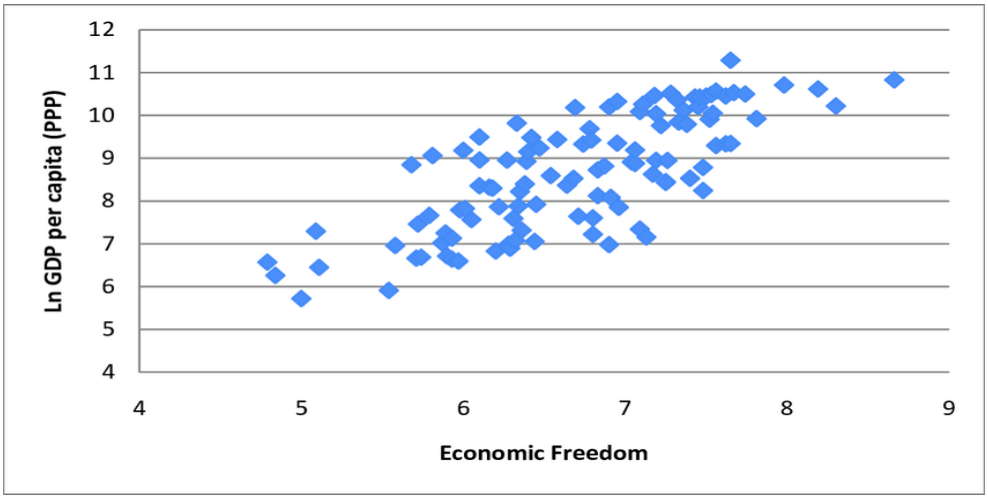
progress. Importantly, they argue for tailored national policies, rejecting the one-size-fits-all approach.

On a similar note, Fouejieu, Ndoye, and Sydorenko (2020) emphasize the financial exclusion of SMEs in MENAP and CCA regions, pointing to weak credit infrastructures, limited market competition, and institutional inefficiencies as core constraints. Their study argues for targeted financial policy reform, including better credit reporting systems and enhanced governance, to unlock the full economic potential of SMEs.

Finally, the role of education, particularly higher education institutions (HEIs), is critically examined by Syed et al. (2022). Their bibliometric analysis of entrepreneurship research in GCC HEIs reveals not only an uneven academic contribution across countries, but also a lack of regional collaboration. Importantly, they note critical gaps in research around gender, technology-driven ventures, and government policy integration. To fully realize the potential of HEIs in driving innovation and entrepreneurship, the study calls for strategic investment, interdisciplinary research, and policy alignment.

Together, these studies build a comprehensive picture: while institutions and regulations form the bedrock of economic potential, entrepreneurship, education, and financial access are the gears that determine how effectively this potential is realized. Sustainable economic development, particularly in the MENA and GCC regions, hinges on coordinated, context-sensitive

policies that enhance institutional quality, unlock entrepreneurial talent, and promote inclusive growth.



2.The Global Entrepreneurship monitor:

The global surge of interest in entrepreneurship has sparked extensive scholarly debate, yet the foundational drivers of entrepreneurial activity remain only partially understood. At the heart of this ambiguity lies the complex relationship between institutional quality and entrepreneurship—an intersection that has prompted international research efforts like the Global Entrepreneurship Monitor (GEM). As Paul D. Reynolds and his colleagues (2002) note, GEM was conceived to address a critical informational void in understanding how entrepreneurship operates across national boundaries. Their work highlights the persistent challenge: despite over a century of economic theorizing on entrepreneurship, its causes, constraints, and

economic implications remain elusive, leaving policymakers in a quandary. This obscurity becomes particularly significant when juxtaposed with Zoltan Acs, Sameeksha Desai, and Leora Klapper's (2008) comparative analysis of GEM and the World Bank's WBGES. Their findings demonstrate how different institutional configurations—often invisible to macroeconomic measures—can skew entrepreneurial metrics. For instance, developing countries may show high early-stage entrepreneurial activity under GEM metrics, while simultaneously scoring lower in WBGES due to weaker institutional infrastructures that limit formal incorporation. Thus, entrepreneurship cannot be decoupled from the institutional context in which it unfolds. Narratives emerging from economic crises have further propelled the study of entrepreneurship as a counter-cyclical force. Miha Marič et al. (2010) emphasize that during global recessions, entrepreneurship is increasingly viewed not only as a means of individual income generation but also as a macroeconomic stabilizer. However, the ability of entrepreneurship to absorb economic shocks is conditional—not on entrepreneurial intent alone—but on the quality of supporting institutions, including legal structures, regulatory systems, and public infrastructure. Their study, grounded in GEM data during the post-2008 economic crisis, argues that institutional strength is the bedrock upon which entrepreneurship either thrives or falters. The correlation between institutional variables and entrepreneurial

outcomes is further illuminated in the work of Díaz-Casero et al. (2012), who empirically explored the influence of economic freedom on entrepreneurial activity across diverse development strata. Employing ridge regression techniques, they found that while certain institutional features—like smaller government and greater fiscal freedom—promote entrepreneurship in developed economies, the same mechanisms may fail to stimulate similar outcomes in less-developed contexts. In other words, institutional quality is not only a driver but also a mediator of entrepreneurial effectiveness.

The need for nuanced institutional assessments becomes even more apparent in Burak Erkut's (2016) investigation, which attempts to reconcile subjective GEM data with objective indices like the Economic Freedom Index. Erkut's use of discriminant and CHAID analyses reveals that enforcement mechanisms—such as intellectual property rights and utility access—can significantly predict entrepreneurial dynamism. His call for triangulated data sources underscores a broader methodological shift in entrepreneurship research: away from mono-dimensional measurements and toward integrated models that reflect institutional complexity.

Expanding on this trajectory, Angulo-Guerrero, Pérez-Moreno, and Abad-Guerrero (2017) examined how different dimensions of economic freedom impact opportunity- versus necessity-driven entrepreneurship. Through dynamic panel data

analysis using the GMM estimator, they concluded that institutional reforms—particularly in property rights protection and credit regulation—encourage opportunity entrepreneurship while reducing necessity entrepreneurship. These findings align with the broader consensus that institutions do not merely support entrepreneurship; they shape its very nature. The Gulf Cooperation Council (GCC) countries offer a distinctive case study. Maria Saberi and Allam Hamdan (2018) illustrate that despite similar macroeconomic environments, entrepreneurial outcomes in the GCC vary widely due to differences in institutional quality. Government support emerges as a key moderator, with technology absorption, regulatory efficiency, and cultural attitudes exerting measurable effects. Their research strongly advocates tailored, country-specific policy interventions rather than one-size-fits-all prescriptions. At a more theoretical level, Christopher Boudreaux (2018) offers a multi-level model integrating micro-level capital theories with macro-institutional theory. He argues that improvements in institutional quality can paradoxically reduce the salience of human and financial capital while enhancing the importance of social capital. This suggests that institutional environments recalibrate the resource dependencies of entrepreneurs, making networked, trust-based forms of capital more influential in high-quality institutional settings.

Finally, Boudreaux and Caudill (2019) challenge the normative assumption that entrepreneurship universally drives growth. Their cross-national analysis reveals a split: while opportunity-driven entrepreneurship spurred by strong institutions accelerates growth in developed countries, necessity-driven entrepreneurship in weak institutional contexts may hinder it. These insights stress the importance of institutional tailoring—what works in Silicon Valley may not succeed in sub-Saharan Africa. In summary, the theoretical landscape surrounding entrepreneurship is increasingly shaped by the recognition that institutional quality is neither a passive backdrop nor a simple catalyst. Instead, institutions actively sculpt the entrepreneurial terrain, affecting not only the quantity of entrepreneurial activity but its character, purpose, and socioeconomic outcomes. This study positions itself within that critical discourse, seeking to unravel the causal and correlative threads that link institutional strength to entrepreneurial vibrancy across varying world economies.

3.Entrepreneurship and Economic Freedom as Engines of Growth:

Entrepreneurship has long held a central place in economic thought, recognized not only as a pathway to innovation and job creation but as a fundamental mechanism driving long-term economic growth. This notion traces back to early theorists like Joseph Schumpeter (1942), who famously conceptualized

entrepreneurship as a process of "creative destruction," wherein entrepreneurs disrupt existing markets by introducing novel products, processes, and technologies. Schumpeter's foundational insights were further elaborated by scholars such as Kaiser (1990), who emphasized that entrepreneurial traits—particularly innovation, risk-taking, and effective resource allocation—are not only vital but deeply intertwined. Similarly, Knight (1921) offered a complementary perspective by defining entrepreneurs as bearers of uninsurable uncertainty, earning profits precisely because they navigate the unpredictable contours of the market. Building upon these classical views, Israel Kirzner (1997) introduced the concept of entrepreneurial discovery, highlighting the entrepreneur's capacity to identify and act on unexploited opportunities through alertness and iterative experimentation. This processual understanding was echoed by Jenner (1998), who framed entrepreneurship as a dynamic quest for new combinations of inputs, products, and methods that enhance productivity and adaptability. Minniti (1999) extended this discourse by suggesting that entrepreneurs also create positive externalities—such as innovation networks and institutional spillovers—that bolster broader economic ecosystems.

As the understanding of entrepreneurship matured, attention shifted toward the structural and institutional conditions that nurture or constrain entrepreneurial dynamism. The economic freedom literature—championed by researchers like

Kreft and Sobel (2005) and Campbell and Rogers (2007)—has drawn a clear linkage between institutional quality and entrepreneurial outcomes. According to these scholars, indices such as the Economic Freedom of the World (EFW) and the Economic Freedom of North America (EFNA) provide crucial empirical frameworks for evaluating how property rights, limited government, low taxes, and free trade foster environments conducive to entrepreneurship. Ashby (2007), for instance, found that individuals tend to migrate toward jurisdictions with greater economic freedom, where entrepreneurial opportunities are more abundant.

Ridderstedt (2011) advanced this analysis by recognizing the robust association between economic freedom and growth but also called attention to the relatively underexplored channels—like entrepreneurship—through which this relationship operates. Subsequent contributions by Sobel (2014) brought further clarity to this issue, framing entrepreneurship as a societal catalyst that contributes not only to economic growth but also to broader measures of prosperity, resilience, and technological advancement. Sobel stressed that beyond individual traits, supportive institutions—such as access to capital, regulatory simplicity, and networks of trust—form the bedrock of vibrant entrepreneurial ecosystems. Recent empirical investigations have extended these theories into diverse geographical and institutional contexts. For example, Panah, Assadzadeh, and

Refaei (2014) adopted a multivariate modeling approach to empirically capture how economic freedom interacts with other socio-economic variables in shaping growth. Their work reinforces the need for multidimensional policy designs that reflect the complex interplay of institutional and entrepreneurial forces. The international policy community has also begun to recognize this connection. United Nations Resolution 69/210 (2014) formally underscored entrepreneurship's critical role in achieving sustainable development goals, including poverty reduction and equitable growth. Through its UNCTAD initiatives, the UN has highlighted best practices and advocated for reliable data systems to support evidence-based entrepreneurship policy.

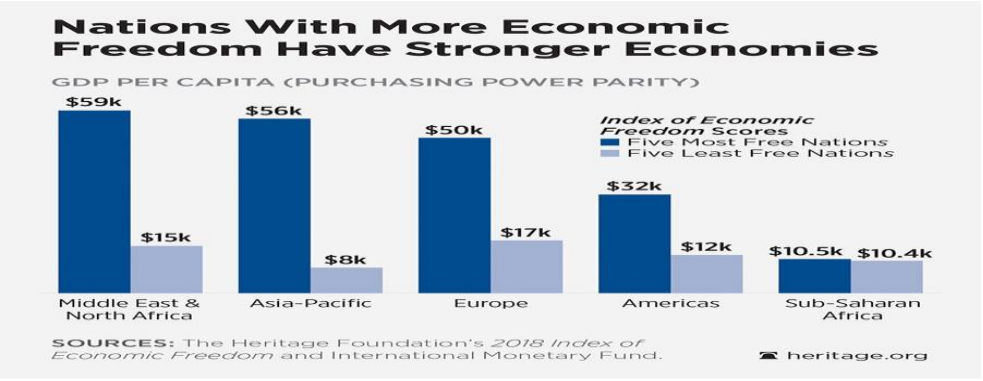
Complementing these global narratives, Nikolaev, Boudreaux, and Palich (2018) provided a cross-country analytical framework differentiating opportunity-motivated and necessity-motivated entrepreneurship (OME and NME). Their findings, drawn from data across 73 countries, underscored that economic institutions—particularly those upholding economic freedom—are the most robust predictors of both OME and NME. Notably, their results challenge the notion that culture or geography alone can explain entrepreneurial variation, reinforcing the primacy of institutional structures. Diving into the microeconomic realm, Pauceanu and Dempere (2018) examined Fablabs across regions, demonstrating how contextual factors such as community

engagement, infrastructure, and social capital influence innovation outcomes. Their findings illuminate the local-level challenges and opportunities that exist even within broadly supportive national frameworks.The role of property rights—long acknowledged as fundamental to market economies—was reconceptualized in the 2019 Springer Science Business Media paper. Here, the notion of the "property rights institutional entrepreneur" was introduced: an agent who catalyzes institutional reform to facilitate more efficient market exchanges. This framework bridges classical economic theory and modern institutionalism, offering a dynamic view of how institutions evolve in response to entrepreneurial activity. Shakya and Plemmons (2021) added empirical precision by examining U.S. startup dynamics through advanced econometric techniques like the post-double-selection LASSO method. Their findings revealed that while deregulation supports startup proliferation, higher fiscal burdens can stifle entrepreneurial efforts. These insights stress the need for a policy equilibrium that balances regulatory freedom with fiscal sustainability. Similarly, Dempere and Pauceanu (2022) disaggregated the Index of Economic Freedom into its components, revealing how rule of law, regulatory efficiency, and market openness distinctly influence entrepreneurial attitudes, abilities, and aspirations. Their large-scale panel analysis across 118 countries affirms the nuanced impact of institutional variables and reinforces the argument for

multidimensional entrepreneurship policy frameworks. Further enriching this discourse, Alola et al. (2022) explored how underexamined institutional dimensions—such as law and order, trade freedom, and regulatory quality—interact with sustainability goals. Their findings suggest that economic freedom not only supports entrepreneurship but also enables balanced progress on environmental and social objectives. Popa et al. (2022) brought these insights to bear on the social policy domain, identifying a strong positive relationship between economic freedom and fiscal allocations to social insurance in Central and Eastern Europe. They highlight governance quality—manifested through anti-corruption, service delivery, and policy stability—as a crucial intermediary in this relationship.

Regionally focused research, like that of Sayed and Abedelrahim (2024), has examined the Gulf Cooperation Council (GCC) states, illustrating that while economic freedom is a long-term driver of entrepreneurial density, short-term fluctuations are more sensitive to GDP growth and political stability. Their work confirms the importance of tailoring policy interventions to regional specificities. In the same year, the Menard Family Initiative Decoded Series (2024) broadened the entrepreneurship discourse by exploring barriers faced by women and marginalized groups. It emphasized the importance of financial instruments, mentorship, and supportive infrastructure in creating inclusive entrepreneurial environments—especially when

overlaid with institutional support rooted in economic freedom. Most recently, the 2025 special issue of the Journal of Entrepreneurship in Emerging Economies addressed the link between entrepreneurship and inequality, *positioning* entrepreneurial activity as both a driver of opportunity and a potential equalizer in fragmented economic systems. This literature further reiterates that the effectiveness of entrepreneurial strategies depends on their alignment with local conditions and institutional capacities. Finally, Anthony B. Kim's 2025 Index of Economic Freedom report serves as a clarification call for a recommitment to foundational economic principles in the wake of global disruptions. As nations navigate high inflation, conflict, and rising debt, the restoration of economic freedom is presented as a precondition for recovery, resilience, and prosperity.



4.The effect of entrepreneur and economic freedom on labor freedom, financial activity and social humanities:

The relationship between entrepreneurship and economic structures has attracted significant scholarly attention, particularly in the context of global market transformations and institutional evolution. A growing body of research has underscored the multifaceted influence of economic freedom, institutional quality, and socio-economic conditions on entrepreneurial activity, revealing complex dynamics that extend beyond simplistic assumptions of individual agency or economic necessity. McMullen, Bagby, and Palich (2008) offer one of the earlier cross-national examinations of how macroeconomic factors shape entrepreneurship. By integrating data from the Index of Economic Freedom (2003) and the Global Entrepreneurship Monitor (2002), their study explores the nuanced interplay between GDP per capita, labor freedom, and entrepreneurial motivation in 37 countries. Their findings reveal a counterintuitive trend: as national wealth increases, both opportunity-motivated entrepreneurship (OME) and necessity-motivated entrepreneurship (NME) decline. However, this decline is mitigated by increased labor freedom, suggesting that regulatory flexibility can stimulate entrepreneurship regardless of economic maturity. Furthermore, they identify divergent effects of economic freedoms—while OME aligns with strong property rights, NME is more responsive to fiscal and monetary freedom—highlighting that entrepreneurial motivations are differentially sensitive to institutional environments.

Parallel to this macro-institutional perspective, Marič, Žnidaršič, and Jeraj (2010) delve into the symbiotic relationship between entrepreneurship and unemployment, particularly during times of economic crisis. Drawing on GEM (2008) data, they argue that recessions and labor market dislocations catalyze entrepreneurial activity as a form of adaptive labor reallocation. Yet, they caution that entrepreneurship is not merely a policy panacea for unemployment, given its inherent precarity and dependence on a robust entrepreneurial ecosystem—comprising regulatory frameworks, support institutions, and physical infrastructure like incubators and technology parks. From this standpoint, their work advances a reciprocal hypothesis: high unemployment can stimulate entrepreneurship, which in turn can reduce unemployment, contingent upon supportive institutional and infrastructural contexts.

Expanding on the role of institutional conditions, Angulo-Guerrero, Pérez-Moreno, and Abad-Guerrero (2017) adopt a more econometric lens by applying a dynamic panel data model across OECD countries from 2001 to 2012. Their results reinforce earlier findings by showing that economic liberalization—operationalized through property rights protections, legal structures, and regulatory efficiency—significantly enhances opportunity entrepreneurship while simultaneously suppressing necessity entrepreneurship. Their use of the Fraser Institute's Economic Freedom Index affirms that

institutional quality directly conditions entrepreneurial motivation and prevalence.

In developing contexts, the importance of financial, social, and human capital in driving entrepreneurial success is exemplified in Yadav, Venkata, and Pradhan's (2018) study of Nepal's renewable energy sector. Their empirical investigation highlights the primacy of access to finance, network ties, trust, and experience in determining business outcomes, particularly in nascent or undercapitalized markets. In contrast, factors like initial capital investment and shared vision appear less predictive of success. These findings underscore the localized and sector-specific dimensions of entrepreneurial drivers, especially in emerging economies where institutional voids are more pronounced.

On a broader theoretical level, Bédard (2018) investigates the role of economic incentives in entrepreneurial decision-making, challenging the romanticized view of the entrepreneur as driven solely by intrinsic motivation. His analysis suggests that fiscal interventions—such as grants and subsidies—are critical for reducing startup risks and enabling entrepreneurial action. This argument is further substantiated by Springer Nature (2019), which introduces the concept of the "property rights institutional entrepreneur," a change agent who reshapes institutional rules to improve market efficiency. Their framework illustrates how entrepreneurial agency and institutional structures co-evolve

through iterative feedback loops, reinforcing the necessity of stable and enforceable property rights in fostering innovation and long-term growth.

Similarly, Hedlund (2019) explores the implications of income tax policies for innovation-driven entrepreneurship in the U.S. context. His work critiques conventional fiscal models that overlook the dampening effect of high marginal tax rates on risk-taking and innovation. By linking tax structures to the geographic redistribution of high-skilled entrepreneurial talent, Hedlund calls for a reevaluation of tax policy through the lens of innovation ecosystems and human capital mobility. At a regional level, Tran (2019) examines how ASEAN's integration objectives—particularly trade, labor, and financial freedom, facilitate entrepreneurship and economic growth. Drawing on Guerrero's (2010) work, the study positions economic openness as central to fostering capital mobility and skilled labor exchange. By incorporating a composite economic freedom index, Tran's research aligns with the broader narrative that deregulated and open markets are fertile grounds for entrepreneurial activity.

In the African context, Ajide (2021) delivers a comprehensive empirical investigation into how economic freedom stimulates entrepreneurship across 18 countries. Using a battery of econometric models—including GMM, PCSE, and IV estimation, the study confirms that dimensions such as property rights, tax reductions, and liberal investment policies are

consistently associated with elevated entrepreneurial rates. The findings advocate policy interventions that streamline bureaucracy, improve infrastructure, and enhance institutional transparency—particularly in regions where entrepreneurial ecosystems remain underdeveloped. Finally, Kim and Lee (2022) shift focus to the micro-foundations of entrepreneurial finance, exploring how venture capitalists assess entrepreneurial experience under varying degrees of uncertainty. Their conjoint analysis of South Korean VCs reveals that managerial experience becomes a decisive factor in uncertain, high-risk environments—such as new product markets or emerging sectors—where information asymmetry is acute. This research not only emphasizes the contingent nature of human capital value but also offers strategic insights for entrepreneurs seeking funding in volatile markets.

Taking collectively, these studies articulate a multifaceted theoretical landscape where entrepreneurship is not only a function of individual intent or opportunity but is profoundly shaped by macroeconomic conditions, institutional quality, regulatory structures, and financial incentives. Across diverse geographic and sectoral contexts, the findings converge on a central premise: entrepreneurship thrives where economic freedom, institutional clarity, and supportive ecosystems intersect. As such, this body of literature provides a robust theoretical scaffold for investigating the socio-economic drivers

of entrepreneurship and for informing evidence-based policy that can catalyze sustainable economic development.

5.The Hypothetical Entrepreneurship rate and new Business:

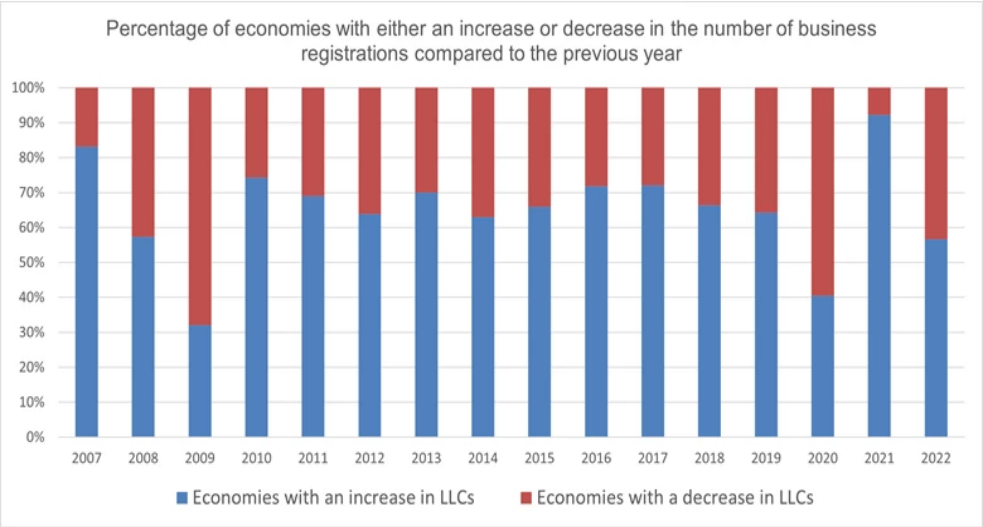
The evolving discourse on entrepreneurship has increasingly recognized the complex interplay of cultural, institutional, economic, and policy-related factors in shaping entrepreneurial ecosystems across diverse socio-economic contexts. Petrakis and Kostis (2014) offer a foundational contribution by exploring the medium-term impacts of cultural, institutional, and transactional characteristics on opportunity entrepreneurship. Their analysis, grounded in principal component and regression methodologies, reveals that while these factors are largely exogenous in the short to medium term, they nonetheless exert a profound influence on entrepreneurial behaviors. Notably, the study finds that cultural traits may serve as either enablers or inhibitors of opportunity entrepreneurship, contingent on how they interact with institutional and transactional frameworks. In their constructed model of an "entrepreneurship-oriented world," where cultural factors are optimized, institutional strength and transactional efficiency emerge as the principal catalysts of entrepreneurial activity. Complementing this perspective, Herrera Echeverri, Haar, and Benavides Estévez Bretón (2014) delve into the dynamic relationships between foreign direct investment (FDI), institutional quality, economic freedom, and entrepreneurship

within emerging markets. Utilizing panel data from 87 countries between 2004 and 2009, their empirical analysis reveals that high-quality institutions consistently correlate with increased new business formation across income levels. Crucially, their findings highlight how economic freedom—specifically the ease of starting a business and openness to investment—significantly propels entrepreneurial activity in emerging economies. In contrast, for low-income nations, integration into international trade appears more influential. This research further substantiates the "spillover theory of entrepreneurship," emphasizing that FDI not only introduces capital but also facilitates knowledge transfer, innovation diffusion, and capacity building—elements essential to nurturing indigenous entrepreneurial ventures. The role of economic inequality and middle-class financial security in shaping entrepreneurial patterns is critically examined by Mondragón-Vélez (2015), who draws on longitudinal data from the Panel Study of Income Dynamics (PSID) in the United States. By operationalizing the middle class as those within the 40th to 90th income percentiles, the study sheds light on how household income stability influences entrepreneurial intention and action. The findings underscore the importance of financial security in fostering entrepreneurial endeavors, suggesting that middle-class stability acts as both a buffer against risk and a springboard for innovation.

Public policy interventions, as explored in a 2019 special issue of the *Journal of* Entrepreneurship and Public Policy, add another crucial dimension to this discussion. The issue emphasizes the need for comprehensive and context-sensitive policy mechanisms—including venture financing, makerspaces, and incubator programs—that directly support entrepreneurial ecosystems. Regulatory frameworks, tax policies, zoning laws, and immigration policies are identified as vital levers through which governments can foster enterprise development. Notably, the issue calls for increased scholarly attention to under-researched geographical areas such as rural communities and university towns, where entrepreneurial potential is often constrained by structural limitations. Furthering this policy-focused discourse, the MFI Decoded Series (2024) underscores the centrality of economic freedom in entrepreneurial success. Framed through the lens of limited government intervention, property rights protection, and competitive markets, the analysis highlights how policy measures aimed at enhancing economic liberty can alleviate barriers to business formation. The series integrates theoretical analysis with case studies to argue for the importance of accessible financing, mentorship, infrastructure, and cultural encouragement of innovation. It also pays specific attention to women entrepreneurs, advocating for tailored policies that address gender-specific constraints and promote inclusive entrepreneurial ecosystems.

Lastly, the Journal of Entrepreneurship in Emerging Economies (2025) advances the conversation by centering on the relationship between entrepreneurship and inequality. The special issue adopts a multidisciplinary and context-sensitive approach to explore how entrepreneurial initiatives can be harnessed to mitigate economic and social disparities in emerging markets. Featuring eight rigorously peer-reviewed articles, it offers insights into capacity-building strategies, inclusive growth mechanisms, and policy interventions tailored to reduce inequality. By doing so, the issue not only contributes to theoretical advancement but also provides practical guidance for stakeholders seeking to promote equitable and sustainable entrepreneurial development.

Taken together, these scholarly contributions construct a multifaceted theoretical foundation for understanding entrepreneurship. They demonstrate that the vitality of entrepreneurial ecosystems depends not only on individual traits and market conditions but also on the broader institutional, cultural, and policy environments in which entrepreneurs operate. The interplay among these factors underscores the importance of integrative, interdisciplinary approaches in fostering resilient and inclusive entrepreneurial landscapes across varying global contexts.



6.The Effect of Taxes, Government and Tared on Entrepreneurship Rate:

The global pursuit of fostering entrepreneurship has increasingly become a central focus for international organizations, policymakers, and scholars alike, particularly considering its potential to drive sustainable economic development and achieve the Sustainable Development Goals (SDGs) set forth in the 2030 Agenda (United Nations General Assembly, 2016). The comprehensive assessment by UNCTAD and UN DESA underscores the importance of coordinated, multi-level efforts to stimulate entrepreneurial activity, emphasizing innovative policy interventions and the urgent need for reliable, comparable data to monitor progress effectively. This aligns with broader academic discourses that view entrepreneurship not

merely as isolated economic acts but as components embedded within dynamic ecosystems shaped profoundly by public policy and institutional contexts (Journal of Entrepreneurship and Public Policy, 2019).

Public policy mechanisms, ranging from business support services and venture financing to regulatory frameworks and immigration policies, play a pivotal role in nurturing entrepreneurial ecosystems. These policies create enabling environments that facilitate venture creation and growth, particularly in diverse and often underexplored geographic contexts such as rural regions and smaller urban centers, where unique challenges persist (Journal of Entrepreneurship and Public Policy, 2019). Such diversity in entrepreneurial landscapes necessitates tailored policy approaches that recognize the heterogeneity of entrepreneurial actors and settings. Complementing these policy insights is the institutional perspective, which highlights the foundational role of property rights in underpinning entrepreneurial activity and broader economic growth. Robust property rights systems reduce uncertainty, lower transaction costs, and incentivize investment, whereas weak or ambiguous regimes hamper market efficiency (Springer Science Business Media, LLC, 2019). The innovative concept of the property rights institutional entrepreneur illustrates how agents strategically facilitate institutional change, enabling more efficient market exchanges through iterative feedback

processes and social norm evolution. This perspective enriches our understanding of entrepreneurship as deeply intertwined with institutional dynamics that evolve in response to economic and social shifts. Fiscal policy, particularly tax structures, further intersects with entrepreneurship by shaping incentives for innovation and risk-taking. Aaron Hedlund (2019) critiques traditional tax policy frameworks focused narrowly on labor and capital, revealing that the comprehensive tax architecture significantly influences entrepreneurial motivation and the spatial distribution of talent. High marginal tax rates and complex tax systems can discourage innovative activities and drive entrepreneurial talent to jurisdictions with more favorable policies, underscoring the importance of designing tax regimes that balance revenue needs with the cultivation of vibrant innovative ecosystems.

Economic freedom emerges as another critical determinant of entrepreneurial success, particularly in regions aiming to integrate markets and foster capital and labor mobility, such as ASEAN. Indicators like trade freedom, financial freedom, and labor freedom are integral to promoting entrepreneurial activity by reducing barriers and facilitating resource flows (Dung Viet Tran, 2019). Empirical studies within the African context similarly confirm that dimensions of economic freedom—including secure property rights, reduced taxation, anti-corruption measures, and liberalized investment and labor

policies—positively influence entrepreneurship, reinforcing the value of fundamental freedoms for stimulating indigenous business formation (Folorunsho M. Ajide, 2021). Yet, despite the recognized importance of SMEs as engines of growth and employment, significant barriers to financial inclusion persist in regions such as the Middle East, North Africa, Afghanistan, Pakistan, the Caucasus, and Central Asia. Factors such as institutional stability, market competition, regulatory quality, and governance profoundly affect SMEs' access to formal finance, suggesting the need for nuanced, context-specific policy interventions aimed at improving credit infrastructure and fostering a supportive business climate (Fouejieu, Ndoye, & Sydorenko, 2020).

At the micro-level, the human capital embodied in entrepreneurs also shapes venture success and funding prospects. The work of Dohyeon Kim and Su Yong Lee (2022) highlights how venture capitalists in South Korea weigh dimensions of entrepreneurial experience differently depending on environmental uncertainty, prioritizing managerial expertise in high-risk, innovative contexts. This finding suggests that entrepreneurial finance mechanisms must adapt to market conditions and that startups should strategically align their human capital profiles with investor expectations to secure critical resources. Moreover, tax policy continues to exert a complex influence on entrepreneurship, as Hadi Pratama (2023)

synthesizes. Elevated tax burdens and compliance complexities hinder new business formation, yet targeted incentives and transparent regulatory environments can counterbalance these effects. This calls for an integrative approach to fiscal policy that supports entrepreneurial ecosystems rather than impeding them. Finally, the metaphor of the "horse race" employed by the Journal of Entrepreneurship and Public Policy (2023) provides a compelling heuristic for understanding economic growth drivers. In this allegory, gains from trade ("Smith") and innovation ("Schumpeter") must consistently outpace the distortions caused by government interventions ("Stupidity") to sustain progress. This framework encapsulates the delicate balance policymakers must strike between fostering open markets and innovation while minimizing counterproductive regulatory burdens, a theme resonant throughout contemporary entrepreneurship scholarship and policy debates. Together, these perspectives illuminate the multifaceted and interconnected factors shaping entrepreneurship globally, from institutional frameworks and economic freedoms to fiscal policies and human capital dynamics. They collectively advocate for nuanced, context-aware strategies that integrate public policy, institutional innovation, and ecosystem development to unlock entrepreneurship's full potential as a driver of inclusive and sustainable economic growth.

Chapter Three

Research Methodology

3.1. Introduction

In this chapter, research methodology will be stated by showing the data collection that is used and the analysis that is relevant to this study. This chapter also shows the conceptual framework and relationship between variables of economic freedom and entrepreneur activity in the literature review.

3.1. Research Questions

I. How does the level of tax burden, as an indicator of economic freedom, influence the rate of entrepreneurial activity?

II. What is the effect of the entrepreneurship rate on the stochastic behavior of business and financial freedom?

III. What is the impact of entrepreneurial activity on a country's fiscal health?

IV. How is the level of labor freedom, as a dimension of economic freedom, influenced by the rate of entrepreneurship?

3.2. Research hypotheses:

Hypothesis 1 (H1):

There is a statistically significant relationship between the level of tax burden and the rate of entrepreneurial activity.

Tax burden is a fundamental component of economic freedom and directly influences individuals' and firms' incentives to engage in entrepreneurial activity. A lower tax burden reduces the cost of doing business and increases the

potential return on investment, thus fostering a more favorable environment for entrepreneurship. According to empirical studies (e.g., Djankov et al., 2010), countries with lower corporate and income taxes tend to exhibit higher rates of new business formation. In this context, the hypothesis posits that tax policy is a crucial determinant of entrepreneurial dynamism.

Hypothesis 2 (H2):

Entrepreneurial activity significantly affects the stochastic behavior of business and financial freedom, implying that fluctuations in entrepreneurship contribute to variations in these dimensions of economic freedom.

Entrepreneurial activity not only reflects but also shapes the broader institutional and economic environment. As entrepreneurship increases, market competition intensifies, which can lead to deregulation and liberalization of financial systems to accommodate new business entrants. This dynamic interaction suggests that entrepreneurship is both a driver and a consequence of changing levels of business and financial freedom. Given the stochastic (i.e., variable and unpredictable) nature of economic systems, this hypothesis explores the possibility that changes in entrepreneurship rates can induce measurable variability in the dimensions of business and financial freedom over time.

Hypothesis 3 (H3):

Entrepreneurial activity has a positive impact on a country's fiscal health, enhancing overall economic performance

through increased innovation, employment, and tax revenue generation.

Entrepreneurs contribute to fiscal health by creating jobs, stimulating innovation, and expanding the tax base. The relationship between entrepreneurship and fiscal health is well-documented in both developed and developing economies. When entrepreneurial ventures grow, they contribute to GDP growth and increase government revenues through business taxes, personal income taxes, and consumption taxes. Furthermore, successful entrepreneurial ecosystems reduce dependency on state welfare by increasing employment. Therefore, this hypothesis posits a direct and beneficial relationship between entrepreneurial activity and key indicators of fiscal stability, such as government balance, debt-to-GDP ratio, and public sector efficiency.

Hypothesis 4 (H4):

The rate of entrepreneurship significantly influences the level of labor freedom, suggesting that higher entrepreneurial activity is associated with more flexible labor market regulations and employment opportunities.

Labor freedom—defined by the ease of hiring and firing, regulation of wages, and overall labor market flexibility—is both an enabler and a consequence of entrepreneurial ecosystems. In economies with higher rates of entrepreneurship, there is typically a greater demand for flexible labor arrangements,

freelance work, and innovative employment models. Over time, this demand can influence policymakers to adopt more liberal labor laws to accommodate entrepreneurial needs. Moreover, entrepreneurs often operate in sectors that require adaptable and dynamic workforce arrangements, reinforcing the importance of labor freedom in supporting new ventures. This hypothesis explores the causal linkage between entrepreneurship and the evolution of labor market institutions.

3.2.1 Knowledge and Technology Output

This study examines the reciprocal relationship between various dimensions of economic freedom and entrepreneurship, with a particular focus on their implications for knowledge generation and technological advancement. Drawing upon empirical evidence, the analysis evaluates how components such as the tax burden, business freedom, fiscal health, and labor freedom both shape and are shaped by the rate of entrepreneurial activity. The results indicate that a reduction in the tax burden, as a proxy for economic freedom, significantly enhances entrepreneurial activity. This increase in entrepreneurship contributes to knowledge and technology output through the establishment of new enterprises, the commercialization of innovations, and the diffusion of technological capabilities across sectors. Furthermore, the study finds that entrepreneurship exerts a notable influence on stochastic business freedom, suggesting that higher levels of entrepreneurial engagement may contribute

to a more dynamic and responsive business regulatory environment. Such environments are critical for fostering innovation, reducing entry barriers, and supporting the scalability of knowledge-intensive firms. In addition, entrepreneurial activity is positively associated with improvements in fiscal health, as it expands the tax base, stimulates economic productivity, and enhances the efficiency of public revenue collection.

These fiscal gains, in turn, enable greater public investment in research, development, and innovation infrastructure key drive long-term technological progress. The findings also suggest a feedback loop in which labor freedom is affected by entrepreneurship rates. A higher prevalence of entrepreneurial ventures tends to encourage labor market flexibility, and the development of skills aligned with emerging technologies, thereby reinforcing the human capital base necessary for innovation-led growth.

In sum, the study demonstrates that entrepreneurship serves not only as a beneficiary of favorable economic institutions but also as a generator of knowledge and technology outputs. These insights underscore the strategic importance of fostering entrepreneurial ecosystems as a means of enhancing national innovation performance and sustaining economic competitiveness.

Data Analysis Techniques

Data

The data used in this study are obtained from the World Bank database that includes worldwide data about the entrepreneurial rates (https://www.worldbank.org/en/programs/entrepreneurship). The data about economic freedom is included in the Index of Economic Freedom (https://www.heritage.org/index/) being complied by Heritage Foundation. The definition of the variables is provided in the Appendix.

Dependent Variables

The author uses the Effective Entrepreneurship Rate = New business density rate - Closed business density rate as the dependent variable.

Independent Variables

The independent variables are the 12 components in the index of Economic Freedom.

4.1. The statistical methods that are used in this research are:

1. Mixed Effect Regression Model

The mixed effects model can be defined as:

$$\boldsymbol{Y_i = X_i\beta + Z_i b_i + \varepsilon_i}$$

where Y_i is an $t_i \times 1$ vector of observations for ith market takes the form $[y_{i1}\,,\ y_{i2}\,, \ldots\ldots\ y_{it}\,]^T$, X is an $t_i \times p$ matrix of covariates, β is vector of covariates, and

$Z_i, a\ t_i \times q$ (number of unknown variables) is a subset of X_i, modeling how the response evolves over time for the i[th] market. Furthermore, $b_i = [b_{io}, b_{i1}, \dots\dots\dots\dots, b_{i(q-1)}]^T$ is a $q \times 1$ vector of random effects for the i[th] market describing unknown market characteristics. ε_i is a vector of residual components, it is usually assumed that the errors $\varepsilon_i's$ are independent and normally distributed with mean vector 0 and covariance matrix $\sigma_\varepsilon^2\ I_{m_i}$, and the random effects $b_i's$ are independent of $\varepsilon_i's$, and normally distributed with mean vector 0 and covariance matrix V_b.

The selection between the fixed effects and random effects models is based on the outcome of the Hausman test.

We will estimate 2 models for the dependent variable Effective Entrepreneurship Rate. Each model is specified in the following form:

$$\boldsymbol{Y_i = b_o + \sum_i \beta_i x_i + \varepsilon}$$

where; β_0: is the constant term; β_i : is the regression coefficient for i[th] independent variable; ε: is the regression residual term.

For each model, we first present the Hausman test to determine whether the fixed effects or random effects model is more appropriate. Next, we apply the RESET test to assess whether the linear form is suitable for estimating the model. We also conduct a heteroscedasticity test to examine whether the residuals are homoscedastic. If heteroscedasticity is detected, robust estimation methods are employed.

2. Specification Tests for model 1: The impact of observed institutional quality on effective entrepreneurship rate

2.1 Descriptive Statistics

This subsection presents descriptive statistics, including the mean, standard deviation, minimum, and maximum values, for all the variables used in the study.

Table (1): descriptive statistics of the key variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Effective Entrepreneurship Rate	1,157	0.0025	0.0048	-0.0722	0.0372
Overall Score	1,157	4.1730	0.1513	3.6610	4.5020
Property Rights	1,157	3.9955	0.4577	2.3026	4.6012
Government Integrity	1,157	3.8742	0.4170	2.5953	4.6002
Judicial Effectiveness	1,157	3.9950	0.3374	2.5337	4.5778
Tax Burden	1,157	4.3076	0.2003	3.4874	4.6032
Government Spending	1,157	3.9556	0.5624	-0.6931	4.5570
Fiscal Health	1,157	4.0654	0.8007	-0.9163	4.6052
Business Freedom	1,157	4.2767	0.1921	3.3979	4.6052
Labor Freedom	1,157	4.1273	0.2364	3.0773	4.6052
Monetary Freedom	1,157	4.3460	0.1002	3.5234	4.5465
Trade Freedom	1,157	4.3590	0.1592	3.1781	4.5539
Investment Freedom	1,157	4.0930	0.3995	2.3026	4.5539
Financial Freedom	1,157	3.9464	0.4250	2.3026	4.4998

a. Model Specifications Tests

A mixed effects model is employed to evaluate the impact of the independent variables on the dependent variable. Additionally, multiple regression analysis is conducted to rank the independent variables based on the significance of their effects.

4.2.2 Multicollinearity Test

Before estimating the model, multicollinearity must be assessed. As shown in the following table, the results indicate that most independent variables have acceptable VIF values below the common threshold of 10, suggesting no serious multicollinearity issues. However, variable OVERALL SCORE (VIF = 24.81) exceeds this threshold, indicating a potential multicollinearity problem. To resolve this, we will remove OVERALL SCORE and rerun the model.

Table (2): variance inflation factors (VIF) and tolerance levels for independent variables

Variable	VIF	Tolerance (1/VIF)
Overall Score	**24.81**	**0.040**
Property Rights	**4.68**	**0.214**
Government Integrity	**8.27**	**0.121**
Judicial Effectiveness	**3.17**	**0.315**
Tax Burden	**2.32**	**0.431**
Government Spending	**2.58**	**0.387**
Fiscal Health	**1.79**	**0.560**
Business Freedom	**2.66**	**0.375**
Labor Freedom	**2.07**	**0.483**
Monetary Freedom	**1.93**	**0.517**
Trade Freedom	**2.04**	**0.491**
Investment Freedom	**3.98**	**0.251**
Financial Freedom	**3.98**	**0.251**
Mean VIF	**4.95**	

As shown below, the final set of variables that will be entered into the model includes all the original variables except Overall Score, which was excluded due to multicollinearity issues.

Table (3): variance inflation factors (VIF) and tolerance levels after removing Overall Score

Variable	VIF	Tolerance (1/VIF)
Property Rights	**4.28**	**0.234**
Government Integrity	**7.14**	**0.140**
Judicial Effectiveness	**2.93**	**0.341**
Tax Burden	**2.24**	**0.447**
Government Spending	**1.73**	**0.577**
Fiscal Health	**1.27**	**0.790**
Business Freedom	**2.10**	**0.475**
Labor Freedom	**1.31**	**0.764**
Monetary Freedom	**1.86**	**0.538**
Trade Freedom	**1.73**	**0.578**
Investment Freedom	**3.33**	**0.300**
Financial Freedom	**2.98**	**0.336**
Mean VIF	**2.74**	

1.2.2 Hausman Test

Table (4): Hausman test results for model selection between fixed and random effects

Test:	H_0: difference in coefficients not systematic
$\chi^2(12)$	$= (b-B)'[Var(b)-Var(B)]^{-1}(b-B)$
	$= 14.20$
Prob > chi	$= 0.2884$

Based on the results presented in the table above, the most appropriate model for estimating the first model is the **random effects model**, as the p-value of the Hausman test exceeds 5%, indicating no significant difference between the fixed and random effects estimators.

i. RESET Test

Table (5): RESET test results for model specification validity

Ramsey RESET test using powers of the fitted values of Effective Entrepreneurship Rate	
H_0: model has no omitted variables	
$\mathbf{F(3, 1141)}$	$\mathbf{= 0.06}$
Prob > F	$\mathbf{= 0.9810}$

Based on the results above, at the 95% confidence level, we fail to reject the null hypothesis of the RESET test, indicating that the linear specification of the model is appropriate.

ii. Heteroskedasticity Test

Table (6): results for Breusch-Pagan/Cook-Weisberg test for heteroskedasticity

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity	
H_0: constant variance	
Variables: fitted values of Effective Entrepreneurship Rate	
$\chi^2(1)$	$= 99.04$
Prob > chi2	$= 0.0000$

Based on the results presented in the above table, we reject the null hypothesis of the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity at the 95% confidence level. This indicates that the variance of the residuals is not constant, suggesting the presence of heteroskedasticity. Therefore, robust estimation methods will be used to estimate the model parameters.

The results are summarized in the following table. According to the reported values, the p-value is 0.000, which is statistically significant at the 5% level. This indicates that at least one of the independent variables has a significant effect on Effective Entrepreneurship Rate. Furthermore, the adjusted R^2 value of

0.144 suggests a moderate model fit, meaning that the proposed model explains approximately 14.4% of the total variance in the dependent variable.

Table (7): summary of the first model

Number of Observations	**= 1157**
Wald Chi2(12)	**= 1686.47**
Prob > chi2	**= 0.0000**
R-squared	**= 0.144**

3. The Specification tests for model 2: The impact of Uncertain (Stochastic) institutional quality on effective entrepreneurship rate

a. Descriptive Statistics

This subsection presents descriptive statistics, including the mean, standard deviation, minimum, and maximum values, for all the variables used in the study.

Table (8): descriptive statistics of the key variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Stochastic Overall Score	**1,157**	**4.1858**	**0.1547**	**3.7302**	**4.4988**
Stochastic Property Rights	**1,157**	**4.2022**	**0.3209**	**3.3572**	**4.6069**
Stochastic Government Integrity	**1,157**	**3.9667**	**0.3984**	**2.6658**	**4.6066**
Stochastic Judicial Effectiveness	**1,157**	**4.0546**	**0.4586**	**2.7444**	**4.5896**
Stochastic Tax Burden	**1,157**	**4.3212**	**0.1933**	**3.7372**	**4.5970**
Stochastic Government Spending	**1,157**	**4.0091**	**0.4660**	**1.3582**	**4.5344**
Stochastic Fiscal Health	**1,157**	**3.9777**	**0.9210**	**-0.9675**	**4.7068**
Stochastic Business Freedom	**1,157**	**4.2525**	**0.1999**	**3.4512**	**4.5684**
Stochastic Labor Freedom	**1,157**	**4.0752**	**0.1774**	**3.4796**	**4.5131**
Stochastic Monetary Freedom	**1,157**	**4.3590**	**0.0888**	**4.0460**	**4.4691**
Stochastic Trade Freedom	**1,157**	**4.3353**	**0.1159**	**3.8501**	**4.5548**
Stochastic Investment Freedom	**1,157**	**4.1708**	**0.2871**	**2.9614**	**4.5053**
Stochastic Financial Freedom	**1,157**	**3.9684**	**0.3756**	**2.9353**	**4.5060**

b. Multicollinearity Test

Before estimating the model, multicollinearity must be assessed. As shown in the following table, the results indicate that most independent variables have acceptable VIF values below the common threshold of 10, suggesting no serious multicollinearity issues. However, variable stochastic overall score (vif = 24.56) exceeds this threshold, indicating a potential multicollinearity problem. To resolve this, we will remove the stochastic overall score and rerun the model.

Table (9): variance inflation factors (VIF) and tolerance levels for independent variables

Variable	VIF	Tolerance (1/VIF)
Stochastic Overall Score	24.56	0.041
Stochastic Property Rights	8.46	0.118
Stochastic Government Integrity	8.54	0.117
Stochastic Judicial Effectiveness	5.80	0.172
Stochastic Tax Burden	2.27	0.440
Stochastic Government Spending	2.19	0.457
Stochastic Fiscal Health	2.11	0.474
Stochastic Business Freedom	6.14	0.163
Stochastic Labor Freedom	2.98	0.335
Stochastic Monetary Freedom	2.04	0.490
Stochastic Trade Freedom	2.73	0.366
Stochastic Investment Freedom	2.96	0.338
Stochastic Financial Freedom	3.70	0.270
Mean VIF	5.73	

As shown below, the final set of variables that will be entered into the model includes all the original variables except stochastic overall score, which was excluded due to multicollinearity issues.

Table (10): variance inflation factors (VIF) and tolerance levels after removing stochastic overall score

Variable	VIF	Tolerance (1/VIF)
Stochastic Property Rights	**8.08**	**0.124**
Stochastic Government Integrity	**7.29**	**0.137**
Stochastic Judicial Effectiveness	**5.67**	**0.176**
Stochastic Tax Burden	**2.21**	**0.453**
Stochastic Government Spending	**1.77**	**0.566**
Stochastic Fiscal Health	**1.25**	**0.803**
Stochastic Business Freedom	**4.29**	**0.233**
Stochastic Labor Freedom	**2.26**	**0.443**
Stochastic Monetary Freedom	**2.04**	**0.490**
Stochastic Trade Freedom	**2.68**	**0.373**
Stochastic Investment Freedom	**2.62**	**0.381**
Stochastic Financial Freedom	**3.03**	**0.331**
Mean VIF	**3.60**	

c. Hausman Test

Table (11): Hausman test results for model selection between fixed and random effects

Test:	**H_0: difference in coefficients not systematic**
$\chi^2(12)$	$= (b-B)'[Var(b)-Var(B)]^{-1}(b-B)$
	$= 7.82$
Prob > chi	$= 0.7988$

Based on the results presented in the table above, the most appropriate model for estimating the second model is the **random effects model**, as the p-value of the Hausman test exceeds 5%, indicating no significant difference between the fixed and random effects estimators.

d. RESET Test

Table (12): RESET test results for model specification validity

Ramsey RESET test using powers of the fitted values of Effective Entrepreneurship Rate	
H_0: model has no omitted variables	
$\mathbf{F(3, 1141)}$	$\mathbf{= 0.80}$
Prob > F	$\mathbf{= 0.4940}$

Based on the results above, at the 95% confidence level, we fail to reject the null hypothesis of the RESET test, indicating that the linear specification of the model is appropriate.

e. Heteroskedasticity Test

Table (13): results for Breusch-Pagan/Cook-Weisberg test for heteroskedasticity

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity	
H_0: constant variance	
Variables: fitted values of Effective Entrepreneurship Rate	
$\chi^2(1)$	$= 53.87$
Prob > chi2	$= 0.0000$

Based on the results presented in the above table, we reject the null hypothesis of the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity at the 95% confidence level. This indicates that the variance of the residuals is not constant, suggesting the presence of heteroskedasticity. Therefore, robust estimation methods will be used to estimate the model parameters.

The results are summarized in the following table. According to the reported values, the p-value is 0.000, which is statistically significant at the 5% level. This indicates that at least one of the independent variables has a significant effect on

Effective Entrepreneurship Rate. Furthermore, the adjusted R^2 value of 0.272 suggests a moderate model fit, meaning that the proposed model explains approximately 27.2% of the total variance in the dependent variable.

Table (14): summary of the second model

Number of Observations	= 1157
Wald Chi2(12)	= 890.20
Prob > chi2	= 0.0000
R-squared	= 0.272

Chapter Four

Empirical Results and Analysis

Table (15): The Impact of observed versus uncertain (stochastic) Institutional Quality on Effective Entrepreneurship Rate

Independent Variables: Observed Scores (natural log) of Economic Freedom Index	Dependent Variables: Effective Entrepreneurship Rate	Independent Variables: Stochastic Scores (natural log) of Economic Freedom Index	Dependent Variables: Effective Entrepreneurship Rate
Property Rights	-3.53E-05	Stochastic Property Rights	-0.00042
	-0.000558		-0.00119
Government Integrity	0.00147**	Stochastic Government Integrity	0.00126
	-0.000729		-0.000812
Judicial Effectiveness	0.00015	Stochastic Judicial Effectiveness	0.00106**
	-0.000423		-0.000468
Tax Burden	0.00256***	Stochastic Tax Burden	0.00250***
	-0.000952		-0.000538
Government Spending	-0.00018	Stochastic Government Spending	0.00016
	-0.000228		-0.000157
Fiscal Health	0.00036***	Stochastic Fiscal Health	0.00052***
	-0.000104		-0.000147
Business Freedom	-0.00072	Stochastic Business Freedom	-0.00233**
	-0.000617		-0.000966
Labor Freedom	0.00140***	Stochastic Labor Freedom	0.00405***
	-0.000402		-0.000733
Monetary Freedom	0.00248**	Stochastic Monetary Freedom	-0.00156
	-0.00111		-0.00125
Trade Freedom	-0.00201***	Stochastic Trade Freedom	0.00019
	-0.000463		-0.00143
Investment Freedom	-0.00080**	Stochastic Investment Freedom	0.00017
	-0.000365		-0.000497
Financial Freedom	0.00259**	Stochastic Financial Freedom	0.00183***
	-0.000333		-0.000426
Constant	-0.02730***	Constant	-0.02730***
	-0.00813		-0.00894
Number Of Observations	1157	Number Of Observations	1157
Number Of Years	17	Number Of Years	17
Robust Standard Errors In Parentheses		Robust Standard Errors In Parentheses	
*** P<0.01, ** P<0.05, * P<0.1		*** P<0.01, ** P<0.05, * P<0.1	

The impact of taxes on entrepreneurship business:

The conventional theoretical framework posits that increases in taxation exert adverse effects on entrepreneurship and economic freedom, primarily by diminishing incentives for innovation and business formation. However, recent empirical investigations present a more nuanced understanding of this relationship. Popa et al. (2022) provides compelling evidence from Central and Eastern European countries indicating a positive correlation between elevated social insurance revenues and measures of economic freedom. This counterintuitive finding is attributed to the mediating influence of governance quality, including the provision of high-quality public services, policy stability, and effective anti-corruption mechanisms, which collectively enhance institutional trust and the sustainability of social insurance frameworks.

In parallel, Hedlund's analysis elucidates the dual role of marginal income tax rates and tax system architecture in shaping entrepreneurial behaviour and innovation. The research underscores that higher marginal tax rates, when coupled with structurally inefficient tax regimes, can act as significant disincentives for entrepreneurial engagement and innovation. Such fiscal environments may precipitate the geographic redistribution of entrepreneurial talent towards jurisdictions offering more favourable tax conditions, thereby affecting regional economic development trajectories.

Furthermore, Pratama's qualitative synthesis of extant scholarly literature through systematic review and thematic analysis reaffirms the suppressive effect of high tax rates on new business formation. This research also highlights the detrimental impact of tax complexity and compliance costs as structural impediments, particularly salient for nascent entrepreneurs who lack resources to navigate bureaucratic hurdles. Consequently, tax policy emerges as a critical determinant of entrepreneurial outcomes, necessitating a balanced approach that reconciles revenue generation with the minimization of barriers to entrepreneurial entry and growth. Collectively, these studies challenge the reductionist view of taxation's uniformly negative impact on entrepreneurship and economic freedom. Instead, they advance a more contextualized framework that recognizes the conditional effects of tax policy, moderated by institutional quality, governance effectiveness, and the broader fiscal environment. This underscores the importance of nuanced tax policy design that simultaneously promotes economic freedom, supports entrepreneurial dynamism, and ensures the fiscal sustainability of public systems.

The impact of fiscal health on entrepreneurship business

The corpus of empirical research delineates a substantive and positive association between entrepreneurial activity and the extent of economic freedom, with attendant enhancements in firms' fiscal robustness substantiated across diverse contexts.

Mondragón-Vélez (2015), leveraging longitudinal microdata from the Panel Study of Income Dynamics, rigorously interrogates the nexus between income inequality, middle-class financial stability, and entrepreneurial dynamism within the United States. The findings foreground these socioeconomic constructs as critical determinants influencing entrepreneurial entry and firm formation, thereby implicating structural income distribution dynamics as salient modulators of entrepreneurial ecosystems.

In a sector-specific empirical investigation, Yadav, Venkata, and Pradhan in Impact of financial, social and human capital on entrepreneurial success. They examine the variegated impacts of financial, social, and human capital endowments on entrepreneurial success within Nepal's emergent renewable energy sector. Utilizing a cross-sectional dataset comprising 264 respondents across 118 enterprises, the authors operationalize key predictor variables including initial capital investment, access to financial resources, network connectivity, trust embedded within social ties, shared organizational vision, educational qualifications, and prior experiential knowledge. Employing multivariate statistical techniques specifically, correlation and multiple regression analyses facilitated via IBM SPSS Statistics 20 the study elucidates that access to finance, relational network ties, intra-network trust, educational attainment, and entrepreneurial experience serve as statistically

significant predictors of venture success, whereas initial investment magnitude and shared vision exert comparatively negligible effects. These empirically derived insights possess pronounced strategic import for the optimization of renewable energy enterprises specializing in biogas, solar, and micro-hydro technologies, and the authors advocate for subsequent empirical research extending to ancillary subsectors such as improved cooking stoves, wind power, and biomass energy, to enhance the external validity and sectoral comprehensiveness of entrepreneurial capital determinants. Complementing these investigations, Bedard critically evaluates the entrenched economic orthodoxy positing that intrinsic entrepreneurial passion predominantly drives business formation, largely insulated from fiscal considerations. Contravening this paradigm, Bedard emphasizes the fundamental economic precept that cost heterogeneity materially conditions human behavioral responses and underscores the extant ambiguity regarding the efficacy of public policy interventions aimed at attenuating financial impediments to entrepreneurial engagement. This scholarship calls for methodologically rigorous, transparent analyses of fiscal instruments and policy modalities to elucidate their nuanced roles in facilitating or constraining the entrepreneurial process. Taken collectively, these contributions advance a multifactorial understanding of entrepreneurship, elucidating the intricate interdependencies between macroeconomic freedom, capital

typologies (financial, social, human), socioeconomic stratification, and policy frameworks. Such an integrative perspective is indispensable for the formulation of evidence-based strategies to cultivate entrepreneurial ecosystems that are both contextually responsive and structurally enabling across varied institutional and sectoral milieus.

The impact of labor freedom on entrepreneurship businesses:

This study critically examines the interrelations among labor freedom, entrepreneurship, and economic freedom, with particular emphasis on their collective implications for unemployment and economic development. Building upon the empirical findings of McMullen, Bagby, and Palich (2008), the analysis reveals that augmentations in labor freedom exert a positive influence on both opportunity-motivated entrepreneurship (OME) and necessity-motivated entrepreneurship (NME), notwithstanding the inverse relationship between entrepreneurial activity and rising GDP per capita. The study further delineates the distinct institutional antecedents of these entrepreneurial modalities, demonstrating that OME is predominantly associated with the protection of property rights, whereas NME correlates more strongly with fiscal and monetary freedoms. Complementing these insights, the work of Marič, Žnidaršič, and Jeraj foregrounds the nexus between entrepreneurship and unemployment, particularly within the milieu of global economic recessions and pervasive labor

market dislocations. In response to systemic unemployment and macroeconomic volatility, state actors have increasingly deployed subsidization strategies designed to incentivize entrepreneurial undertakings as alternative mechanisms for income generation and economic integration. Notably, entrepreneurship diverges substantively from conventional employment paradigms, characterized by its relative deficit in social security provisions and dependence upon multifaceted determinants encompassing regulatory environments, institutional infrastructures, and supportive ecosystems such as technology parks and university incubators. Empirical data sourced from the Global Entrepreneurship Monitor (GEM, 2008) indicate a discernible upward trajectory in entrepreneurial engagement worldwide, a trend further intensified by the exigencies of the international economic crisis, which has precipitated structural adjustments and sustained elevated unemployment rates. Within this context, the present investigation advances a reciprocal hypothesis positing that heightened unemployment rates serve as catalysts for increased entrepreneurial activity, while concomitantly, the proliferation of entrepreneurship contributes to mitigating unemployment. This proposition is subjected to rigorous empirical scrutiny via correlational and regression analyses employing cross-national datasets. The anticipated findings aspire to inform policy frameworks predicated upon evidence-based strategies that

harness entrepreneurship as a pivotal instrument for economic recovery and the amelioration of social welfare.

The impact of financial freedom on entrepreneurship businesses

Extant literature robustly substantiates the pivotal role of financial and economic freedoms in fostering entrepreneurial activity and, by extension, promoting economic development. Empirical investigations consistently reveal that enhancements in financial freedom and the diversification of financial activities serve as catalysts for entrepreneurship and concomitant economic freedom. Herrera Echeverri, Haar, and Estévez Bretón (2014) provide compelling evidence of a significant positive association between institutional quality and the rate of business formation across diverse income strata. Their findings elucidate that entrepreneurial dynamism in emerging economies is predominantly contingent upon the degree of freedom to initiate enterprises and engage in investment activities, whereas, in low-income countries, entrepreneurial proliferation is more strongly influenced by international trade openness. In a complementary study, Shakya and Plemmons (2015) employ a longitudinal analysis of U.S. entrepreneurial activity from 2005 to 2015, operationalizing entrepreneurship via startup density and assessing economic freedom through the Economic Freedom of North America index. Utilizing the post-double-selection LASSO econometric technique, their analysis reveals that increased

regulatory freedom significantly augments entrepreneurial entry, whereas higher degrees of government spending and taxation freedom exhibit a countervailing effect, attenuating startup density. This dichotomous impact underscores the heterogeneity inherent within the dimensions of economic freedom as they relate to entrepreneurial outcomes.

Further extending the empirical inquiry to a global scale, Dempere and Pauceanu in External factors influencing Fablabs' performance they examine the interplay between entrepreneurship and economic freedom through the prism of the Heritage Foundation's Index of Economic Freedom and the Global Entrepreneurship Index (GEI). The GEI's tripartite sub-indices entrepreneurial attitudes, abilities, and aspirations serve as proxies for the multifaceted nature of national entrepreneurial ecosystems. Employing generalized linear models and panel-corrected standard error estimations on a dataset encompassing 118 countries from 2014 to 2019, their research offers a comprehensive assessment of the extent to which the various dimensions of economic freedom influence entrepreneurial activity worldwide. Collectively, these scholarly contributions elucidate that while economic and financial freedoms broadly underpin entrepreneurial vitality, their constituent elements exert heterogeneous effects contingent upon the institutional and economic context. This nuanced understanding informs the formulation of targeted policy interventions designed to optimize

entrepreneurial development and, by extension, economic growth.

Chapter 5

Conclusion and Recommendations

This chapter summarizes the thesis and findings of the study including main parts which are: summarizing the study, Conclusion of results, limitation that faces this study, implications for the other research and future work and recommendation.

5.1 Summary of the Study

This study undertakes a comprehensive examination of the interdependent relationships between taxation, fiscal health, labor freedom, and financial freedom, and their collective influence on entrepreneurial activity and economic freedom. Through a synthesis of extant empirical research, theoretical perspectives, and sector-specific analyses, the study interrogates conventional economic paradigms that have predominantly framed taxation as a uniformly inhibitory factor to entrepreneurship. The evidence assembled herein reveals a more nuanced and contextually contingent relationship, wherein the effects of tax policy on entrepreneurial outcomes are significantly mediated by institutional quality, governance structures, and the broader fiscal and regulatory environment. In particular, the provision of high-quality public services, policy stability, and effective anti-corruption mechanisms are identified as critical determinants that

can mitigate the potentially adverse impacts of elevated tax burdens and enhance the sustainability of entrepreneurial ventures. Further, the study elucidates the pivotal role of fiscal health in shaping entrepreneurial ecosystems, foregrounding the positive correlation between economic freedom and entrepreneurial dynamism. Empirical findings highlight the significance of diverse capital endowments including financial, social, and human capital as well as the socioeconomic stratification and income distribution dynamics that collectively influence firm formation and entrepreneurial success. This multifactorial perspective underscores the necessity of situating entrepreneurship within its broader socioeconomic and policy contexts, particularly in emerging economies and sectoral niches such as renewable energy.

The inquiry into labor freedom expands understanding of the differentiated impacts on opportunity-motivated versus necessity-driven entrepreneurship. It also underscores the reciprocal interaction between entrepreneurship and unemployment, positing entrepreneurship not only as an outcome but also as an instrumental policy response to labor market volatility and economic downturns. The analysis emphasizes the importance of institutional frameworks and supportive ecosystems, including regulatory environments and innovation incubators, in facilitating entrepreneurial activity amid economic uncertainty.

Finally, the study affirms the centrality of financial freedom in fostering entrepreneurial entry and growth, while concurrently revealing heterogeneity in the effects of its constituent elements. Regulatory freedom, government spending, and taxation dimensions demonstrate variable influences on entrepreneurial activity, necessitating finely calibrated policy interventions tailored to the institutional and economic characteristics of different jurisdictions.

In aggregate, this research contributes a sophisticated theoretical and empirical framework that reconceptualizes the relationship between economic freedoms and entrepreneurship as inherently complex, contingent, and context dependent. It offers substantive insights for policymakers tasked with designing fiscal and regulatory regimes that judiciously balance the imperatives of revenue generation with the facilitation of entrepreneurial innovation and expansion. Such policy architectures are crucial for cultivating resilient, dynamic, and inclusive entrepreneurial ecosystems capable of sustaining long-term economic growth and development across diverse institutional and sectoral contexts.

5.2. conclusion:

This study offers a comprehensive and critical analysis of the multifaceted effects exerted by taxation, fiscal health, labor freedom, and financial freedom on entrepreneurial activity. The findings problematize the traditional economic orthodoxy that

posits a uniformly adverse impact of taxation on entrepreneurship. Instead, this research demonstrates that the influence of tax policy is conditional upon institutional quality, governance efficacy, and the capacity of public institutions to deliver high-quality services, maintain policy stability, and enforce anti-corruption mechanisms. Such factors engender institutional trust and facilitate the sustainability of social insurance frameworks, thereby mitigating the potentially inhibitory effects of elevated tax burdens on entrepreneurial dynamism. In relation to fiscal health, the empirical evidence corroborates a positive association between economic freedom and entrepreneurial vitality, mediated through multifarious capital endowments including financial, social, and human capital and shaped by socioeconomic stratification. The nuanced interplay among these variables elucidates the critical importance of contextualizing entrepreneurship within broader structural and policy environments. This integrative perspective is particularly salient in emerging economies and sector-specific domains where access to diverse forms of capital decisively influences entrepreneurial success. The investigation into labor freedom underscores its salient role in fostering both opportunity-driven and necessity-driven entrepreneurship. Moreover, the bidirectional relationship between entrepreneurship and unemployment underscores the utility of entrepreneurship as a strategic policy instrument to ameliorate labor market

dislocations and enhance economic resilience, particularly amidst macroeconomic perturbations. The findings thereby contribute to a more granular understanding of how labor market institutions and freedoms can engender entrepreneurial responses to structural economic challenges. Finally, the analysis of financial freedom affirms its foundational significance in enabling entrepreneurial entry and expansion. Nevertheless, the heterogeneous effects observed across distinct dimensions of financial freedom ranging from regulatory burdens to government expenditure and taxation highlight the imperative for tailored, context-sensitive policy interventions. These interventions must be carefully calibrated to optimize entrepreneurial outcomes while safeguarding fiscal sustainability and institutional integrity.

Collectively, this research advances a sophisticated theoretical and empirical framework that reconceptualizes the nexus between economic freedoms and entrepreneurship as inherently contingent and context dependent. The implications for policymakers are clear: the design of fiscal and regulatory regimes must balance the exigencies of revenue generation with the imperative to cultivate conducive environments for entrepreneurial innovation and growth. Such calibrated policy architectures are indispensable for fostering resilient entrepreneurial ecosystems capable of sustaining long-term

economic development across diverse institutional and sectoral landscapes.

5.3. Recommendation:

Considering the findings presented in this study, several avenues for future research are recommended to further deepen the understanding of the complex interplay between economic freedom, institutional quality, and entrepreneurial dynamics.

First, future research should engage in comparative cross-national analyses that extend beyond the regional and sectoral contexts examined herein, particularly focusing on low-income and developing economies where institutional fragility and informal economic structures may significantly mediate the effects of tax policy, labor regulations, and financial freedoms. Longitudinal designs capturing temporal shifts in economic policy and governance reforms would offer valuable insights into the causal mechanisms through which macroeconomic freedoms influence entrepreneurial ecosystems over time.

Second, subsequent studies would benefit from a more granular exploration of institutional variables, including regulatory transparency, judicial independence, administrative efficiency, and anti-corruption enforcement. These dimensions, while implicitly acknowledged in the present study, warrant direct empirical investigation using refined indicators to assess their moderating or mediating roles in shaping entrepreneurial outcomes.

Third, further research is needed to explore the sectoral heterogeneity of entrepreneurial responses to policy changes. Specifically, disaggregated analyses across knowledge-intensive industries, green technologies, informal sectors, and digital entrepreneurship could uncover differentiated policy sensitivities and capital requirements that are not captured in aggregate-level analyses.

Fourth, future work should incorporate mixed methods approaches that integrate quantitative modelling with qualitative insights derived from case studies, interviews, and ethnographic methods. Such an approach would allow for a more contextually grounded understanding of how entrepreneurs perceive and respond to structural barriers, institutional arrangements, and fiscal stimuli.

Lastly, it is recommended that future studies explore the interdependencies among various forms of economic freedom such as trade openness, investment freedom, and property rights protections and how their synergies or trade-offs influence entrepreneurial motivation, firm survival, and innovation trajectories. This multidimensional analysis could yield more robust policy recommendations tailored to the needs of diverse entrepreneurial environments.

By addressing these research gaps, future scholarly inquiry can contribute to the development of a more holistic, empirically grounded, and policy-relevant understanding of the institutional

and macroeconomic determinants of entrepreneurship in the 21st century.

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Appendix: Definitions of the variables

The Heritage Foundation defines he components of the Index of Economic Freedom as follows. https://www.heritage.org/index/

Variable	Definition
Effective Entrepreneurship Rate	**The percentage of the population actively engaged in entrepreneurial activities.**
Property Rights	**Effective legal frameworks protect the rights of all citizens against infringement of the law by others, including infringement by governments and powerful non-governmental parties.**
Government Integrity	**In a socially and culturally diverse world, practices that are regarded as corrupt in one place may simply reflect traditional interactions in another.**
Judicial Effectiveness	**Effective legal frameworks protect the rights of all citizens against infringement of the law by others, including infringement by governments and powerful non-governmental parties.**
Tax Burden	**All governments impose fiscal burdens on economic activity through taxation and borrowing.**
Government Spending	**The cost, size, and intrusiveness of government taken together are a central economic freedom issue that the *Index* measures in a variety of ways.**
Fiscal Health	**One of the clearest indicators of the extent to which a society respects the principle of limited government is its government's budget.**
Business Freedom	**An individual's ability to establish and run an enterprise without undue interference from the state is one of the most fundamental indicators of economic freedom.**
Labor Freedom	**The ability of individuals to find employment opportunities and work is essential to the advancement of economic freedom.**
Monetary Freedom	**Monetary freedom requires a stable currency and market-determined prices. Whether acting as entrepreneurs or as consumers, economically free people need a steady and reliable currency as a medium of exchange, unit of account, and store of value.**
Trade Freedom	**Many governments restrict their citizens' ability to interact freely as buyers or sellers in the international marketplace.**

Investment Freedom	**A free and open investment environment provides more entrepreneurial opportunities and incentives for expanded economic activity, greater productivity, and job creation than any other.**
Financial Freedom	**An accessible and efficiently functioning formal financial system ensures the availability of diversified savings, credit, payment, and investment services to individuals and businesses**

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