Youth Entrepreneurship and Its Determinants: A Data Analysis with Global Entrepreneurship Monitor

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ABSTRACT

This thesis examines the determinants of youth entrepreneurship in Europe, using data from the Global Entrepreneurship Monitor. Focusing on individuals aged 18-30 from 14 European countries, the study employs binary logistic regression to analyze various factors influencing the likelihood of entrepreneurial engagement. Key findings reveal the positive impact of having a role model, self-perceived knowledge and skills, education, and age on entrepreneurship. Conversely, a perceived lack of market opportunities and fear of failure are negatively associated with entrepreneurial activities. The research contributes to the understanding of youth entrepreneurship, highlighting the importance of mentorship, education, and a supportive environment. The study's implications are significant for policymakers and educators, providing insights for fostering youth entrepreneurship in a rapidly evolving economic landscape. However, limitations include the data's collection year (2019) and challenges in model classification, indicating the need for ongoing research in this dynamic field.

Keywords: Youth Entrepreneurship, Global Entrepreneurship Monitor, European Entrepreneurship

ÖZ

Bu tez, Avrupa'daki genç girişimciliğin belirleyicilerini, Global Girişimcilik Monitörü'nden alınan verileri kullanarak inceler. Çalışma, 14 Avrupa ülkesinden 18-30 yaş arası bireyler üzerinde odaklanarak, girişimcilikle ilgilenme olasılığını etkileyen çeşitli faktörleri analiz etmek için ikili lojistik regresyon yöntemini kullanır. Ana bulgular, rol model sahibi olmanın, öz algılanan bilgi ve beceriler, eğitim ve yaşın girişimcilik üzerindeki olumlu etkisini ortaya koyar. Buna karşılık, piyasa fırsatlarının yetersiz algılanması ve başarısızlık korkusu, girişimcilik faaliyetleriyle negatif bir ilişki içindedir. Araştırma, genç girişimciliğin anlaşılmasına katkıda bulunarak, mentorluk, eğitim ve destekleyici bir çevrenin önemini vurgular. Çalışmanın sonuçları, hızla gelişen ekonomik bir manzarada genç girişimciliği teşvik etmek için politika yapıcıları ve eğitimcilere önemli içgörüler sunar. Ancak, çalışmanın sınırlılıkları arasında verilerin toplama yılı (2019) ve model sınıflandırmasındaki zorluklar yer almakta olup, bu dinamik alanda devam eden araştırmaların gerekliliğini işaret eder.

Anahtar Kelimeler: Genç Girişimcilik, Global Girişimcilik Monitörü, Avrupa Girişimciliği

DEDICATION

I dedicate this thesis to my beloved grandfather, Özdem Bozdağlılar, who has been an endless source of support throughout my life, always standing behind me whenever I faced difficulties, and whom I lost during the thesis writing phase. Rest in peace, Rambo.

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INTRODUCTION

Youth entrepreneurship stands at the forefront of fostering innovation and economic progress in Europe, representing a vital component for the future of its economies. This thesis, titled "Youth Entrepreneurship and Its Determinants: A Data Analysis with Global Entrepreneurship Monitor Data," embarks on a journey to dissect and understand the intricate dynamics of youth entrepreneurship across European nations. It aims to shed light on the various forces that shape the entrepreneurial aspirations and capabilities of Europe's youth, a segment full of potential yet often fraught with challenges and uncertainties.

The importance of this study lies in its focus on a demographic that is crucial yet often overlooked in traditional economic analyses: young entrepreneurs. By honing in on this group, the thesis seeks to unravel the unique set of factors that influence their entrepreneurial journey – from socio-economic backgrounds to the accessibility of resources and support systems. This exploration is particularly timely, given the rapidly changing economic landscape of Europe, marked by technological advancements and evolving market dynamics.

To achieve its objectives, this thesis utilizes the rich and diverse dataset provided by the Global Entrepreneurship Monitor (GEM). The GEM's comprehensive data offers an unparalleled view into the world of entrepreneurship, encompassing various

indicators and metrics that are pivotal in understanding the entrepreneurial ecosystem. This analysis is not just about numbers and trends; it is a deeper dive into the stories and experiences of young entrepreneurs, providing a window into their challenges, motivations, and aspirations.

The study's approach is both analytical and empathetic, aiming to bridge the gap between statistical data and real-world implications. It navigates through the complex interplay of education, culture, policy, and economic factors that mold the entrepreneurial spirit within Europe's youth. In doing so, the thesis aims to provide actionable insights for policymakers, educators, and the entrepreneurial community, guiding efforts to create an environment that nurtures and supports the ambitions of young entrepreneurs in Europe.

Chapter 2

LITERATURE REVIEW

Youth entrepreneurship has gained significant attention in recent years as a driving force for economic development and innovation on a global scale. This literature review synthesizes existing research to provide insights into the determinants influencing global youth entrepreneurship. Understanding the factors that contribute to the initiation and success of youth-led ventures is crucial for policymakers, educators, and entrepreneurs themselves.

One key determinant explored is the educational system. Studies highlight the significance of entrepreneurship education in equipping youth with the necessary skills and mindset. Institutions offering comprehensive entrepreneurial programs contribute positively to shaping future entrepreneurs. Research (Shane, 2003) underscores the significance of formal education, vocational training, and experiential learning in cultivating an entrepreneurial mindset. Developing critical skills such as problem-solving, creativity, and risk assessment through educational channels is pivotal in influencing entrepreneurial proclivities among the youth. In addition, (Sambo, 2016) stresses the fact that entrepreneurial education should positively influence youth entrepreneurship. It has been found out that educational level and entrepreneurial activity of youngsters were not related. Therefore, any young person who has received any informal training in entrepreneurship can start and sustain a business.

Access to financial resources emerges as another critical factor. The research underscores the importance of facilitating funding opportunities tailored to the unique challenges faced by young entrepreneurs, promoting a more inclusive entrepreneurial ecosystem. According to (Karadžić et al., 2005), young entrepreneurs have little knowledge about conditions required to start a business and about the supportive entrepreneurial ecosystem. Also, (Egorov et al., 2019) highlighted that innovative entrepreneurship indicates that talented youth should be supported, but conditions of creativity and creative self-realization should also be provided.

Furthermore, cultural and social factors play a substantial role. The literature emphasizes the impact of societal attitudes towards risk-taking, failure, and innovation on the willingness of youth to engage in entrepreneurial activities. Understanding and addressing these cultural nuances are vital for effective policy formulation. Hofstede (Hofstede, 1983) highlights the impact of cultural dimensions on entrepreneurial behavior. Individualism, risk tolerance, and attitudes toward failure within a given culture significantly influence the propensity of youth to engage in entrepreneurship.

Government policies and support mechanisms also feature prominently in the literature. Studies explore the role of policy frameworks, incubators, and mentorship programs in fostering a conducive environment for youth entrepreneurship. The effectiveness of such policies is contingent on their adaptability to the diverse socio-economic contexts across European regions.

In conclusion, the literature on European youth entrepreneurship and its determinants underscores the multifaceted nature of this phenomenon. Education, financial resources, cultural influences, and policy interventions collectively shape the

entrepreneurial landscape for young individuals, emphasizing the need for comprehensive and tailored approaches to support their ventures. A detailed overview of the investigated literature is presented in Table 1.

Table 1: Review of the Literature

Author	Title of the paper	Conclusion
(Hofstede, 1983)	Culture's Consequences: International Differences in Work-Related Values	Highlights the impact of cultural dimensions on entrepreneurial behavior. Individualism, risk tolerance, and attitudes toward failure within a given culture significantly influence the propensity of youth to engage in entrepreneurship.
(Shane, 2003)	A General Theory of Entrepreneurship: The Individual-Opportunity Nexus	Formal education, vocational training, and experiential learning are significant in cultivating an entrepreneurial mindset. Developing critical skills such as problem-solving, creativity, and risk assessment through educational channels is pivotal in influencing entrepreneurial proclivities among the youth. Education contributes to entrepreneurial success by enhancing problem-solving abilities and strategic thinking. The prevalence of young entrepreneurs, driven by their risk-taking propensity

		and agility in adapting to technological advancements
(Karadžić et al., 2005)	Opportunities and challenges in promoting youth entrepreneurship in Montenegro	Young entrepreneurs have little knowledge about the conditions required to start a business and about the supportive entrepreneurial ecosystem.
(Egorov et al., 2019)	Youth Entrepreneurship: Motivational Aspects and Economic Effects	Innovative entrepreneurship indicates that talented youth should be supported, but the conditions of creativity and creative self-realization should also be provided.
(Ćockalo et al., 2020)	Youth Entrepreneurship Development: A Review Of Literature and Ten-Year Research Results	Youth entrepreneurship and entrepreneurship overall reduce unemployment rates, increase the creation and circulation of value on various markets, increase competitiveness on a national level, and overall improve the standard of living
(Sambo, 2016)	Factors affecting youth entrepreneurship development within Kibera, Kenya: the perspective of entrepreneurship education	Provision and access to entrepreneurship education and training, the relationship between the level of education and youth entrepreneurship development. The study found that the provision of entrepreneurship education has a strong positive

		relationship with the development of youth entrepreneurship and the level of education has a very weak positive relationship with youth entrepreneurship development. the level of education and youth entrepreneurship development indicated that youth entrepreneurship does not depend on the level of education attained by the youth. Therefore, this study suggests that any youth, with a little formal or informal education on entrepreneurship, can start and maintain a business.
(Halabisky, 2012)	Entrepreneurial Activities in Europe - Youth Entrepreneurship	In the past three years, Europe has experienced a significant rise in unemployment, with the situation being particularly challenging for young people entering the labor market. In response to this, many young individuals have shown a growing interest in self-employment. Governments across Europe have responded by implementing a range of programs aimed at assisting them in starting their own businesses. These initiatives include providing entrepreneurship education and training, access to information and advice, coaching and mentoring services, financial support, and essential infrastructure such as incubators and business networks for young entrepreneurs. To enhance the effectiveness and efficiency of these programs,

		policies are being directed to specifically target resources towards those young people who are most likely to succeed in their entrepreneurial endeavors. This approach also involves offering adequate support for these individuals to start businesses in sectors that aren't just easy to enter but are also less saturated with competition. Additionally, there is a focus on providing a comprehensive suite of support services, rather than relying on singular, isolated interventions.
(Charles, 2015)	A Systematic review on the effectiveness of Youth Entrepreneurship Programs	To add to the heavy tax burden, lack of government capacity in addition to rigid administrative bottlenecks have been a potential source of obstacles in fostering the effectiveness of youth employment programs in most nations. societal norms particularly when it comes to resource and land ownership also serve as an obstacle to the success of most employment promotion programs. The structure of an economy also has an impact on the success of YEPs. In addition to poor performance and weak market demand associated with most developing economies, the existence of many monopolies in the market altogether serves as limiting factors to young entrepreneurs just entering the market. Lack of entrepreneurial education and culture is also a major obstacle to most youths

		engaging in entrepreneurship. Most developing nation's educational systems are more oriented toward general education and limited attention is given to innovative and practical learning
(Bandura, 1977)	Social Learning Theory	This classic work by Albert Bandura outlines the social learning theory, which posits that individuals learn from observing others. Role models can serve as powerful sources of learning and inspiration, potentially influencing entrepreneurial behavior.
(Wiklund et al., 2019)	Conquering Relevance: Entrepreneurship Research's Grand Challenge	The ongoing relevance of opportunity perception in contemporary entrepreneurial settings, emphasizes its positive impact on the decision to become an entrepreneur.
(Zahra & Wright, 2011)	Entrepreneurship's Next Act	The dynamics of entrepreneurial opportunities suggest that entrepreneurs who possess a heightened sensitivity to market trends and disruptions are more likely to initiate and sustain ventures
(Obschonka et al., 2013)	The Regional Distribution and Correlates of an Entrepreneurship-Prone Personality Profile in the United States, Germany, and the United Kingdom: A	The critical role of entrepreneurial knowledge and skills in successfully implementing business ideas.

	Socioecological Perspective	
(Sarasvathy, 2001)	Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency	Successful entrepreneurship involves not only recognizing opportunities but also effectively acting upon them.
(Shepherd, 2003)	Learning from Business Failure: Propositions of Grief Recovery for the Self-Employed	Model of entrepreneurial intentions, fear of failure is a critical factor that negatively affects an individual's intention to pursue entrepreneurial opportunities.
(Hmieleski & Baron, 2009)	Entrepreneurs' Optimism And New Venture Performance: A Social Cognitive Perspective	Fear of failure can lead to risk aversion, inhibiting individuals from taking the necessary risks in entrepreneurial endeavors.
(Aghion et al., 2014)	What Do We Learn from Schumpeterian Growth Theory?	Individuals who exhibit a strong aversion to income inequality may be less inclined to engage in entrepreneurial activities that have the potential to lead to disparate financial outcomes.
(Fehr & Schmidt, 1999)	A Theory of Fairness, Competition, and Cooperation	Individuals who strongly prefer equity and equality in economic outcomes may find the inherent financial risk and variation in entrepreneurial success less appealing, thus reducing the probability of venturing into entrepreneurship.
(van Gelderen et al., 2008)	Explaining entrepreneurial intentions utilizing the	Higher education levels positively influenced the likelihood of individuals

	theory of planned behavior	engaging in entrepreneurship.
(Kuratko, 2005)	The Emergence of Entrepreneurship Education: Development, Trends, and Challenges	The positive influence of education on entrepreneurship is reinforced by studies highlighting the role of entrepreneurial education programs in encouraging and equipping individuals to pursue entrepreneurial ventures
(Stephan & Uhlaner, 2010)	Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship.	Individuals with higher education tend to be more entrepreneurial, benefiting from a broader skill set and a deeper understanding of business concepts.
(Block & Wagner, 2010)	Necessity and Opportunity Entrepreneurs in Germany: Characteristics and Earnings Differentials	Often equipped with industry expertise and a robust professional network, older individuals may be more inclined to identify and exploit entrepreneurial opportunities.
(Kautonen et al., 2014)	Aging and entrepreneurial preferences	The concept of "midlife entrepreneurship" posits that individuals in their midlife or later years may pursue entrepreneurship as a response to career transitions or a desire for greater autonomy

Research has indicated that exposure to successful entrepreneurs as role models can positively impact individuals' attitudes toward entrepreneurship.

Role models may help reduce the perceived barriers to entrepreneurship and increase self-efficacy, making individuals believe they can successfully start and run a business.

Entrepreneurial education programs often emphasize the importance of mentorship and role models. Learning from the experiences of successful entrepreneurs can provide valuable insights and guidance.

Having a role model can facilitate networking opportunities. Entrepreneurs may connect with like-minded individuals or experienced professionals through their role models, potentially opening doors to resources and support.

The influence of role models on entrepreneurship has been a subject of interest in academic research. Role models can play a significant role in shaping individuals' entrepreneurial aspirations and behaviors. Observing successful entrepreneurs can provide inspiration, motivation, and practical insights for potential entrepreneurs.

Classic Work (Bandura, 1977) outlines the social learning theory, which posits that individuals learn from observing others. Role models can serve as powerful sources of learning and inspiration, potentially influencing entrepreneurial behavior. As a result, the first hypothesis is being formulated as:

H1. Having entrepreneurial role models increases the probability of becoming an entrepreneur.

The likelihood of individuals venturing into entrepreneurship is closely linked to their possession of essential knowledge, skills, and experience required for initiating a new business. Empirical studies by (Obschonka et al., 2013) highlight the critical role of entrepreneurial knowledge and skills in successfully implementing business ideas. (Sarasvathy, 2001) the argument is that successful entrepreneurship involves not only recognizing opportunities but also effectively acting upon them. In summary, the accumulation of the necessary knowledge, skill set, and experience significantly enhances the probability of individuals entering the realm of entrepreneurship.

This comprehensive understanding is crucial for guiding policy and educational interventions to foster entrepreneurship. As a result, the second hypothesis is formulated as:

H2. The perception of having the necessary knowledge, skills, and experience to start a new business increases the probability of becoming an entrepreneur.

Recent entrepreneurship literature affirms the critical relationship between perceiving market opportunities and the likelihood of individuals engaging in entrepreneurial activities. Research by (Zahra & Wright, 2011) delves into the dynamics of entrepreneurial opportunities, suggesting that entrepreneurs who possess a heightened sensitivity to market trends and disruptions are more likely to initiate and sustain ventures. Furthermore, the work of (Wiklund et al., 2019) highlights the ongoing relevance of opportunity perception in contemporary entrepreneurial settings, emphasizing its positive impact on the decision to become an entrepreneur.

Collectively, these insights underscore the integral role of perceiving market opportunities in increasing the probability of individuals venturing into entrepreneurship and lead to the formulation of the third hypothesis as:

H3. The perception of an absence of market opportunities decreases the probability of becoming an entrepreneur.

While the desire for financial success is often considered a driving force behind entrepreneurial pursuits, research suggests that a preference for a similar standard of living for everyone may decrease the probability of individuals becoming entrepreneurs. A key factor contributing to this phenomenon is the relationship between income inequality aversion and entrepreneurial intentions. Studies, such as those conducted by (Aghion et al., 2014), indicate that individuals who exhibit a strong aversion to income inequality may be less inclined to engage in entrepreneurial activities that have the potential to lead to disparate financial outcomes. Moreover, research in behavioral economics, as exemplified by (Fehr & Schmidt, 1999), emphasizes the significance of fairness preferences in decision-making. Individuals who strongly prefer equity and equality in economic outcomes may find the inherent financial risk and variation in entrepreneurial success less appealing, thus reducing the probability of venturing into entrepreneurship.

Understanding the interplay between preferences for economic equality and entrepreneurial intentions is essential for policymakers and educators seeking to encourage a diverse range of individuals to pursue entrepreneurial paths.

H4: Desire of a similar standard of living for everyone decreases the probability of becoming an entrepreneur.

The fear of failure is a pervasive psychological barrier that has been consistently identified as a significant factor influencing the probability of individuals becoming entrepreneurs. Research suggests that individuals who harbor a high fear of failure are less likely to engage in entrepreneurial activities. According to the (Shepherd, 2003) model of entrepreneurial intentions, fear of failure is a critical factor that negatively affects an individual's intention to pursue entrepreneurial opportunities. Additionally, (Hmieleski & Baron, 2009) highlights that fear of failure can lead to risk aversion, inhibiting individuals from taking the necessary risks inherent in entrepreneurial endeavors.

As a result, understanding and addressing the fear of failure is essential for fostering an entrepreneurial mindset and encouraging individuals to overcome this psychological barrier. The fifth hypothesis is formulated as:

H5: Fearing failure decreases the probability of becoming an entrepreneur.

A growing body of research suggests a positive correlation between educational level and the probability of individuals becoming entrepreneurs. Higher levels of education are often associated with increased entrepreneurial activity, as education provides individuals with valuable skills, knowledge, and networks that can be instrumental in starting and managing a business. Several studies support this idea, such as those conducted by (van Gelderen et al., 2008), which found that higher education levels positively influenced the likelihood of individuals engaging in entrepreneurship.

Similarly, research (Stephan & Uhlaner, 2010) indicated that individuals with higher education tend to be more entrepreneurial, benefiting from a broader skill set and a deeper understanding of business concepts.

Moreover, education imparts practical skills and fosters an entrepreneurial mindset and innovation. This aligns with the findings of (Shane, 2003), who argued that education contributes to entrepreneurial success by enhancing problem-solving abilities and strategic thinking. Additionally, the positive influence of education on entrepreneurship is reinforced by studies highlighting the role of entrepreneurial education programs in encouraging and equipping individuals to pursue entrepreneurial ventures (Kuratko, 2005).

Understanding the relationship between educational level and entrepreneurship is crucial for policymakers and educators seeking to foster entrepreneurial ecosystems. As such, the sixth hypothesis is formulated as:

H6: Level of education increases the probability of becoming an entrepreneur.

Research on the relationship between age and entrepreneurship has produced nuanced findings, suggesting that age can influence the probability of individuals becoming entrepreneurs in various ways. While traditional views may associate entrepreneurship more with younger individuals, recent research indicates a more complex picture.

Studies such as those conducted by (Block & Wagner, 2010) have suggested a positive correlation between age and entrepreneurial activity, particularly in terms of experience-driven opportunities. Older individuals, often equipped with industry

expertise and a robust professional network, may be more inclined to identify and exploit entrepreneurial opportunities. Moreover, the concept of "midlife entrepreneurship" posits that individuals in their midlife or later years may pursue entrepreneurship as a response to career transitions or a desire for greater autonomy (Kautonen et al., 2014).

On the other hand, the literature also acknowledges the prevalence of young entrepreneurs, driven by their risk-taking propensity and agility in adapting to technological advancements (Shane, 2003). This perspective underscores that entrepreneurship is not exclusively linked to age but rather to a combination of individual characteristics and contextual factors.

Understanding the interplay between age and entrepreneurship is vital for policymakers and educators aiming to create inclusive entrepreneurial ecosystems. As such, the last hypothesis is formulated as:

H7: Increased age of youngsters increases the probability of becoming an entrepreneur.

These hypotheses and the model itself are being presented in Table 2.

Table 2: Model

Factor of Influence (Independent Variable)	Hypothesis Number	Expectation	Dependent Variable
Having a Role Model	H1	INCREASES	ENTREPRENEURAL ACTIVITY (TEAyy)
Self-perceived Knowledge, Skills and Experience	H2	INCREASES	
Absence of Market Opportunities	H3	DECREASES	
Similar Standard of Living for Everyone	H4	DECREASES	
Fear of Failure	H5	DECREASES	
Education Level	H6	INCREASES	
Increased Age	H7	INCREASES	

Chapter 3

METHODOLOGY

This work follows similar approaches such as (Noguera et al., 2013; Toycan, 2022) with a different focus – namely, the approach focuses on the latest Global Entrepreneurship Monitor Adult Population Survey data from 2019 and relates to 14 European countries with the corresponding 12781 youngsters aged between 18 and 30. The countries are listed as (in line with their country codes in parenthesis) Greece (30), Netherlands (31), Spain (34), Italy (39), Sweden (46), Poland (48), Germany (49), Portugal (351), Ireland (353), Southern Cyprus (357), Latvia (371), Croatia (385), Slovenia (386), Slovakia (421). The relative frequencies of these countries in the overall dataset are given in Table 3 below.

Table 3: Country Frequencies

			Frequency	Percent	Cumulative Percent
Valid	30 Greece		633	5.0	5.0
	31 Netherlands		454	3.6	8.5
	34 Spain		4635	36.3	44.8
	39 Italy		334	2.6	47.4
	46 Sweden		1051	8.2	55.6
	48 Poland		2011	15.7	71.3
	49 Germany		669	5.2	76.6
	351 Portugal		437	3.4	80.0
	353 Ireland		523	4.1	84.1
	357 Cyprus		532	4.2	88.2
	371 Latvia		349	2.7	91.0
	385 Croatia		450	3.5	94.5

	386 Slovenia		377	2.9	97.4
	421 Slovakia		326	2.6	100.0
	Total		12781	100.0	

The Global Entrepreneurship Monitor stands as one of the most comprehensive and influential initiatives in the realm of entrepreneurship research, providing valuable insights into the state of entrepreneurship across diverse economies worldwide. This scientific text delves into the methodology employed by GEM, highlights key findings from recent reports, and discusses the implications of GEM's research on global entrepreneurship ecosystems.

The Global Entrepreneurship Monitor (GEM) is a collaborative research project that aims to assess and analyze the entrepreneurial activities, attitudes, and aspirations of individuals across a multitude of economies. Launched in 1999, GEM has become a vital resource for policymakers, researchers, and practitioners seeking a comprehensive understanding of the dynamics and impact of entrepreneurship on economic development.

GEM employs a harmonized research methodology to facilitate cross-country comparisons. The Adult Population Survey (APS) and the National Expert Survey (NES) serve as the primary data collection tools. The APS captures individual-level data on entrepreneurial activities, while the NES gathers expert opinions on the national entrepreneurship environment. GEM's rigorous methodology ensures consistency in data collection, allowing for robust analyses of global entrepreneurial trends.

Among its key components, Global Entrepreneurship Index plays a pivotal role in assessing the quality of entrepreneurship ecosystems. To be more precise, GEM produces the Global Entrepreneurship Index, a composite measure that assesses the quality and quantity of entrepreneurship ecosystems in over 50 economies. The GEI considers factors such as entrepreneurial attitudes, startup skills, and the regulatory environment, providing a nuanced perspective on the overall health of each country's entrepreneurial landscape.

In addition, GEM reports delve into specific aspects of entrepreneurial ecosystems, examining factors such as cultural support for entrepreneurship, access to finance, and the prevalence of high-growth potential startups. These findings contribute to a nuanced understanding of the multifaceted nature of entrepreneurship on a global scale.

Also, GEM's research goes beyond economic indicators, exploring the influence of social and cultural factors on entrepreneurship. The identification of cultural attitudes toward entrepreneurship and the role of social networks in fostering entrepreneurial activities adds depth to the understanding of cross-country variations.

GEM's findings have far-reaching implications for policymakers, educators, and business leaders. Policymakers can utilize GEM data to inform the design of entrepreneurship policies tailored to the specific needs of their economies. Educators can leverage GEM insights to enhance entrepreneurship education curricula, while business leaders can gain valuable market intelligence to make informed decisions in a rapidly changing global business environment.

To conclude, the Global Entrepreneurship Monitor stands as a cornerstone in global entrepreneurship research, providing a robust framework for understanding the intricacies of entrepreneurial ecosystems worldwide. Through its rigorous methodology and comprehensive reports, GEM contributes invaluable insights that shape policy decisions, foster educational advancements, and inform the strategies of businesses seeking to thrive in the dynamic world of entrepreneurship.

From the variety of the Global Entrepreneurship Monitor datasets, the thesis makes use of the most recent dataset of 2019 on an individual level, as stated previously. In what follows, the dependent variable and the independent variables will be described in detail.

As a point of departure, the dependent variable should reflect entrepreneurial activity either as present or absent. As such, the variable TEAyy is being utilized for this purpose which reads “Involved in Total early-stage Entrepreneurial Activity” where 0=No, 1=Yes.

Related to the first hypothesis (H1), the variable KNOWENyy is being utilized which reads “How many people do you know personally who have started a business or become self-employed in the past 2 years?” where 0=None, 1=At least one.

Related to the second hypothesis (H2), the variable suskilL is being utilized which reads “You personally have the knowledge, skill and experience required to start a new business.” where 1=Strongly disagree, 2=Somewhat disagree, 3=Neither agree nor disagree, 4=Somewhat agree, 5=Strongly agree.

Related to the third hypothesis (H3), the variable oppismL is being utilized which reads "You rarely see business opportunities, even if you are very knowledgeable in the area." where 1=Strongly disagree, 2=Somewhat disagree, 3=Neither agree nor disagree, 4=Somewhat agree, 5=Strongly agree.

Related to the fourth hypothesis (H4), the variable EQUALIyy is being utilized which reads "In your country, most people would prefer that everyone had a similar standard of living, agree/disagree" where 0=Disagree, 1=Agree.

Related to the fifth hypothesis (H5), the variable fearfailL is being utilized which reads "You would not start a business for fear it might fail." where 1=Strongly disagree, 2=Somewhat disagree, 3=Neither agree nor disagree, 4=Somewhat agree, 5=Strongly agree.

Related to the sixth hypothesis (H6), the variable UNEDUC will be used which reads "UN harmonized educational attainment" where 0=Pre-primary education, 1=Primary education or first stage of basic education, 2=Lower secondary or second stage of basic education, 3=(Upper) secondary education, 4=Post-secondary non-tertiary education, 5=Short-cycle tertiary education, 6=Bachelor or equivalent, 7=Master or equivalent, 8=Doctor or equivalent.

Finally, related to the seventh hypothesis (H7) the variable age will be used which reads "What is your current age (in years)?".

With respect to the empirical strategy, the first observation relates to the binary dependent variable – as this is clear, it is not appropriate to use multiple linear

regression as an estimation technique. It is known that multiple linear regression is not compatible with a binary dependent variable, as it is compatible with a continuous dependent variable. Instead, a binary logistic regression will be implemented in this investigation. As the investigation contains a large number of respondents, the problem of multicollinearity is put away since large samples may avoid this problem. For the binary logistic regression, the author of the thesis used Statistical Product and Service Solutions (SPSS) software.

The following equation is used for the empirical investigation (Noguera et al., 2013):

$$P(E_i = 1) = \beta_1 IF_i + \beta_2 X_i + \mu_i$$

The left-hand side of the equation gives us the probability of entrepreneurial activity being equal to 1. The right-hand side of the equation gives us different informal factors that are abbreviated with IF_i and control variables abbreviated with X_i – the latter being age and education. We can also observe the random disturbance term as μ_i. When estimating this equation, the null hypothesis is that both β_1 and β_2 are not equal to 0.

Chapter 4

RESULTS

In what follows, the author presents the results of the binary logistic regression where the variable TEAyy defined as "Involved in Total early-stage Entrepreneurial Activity" is the binary dependent variable, where 0=No and 1=Yes. To start with, Table 4 presents the results of this binary logistic regression model. In the model, age and education are entered in the first step, whereas the remaining variables are entered in the second step by using the forward criterion, i.e. variables being added to the model which –at the beginning– only contains a constant.

Table 4: Results of the Binary Logistic Regression Model

	Binary Logistic Regression Model		
Variable	Estimation	Standard Error	Exp(B)
Constant	-4.962***	0.289	0.007
Age	0.045***	0.011	1.046
Education	0.088***	0.020	1.092
Having a Role Model	0.682***	0.079	1.978
Knowledge, Skills and Experience	0.497***	0.029	1.644
Opportunities	-0.076***	0.027	0.927

Fear of Failure	-0.189***	0.025	0.828

Labels: ***: p=0.01, **: p=0.05, *: p=0.1. Source: SPSS calculations of the author.

In the model, all variables are statistically significant at 1% level. Having a role model, and the perception of having knowledge, skills and experience to set up an enterprise increase the probability of becoming an entrepreneur, supporting H1 and H2. On the other hand, the perception of an absence of market opportunities as well as fear of failure decreases the probability of becoming an entrepreneur, supporting H3 and H5 respectively. Increasing education and age increases the odds of becoming an entrepreneur, supporting H6 and H7 respectively. In the final step of the forward algorithm of binary logistic regression, it is evident that the desire of a similar standard of living for everyone has been removed and as such becomes obsolete for the model, indicating that this variable is not relevant.

Table 5 shows the results of the omnibus tests of model coefficients. The Omnibus Tests of Model Coefficients is employed for assessing the model's fit. A significant outcome indicates a noteworthy enhancement in fit compared to the null model, affirming that the model demonstrates a strong fit.

Table 5: Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	454.903	1	.000
	Block	454.903	1	.000
	Model	579.632	3	.000

	Step	82.975	1	.000
Step 2	Block	537.878	2	.000
	Model	662.608	4	.000
	Step	64.314	1	.000
Step 3	Block	602.192	3	.000
	Model	726.922	5	.000
	Step	7.850	1	.005
Step 4	Block	610.042	4	.000
	Model	734.771	6	.000

Table 6 provides the model summary. The model summary presents the Pseudo R-Square, where "Pseudo" indicates that it doesn't precisely explain the variation but serves as an approximate measure of variation in the criterion variable. The commonly used metric is Nagelkerke's R2, an adjusted version of the Cox & Snell R–square, which scales the statistic to range from 0 to 1. In this context, we can interpret that 15.5% of the variation in the criterion variable can be attributed to the predictor variables in the model. This adjusted figure offers a more accurate representation of the model's explanatory power.

Table 6: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	5649.296[a]	.059	.123
2	5566.321[a]	.067	.140
3	5502.007[a]	.074	.153

4	5494.157[a]	.074	.155

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001

Table 7 provides the results of the Hosmer-Lemeshow test. The Hosmer-Lemeshow test serves as another measure of model fit. A Hosmer-Lemeshow statistic with a significance value below 0.05 suggests a suboptimal fit. In this instance, the model effectively accommodates the data, signifying no notable distinction between the observed and predicted outcomes of the model. In our case the model does not have a suboptimal fit.

Table 7: Hosmer-Lemeshow Test

Step	Chi-square	Df	Sig.
1	14.620	8	.067
2	12.477	8	.131
3	8.676	8	.370
4	14.979	8	.060

Table 8 shows the contingency table for Hosmer-Lemeshow test. The model fits the data well, with no discernible distinction between the observed and predicted values; both are nearly identical.

Table 8: Contingency Table for Hosmer-Lemeshow Test

		TEAyy Involved in Total early-stage Entrepreneurial Activity = 0 No		TEAyy Involved in Total early-stage Entrepreneurial Activity = 1 Yes		Total
		Observed	Expected	Observed	Expected	
Step 1	1	924	925.086	20	18.914	944
	2	932	929.233	25	27.767	957
	3	931	923.036	28	35.964	959
	4	889	903.481	60	45.519	949
	5	901	888.749	49	61.251	950
	6	873	867.600	81	86.400	954
	7	805	807.706	113	110.294	918
	8	781	803.038	166	143.962	947
	9	758	756.057	177	178.943	935
	10	743	733.014	243	252.986	986
Step 2	1	919	919.549	16	15.451	935
	2	917	918.838	26	24.162	943
	3	902	909.899	40	32.101	942
	4	919	904.947	30	44.053	949
	5	894	889.379	55	59.621	949
	6	874	865.175	70	78.825	944
	7	837	848.460	119	107.540	956
	8	795	806.814	153	141.186	948

	9	756	764.660	197	188.340	953
	10	724	709.279	256	270.721	980
	1	930	936.045	20	13.955	950
	2	933	929.938	20	23.062	953
	3	922	917.909	28	32.091	950
	4	904	906.519	46	43.481	950
	5	904	893.541	48	58.459	952
Step 3	6	873	870.214	75	77.786	948
	7	837	845.407	113	104.593	950
	8	796	809.391	153	139.609	949
	9	772	763.015	178	186.985	950
	10	666	665.022	281	281.978	947
	1	928	937.136	23	13.864	951
	2	938	930.294	15	22.706	953
	3	919	917.234	30	31.766	949
	4	899	906.956	51	43.044	950
	5	904	891.642	46	58.358	950
Step 4	6	877	872.138	73	77.862	950
	7	842	845.569	108	104.431	950
	8	799	810.731	151	139.269	950
	9	768	763.682	183	187.318	951
	10	663	661.617	282	283.383	945

The subsequent Classification Table (Table 9) offers insight into the model's ability to accurately predict the correct category once the predictors are incorporated into the study. To gauge improvement, we can compare this table with the one presented for Block 0, which represents the scenario without predictor variables. Overall, the model achieved a correct classification rate of 89.1%. This signifies the proportion of cases correctly classified. In essence, it provides information on how well the observed outcomes align with the predictions made by the model. The problem is that those who gave positive answers to the question in the dependent variable were also classified as those who would give negative answers to the question in the dependent variable, i.e. a misclassification. This is a flaw of the model that must be considered as a limitation.

Table 9: Classification Table

	Observed		Predicted		
			TEAyy Involved in Total early-stage Entrepreneurial Activity		Percentage Correct
			0 No	1 Yes	
Step 1	TEAyy Involved in Total early-stage Entrepreneurial Activity	0 No	8537	0	100.0
		1 Yes	962	0	.0
	Overall Percentage				89.9
		0 No	8537	0	100.0

Step 2	TEAyy Involved in Total early-stage Entrepreneurial Activity	1 Yes	962	0	.0
	Overall Percentage				89.9
Step 3	TEAyy Involved in Total early-stage Entrepreneurial Activity	0 No	8537	0	100.0
		1 Yes	962	0	.0
	Overall Percentage				89.9
Step 4	TEAyy Involved in Total early-stage Entrepreneurial Activity	0 No	8537	0	100.0
		1 Yes	962	0	.0
	Overall Percentage				89.9

a. The cut value is .500

Chapter 5

DISCUSSION

5.1 Discussion of the Binary Logistic Regression Analysis

The results of the thesis "Youth Entrepreneurship and Its Determinants Over Europe" offer profound insights into the factors influencing young entrepreneurs in Europe. The binary logistic regression analysis, utilizing the Global Entrepreneurship Monitor data, reveals several key determinants. One of the most striking findings is the fact that having a role model increases the likelihood of engaging in entrepreneurial activities. This suggests the significant impact of mentorship and the presence of successful entrepreneurial figures in fostering youth entrepreneurship.

Another critical determinant identified is the individual's perception of possessing the necessary knowledge, skills, and experience for starting a business. This self-assessment substantially increases the probability of engaging in entrepreneurship, underscoring the importance of education and practical training in entrepreneurial ventures. Contrarily, the perception of an absence of market opportunities and a prevailing fear of failure are shown to decrease the likelihood of youth entrepreneurship. These factors highlight the need for a supportive environment that encourages risk-taking and innovation.

The analysis also indicates that increasing education and age positively influence the probability of becoming an entrepreneur. This finding challenges the stereotypical view of entrepreneurs as predominantly young and inexperienced, suggesting that a combination of education and maturity can be advantageous in entrepreneurial pursuits. Interestingly, the study reveals that the desire for a similar standard of living for everyone does not significantly impact youth entrepreneurship, suggesting that other factors play more pivotal roles in driving entrepreneurial intentions.

The statistical significance of these determinants at the 1% level lends robustness to the study's conclusions. However, the limitation lies in the data's recency (2019), which may not fully capture the post-COVID trends in entrepreneurship. Additionally, the model's classification issue, particularly in accurately identifying entrepreneurs, suggests the need for further research incorporating more diverse variables and macroeconomic perspectives.

5.2 The Role of Public Policies for Enhancing Entrepreneurship in Europe

Public policies in the European Union (EU) play a vital role in enhancing entrepreneurship, especially in the challenging environment following the COVID-19 pandemic. These policies are designed to foster a conducive environment for business creation and growth, focusing on various aspects of entrepreneurship.

One key aspect of EU policies is their support for entrepreneurship education, aiming to develop entrepreneurial skills and mindsets at all levels of education. This approach is crucial in preparing a future workforce that is innovative and adaptable to market changes. The EU also offers specific support tools and networks for women

entrepreneurs, recognizing their potential to contribute to economic growth and diversity in the business world.

The European Commission has placed a strong emphasis on facilitating the transfer of businesses, recognizing that this is as vital as start-ups to the EU economy. In this regard, policies are geared towards easing the process of business transfer and succession, which is especially important for family businesses that form a significant part of the EU economy.

Moreover, the EU implements measures to prevent insolvency and provide second chances for entrepreneurs. These include early warning mechanisms and restructuring frameworks to help viable companies facing financial difficulties. This approach reflects an understanding that failure can be a stepping stone to success in entrepreneurship.

The Erasmus for Young Entrepreneurs program is another notable initiative. It is a cross-border exchange program that allows new or aspiring entrepreneurs to gain valuable experience by working with experienced entrepreneurs in other EU countries. This program facilitates the sharing of knowledge and best practices across borders.

Furthermore, the European Commission recognizes the importance of migrant entrepreneurs and addresses the unique challenges they face, including legal, cultural, and linguistic barriers. Efforts are made to provide equitable support to this group, reflecting the EU's commitment to inclusive entrepreneurship.

The Enterprise Europe Network (EEN) offers comprehensive assistance to small and medium-sized enterprises (SMEs) looking to grow internationally. This network provides support ranging from access to finance to advice on entering new markets, demonstrating the European Union's commitment to facilitating the global growth of its businesses.

These initiatives highlight the EU's multi-dimensional approach to entrepreneurship, addressing the needs at macro, meso, and micro levels, and focusing on building resilience, innovativeness, and competitiveness of firms in the post-COVID-19 era. The overarching goal is to create a supportive environment where entrepreneurship can thrive, contributing to the overall economic growth and stability of the EU.

Overall, these policies and programs showcase the EU's commitment to fostering a dynamic and inclusive entrepreneurial ecosystem, which is crucial for long-term economic resilience and growth.

Chapter 6

CONCLUSION AND LIMITATIONS

This thesis has embarked on a comprehensive exploration of youth entrepreneurship in Europe, uncovering the multifaceted elements that shape the entrepreneurial landscape for young individuals. The in-depth analysis, grounded in the extensive data from the Global Entrepreneurship Monitor, has highlighted the complex interdependencies between educational backgrounds, economic conditions, cultural influences, and policy frameworks that collectively influence young entrepreneurs' paths.

The findings of this study underscore the importance of a supportive and conducive ecosystem for nurturing entrepreneurial talent among Europe's youth. It becomes evident that policies and programs designed to foster entrepreneurship cannot be one-size-fits-all but need to be tailored to address the diverse needs and challenges faced by young entrepreneurs. This thesis contributes significantly to the understanding of these needs, offering a foundation for developing targeted strategies that can effectively encourage and support young entrepreneurial endeavors.

Moreover, this research illuminates the critical role of education, mentorship, and access to resources in shaping the entrepreneurial journey. It calls for a concerted effort from various stakeholders, including governments, educational institutions, and the private sector, to collaborate in fostering an environment that not only encourages

entrepreneurship but also equips young entrepreneurs with the necessary tools and skills to succeed. This collaborative approach is key to unlocking the potential of Europe's youth and propelling the continent towards a more innovative and dynamic economic future.

In conclusion, "Youth Entrepreneurship and Its Determinants" serves not just as an academic piece but as a roadmap for action. The insights gleaned from this study are vital for shaping the future of Europe’s economic landscape, where young entrepreneurs play a pivotal role. By understanding and addressing the determinants of youth entrepreneurship, Europe can pave the way for a generation of innovators and leaders who will drive economic growth, create jobs, and contribute to a prosperous and vibrant society. This thesis thus stands as a testament to the potential of Europe's youth and a call to action for all those who play a part in shaping their entrepreneurial journey. Despite these, a certain limitation is the year data has been collected – 2019. This poses a problem as it does not recognize more recent trends such as post-COVID developments vis-à-vis entrepreneurship. Another limitation is the issue of classification in the model. Despite the model classifying non-entrepreneurs correctly, the model failed to classify entrepreneurs in the correct fashion. This calls for a further investigation of variables of different sources and more macroeconomic perspectives to comprehend.

The low Nagelkerke R2 can be partially explained by the layout of the countries – having at the same time more developed, Western countries such as Germany and less developed, post-communist countries such as Poland in the same dataset may be a particular concern. Nevertheless, finding the common denominator of these countries in terms of entrepreneurship can be a good point of departure for further research.

REFERENCES

Aghion, P., Akcigit, U., & Howitt, P. (2014). What Do We Learn From Schumpeterian Growth Theory? In *Handbook of Economic Growth* (Vol. 2, pp. 515–563). Elsevier. https://doi.org/10.1016/B978-0-444-53540-5.00001-X

Bandura, A. (1977). *Social Learning Theory* (Prentice Hall, Englewood Cliffs, N.J.).

Block, J. H., & Wagner, M. (2010). Necessity and Opportunity Entrepreneurs in Germany: Characteristics and Earning s Differentials. *Schmalenbach Business Review*, *62*(2), 154–174. https://doi.org/10.1007/BF03396803

Charles, T. (2015). A Systematic Review on the Effectiveness of Youth Entrepreneurship Programs. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2948691

Ćockalo, D., Đordevic, D., Bogetic, S., & Bakator, M. (2020). Youth Entrepreneurship Development: A Review Of Literature and Ten-Year Research Results. *Journal of Engineering Management and Competitiveness (JEMC)*, *Vol. 10,*(No. 2,), 151–161.

Egorov, E. E., Lebedeva, T. E., Prokhorova, M. P., Shobonova, L. Y., & Bulganina, S. V. (2019). Youth Entrepreneurship: Motivational Aspects and Economic Effects. *IOP Conference Series: Earth and Environmental Science*, *272*, 032129. https://doi.org/10.1088/1755-1315/272/3/032129

Fehr, E., & Schmidt, K. M. (1999). A Theory of Fairness, Competition, and Cooperation. *The Quarterly Journal of Economics*, *114*(3), 817–868. https://doi.org/10.1162/003355399556151

Halabisky, D. (2012). *Entrepreneurial Activities in Europe—Youth Entrepreneurship* (OECD Employment Policy Papers 1; OECD Employment Policy Papers, Vol. 1). https://doi.org/10.1787/5jxrcmlf2f27-en

Hmieleski, K. M., & Baron, R. A. (2009). Entrepreneurs' Optimism And New Venture Performance: A Social Cognitive Perspective. *Academy of Management Journal*, *52*(3), 473–488. https://doi.org/10.5465/amj.2009.41330755

Hofstede, G. (1983). Review Article: Geert Hofstede: Culture's Consequences: International Differences in Work Related Values: 1980, Beverly Hills/London: Sage. 474 pages. *Organization Studies*, *4*(4), 390–391. https://doi.org/10.1177/017084068300400409

Karadžić, V., Drobnjak, R., & Reyhani, M. (2005). Opportunities and challenges in promoting youth entrepreneurship in Montenegro. *DIEM*, *2*(1), 167–174.

Kautonen, T., Down, S., & Minniti, M. (2014). Ageing and entrepreneurial preferences. *Small Business Economics*, *42*(3), 579–594. https://doi.org/10.1007/s11187-013-9489-5

Kuratko, D. F. (2005). The Emergence of Entrepreneurship Education: Development, Trends, and Challenges. *Entrepreneurship Theory and Practice*, *29*(5), 577–597. https://doi.org/10.1111/j.1540-6520.2005.00099.x

Noguera, M., Alvarez, C., & Urbano, D. (2013). Socio-cultural factors and female entrepreneurship. *International Entrepreneurship and Management Journal*, *9*(2), 183–197. https://doi.org/10.1007/s11365-013-0251-x

Obschonka, M., Schmitt-Rodermund, E., Silbereisen, R. K., Gosling, S. D., & Potter, J. (2013). The regional distribution and correlates of an entrepreneurship-prone personality profile in the United States, Germany, and the United Kingdom: A socioecological perspective. *Journal of Personality and Social Psychology*, *105*(1), 104–122. https://doi.org/10.1037/a0032275

Sambo, W. (2016). Factors affecting youth entrepreneurship development within Kibera, Kenya: The perspective of entrepreneurship education. *Problems and Perspectives in Management*, *14*(2), 331–338. https://doi.org/10.21511/ppm.14(2-2).2016.09

Sarasvathy, S. D. (2001). Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. *The Academy of Management Review*, *26*(2), 243. https://doi.org/10.2307/259121

Shane, S. (2003). *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Edward Elgar Publishing.

Shepherd, D. A. (2003). Learning from Business Failure: Propositions of Grief Recovery for the Self-Employed. *Academy of Management*, *28*(2), 318–328.

Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies*, *41*(8), 1347–1364. https://doi.org/10.1057/jibs.2010.14

Toycan, M. (2022). *Determinants of Female Entrepreneurship in Türkiye: An Empirical Analysis using Rare Events Binary Logistic Regression*. Bahçeşehir Cyprus University.

van Gelderen, M., Brand, M., van Praag, M., Bodewes, W., Poutsma, E., & van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behaviour. *Career Development International*, *13*(6), 538–559. https://doi.org/10.1108/13620430810901688

Wiklund, J., Wright, M., & Zahra, S. A. (2019). Conquering Relevance: Entrepreneurship Research's Grand Challenge. *Entrepreneurship Theory and Practice*, *43*(3), 419–436. https://doi.org/10.1177/1042258718807478

Zahra, S. A., & Wright, M. (2011). Entrepreneurship's Next Act. *Academy of Management Perspectives*, *25*(4), 67–83. https://doi.org/10.5465/amp.2010.0149