THE ROLE OF ENTREPRENEURSHIP IN ACHIEVING SUSTAINABLE DEVELOPMENT GOALS (AN EXAMPLE FROM EASTERN EUROPEAN COUNTRIES)

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Abstract: *Entrepreneurship has had an indecisive role due to its effects in enhancing living standards for usual people, exploiting opportunities in undiscovered areas, improving sustainability in all fields, and encouraging the process of innovation.*
In this sense, entrepreneurship plays an important role in achieving the Sustainable Development Goals of the United Nations (UNSDGs-2030). The main goal of this research is to study the role of entrepreneurship in achieving sustainable development goals through conducting a qualitative method. Granger causality test was used for selected Eastern European countries (2006 – 2016), data were collected from Global Entrepreneur Monitor and World development indicators. The study concluded through Granger's causality that entrepreneurship causes human development and therefore affects the economic and social dimensions of Sustainable Development. Entrepreneurship is one of the causes of economic growth, and the relationship between entrepreneurship and the extent to which environmental quality is achieved is moving from the environmental dimension to Entrepreneurship.

Keywords: *Entrepreneurship; Social Entrepreneurship; Sustainable Development Goals, Sustainability.*

JEL Classification: Q01; L31; L26

1. Introduction

Entrepreneurs are the answer in a world rich in natural resources but with a shortage of solutions. However, before they can start and succeed, they need to be equipped with the knowledge of entrepreneurship, sustainable development goals (SDGs), and how they all fit together.
Entrepreneurship is the practice of identifying opportunities, managing risk, and seizing new opportunities by identifying the needs in a community and using creativity or ingenuity to create a solution. Entrepreneurship is the force that will spark change in developing countries (Secundo et al., 2015).
Entrepreneurship may take on many different forms, including increasing productivity in existing sectors, exporting services or products from developing countries to developed ones, and creating entirely new markets (Lisboa et al., 2011).
The United Nations Sustainable Development Goals (SDGs) are defined as a "new universal agenda" for all countries - developed and developing, small and large - to

poverty ending, Planet protection, and prosperity ensuring for all as a part of Agenda 2030 (Rosa, 2017).
Entrepreneurship plays a key role in achieving these goals because it is a factor that makes sure that economic growth can reach its full potential by creating more jobs (Audretsch et al., 2006).
Entrepreneurs help create new jobs for their communities (they create at least 10% of jobs), help stimulate new industries, communities, and more opportunities for everyone to succeed (Henderson, 2002). Therefore, several entrepreneurs worldwide are helping to achieve the SDGs.
Ever after the launching of the concept of sustainable development by the United Nations, a race between countries has begun implementing this notion in conformity with the kind and framework of their economies. It granted that the routes towards sustainable development are similar as stated by what the UN has set, where the applying mechanism of the strategy, mission, vision of each country is the only way to differentiate in addition to its economic status, where it can be stated that one of the most significant routes of achieving sustainable development is addressed by entrepreneurship.
Certainly, entrepreneurship has witnessed a huge share of attention in the last era, plus the fact that many countries have considered the concept of entrepreneurship with great interest, which is represented in their achievement of sustainable development vision.
Therefore, this study attempts to prove whether there is a direct effect of entrepreneurship on achieving sustainable development goals and whether this effect plays a positive or a negative role in reaching the fulfillment of the three pillars of the SDGs process.

2. Literature Review

In this context, an extensive and expressive presence of entrepreneurship should be accompanied by realizing the SDGs and making its achievement closer than ever, and this is undoubtedly due to its potential to have a significant impact on the global business society, its innovative and developing brand new scope, and its capacity to create real answers for the popping up challenges and difficulties in different economic sectors.

2.1. Entrepreneurship and Economic Growth

Entrepreneurship and innovation are often considered the drivers of economic growth and development. However, there has been a wide debate on whether entrepreneurship is a necessity for economic growth or the driver of economic growth is mainly determined by the nature of institutions (Acs & Szerb, 2007).
However, empirical studies concerning economic prosperity and entrepreneurship around the world showed an important connection in addition to a solid interdependence between them (Carree & Thurik, 2010).

Entrepreneurship can be considered an essential factor in fostering economic growth and development (Alfolabi, 2015).
Many empirical studies have found that entrepreneurship is positively related to economic growth; for example, a study of about 14 developing countries found that entrepreneurial activities are positively related to economic growth (Urbano et al., 2020).
A study of European Union countries found that level of entrepreneurship is highly correlated with economic performance (Linan & Fernandez-Serrano, 2014). Another study has also found that entrepreneurial activities play a critical role in promoting investment and income levels (Ogunalana, 2018)
Considering the significance of entrepreneurship in promoting economic growth and development, promoting entrepreneurial activities would be helpful to boost economic growth and development in developing countries (Acs, 2006).
Modern economics and development are still largely based on the idea of perfect competition, which is purely unobservable (though such a system does have many observable features). Many models, including multinational firms, international trade, and political economy, show the impact of entrepreneurship on development. Studies have shown that demand creation by entrepreneurs generates economic value and economic growth while maintaining social welfare (Audretsch, 2007).

2.2. Entrepreneurship and Human Development

Entrepreneurship's effect on Human development has been abandoned for a long since in economic research papers (Dhahri & Omri, 2018).
The lack of research on this topic is not only a social injustice but can also have serious implications for how future policies are designed to shape the world's economic landscape.
Entrepreneurship has a significant impact on human development in the following ways:

- Entrepreneurship can create jobs and increase incomes for the poor by introducing new avenues for economic growth in regions where traditional farming or other forms of employment have become less viable due to changing market conditions. This leads to higher standards of living, as entrepreneurs can employ more people as they expand their business over time (Castano et al., 2016).
- Entrepreneurs often work in areas where demand for their goods or services is present but cannot be met by existing suppliers, and they expand the overall size of markets. This can lead to better access to goods and services at lower prices, which is particularly important for disadvantaged communities unable to afford them otherwise (Glaeser & Kerr, 2011).
- Entrepreneurship is a source of innovation and growth for less-developed economies, creating new opportunities for goods and services. The growth generated by entrepreneurship frequently leads to the export of goods from

developing countries, generating significant revenues for 'national coffers' (Okpara, 2009).

- Entrepreneurship offers some of the most exciting opportunities for social mobility in developed countries, as it allows individuals to pursue their dreams and ambitions outside of bounds set by traditional fields of work. Therefore, they can bring fresh ideas and hope to under-developed areas and create an environment that can foster development in people's lives through education, health care, and other social services (Gries & Naude, 2011).

2.3. Entrepreneurship and Environment

In the past two decades, a diverse set of theorists has begun to examine the role of entrepreneurship in environmental issues such as climate change, environmental degradation, deforestation, urban growth, and garbage accumulation (Lehmann, 2010).

Entrepreneurship plays a crucial role and contributes to environmental protection. Research in this field showed that entrepreneurial activity had been systematically associated with a positive effect on the environment (Zhu et al., 2019).

The results are supported by prior research that proposes a general positive connection between the size of the firm and air pollution emissions. It is also found that large firms have higher carbon emissions than small firms (Cole et al., 2013).

Some studies argue that the increase in entrepreneurial activities leads to higher economic growth, which in turn causes more pollution and waste generation (Saeed et al., 2009).

The more a nation's economy relies on traditional rather than innovative activities and economies of scale, the greater externalities are likely to be generated by its citizens. Likewise, the more traditional the society is the greater environmental damage that is incurred by its citizens (Tietenberg and Wheeler, 2001). Entrepreneurship can be seen as an attempt to solve these issues.

Considering the threats posed by climate change, global warming, pollution, and resource depletion (or degradation), entrepreneurs worldwide have acted to solve global problems (Markman et al., 2019).

3. Data and Methods

Data were collected from Global Entrepreneur Monitor (https://www.gemconsortium.org/) and World development indicators (https://www.worldbank.org/en/home) for the following variables.

Total Early-Stage Entrepreneurial Activity (TEA): an indicator that shows the percentage of the 18-64 years old population who are either nascent entrepreneurs or owner-managers for a new business where their business does not exceed three years old.

Human Development Index (HDI): is one of the indicators that measure social and economic dimensions of sustainable development as it is a composite index that considers education, income, and life expectancy, and its value ranges from zero to one, and the higher its value, the higher the level of economic development.
Carbon Dioxide Emissions CO2 metric tons per capita: are measured in metric tons per capita per year, and the general average is 20 metric tons per year per capita, compared to a global average of 4 tons.
As a measure the environmental dimension of sustainable development and the extent to which environmental quality is achieved, the minimum is 8.5 metric tons per year. Gross Domestic Product Per Capita (GDPPC): constant US dollars 2015, shows how much economic production value can be attributed to each citizen, is also a measure of economic growth that represents the economic dimension of sustainable development.
The chosen countries are (Hungary, Croatia, Slovenia, and Latvia) among all Eastern European countries due to data availability. Only these four countries provided complete data for 2006-2016. Data were gathered from both websites and allocated using a Microsoft Excel sheet.
E-views was used to analyze data and conduct the Granger-Causality test.

4. Results and Discussion

The Granger causality test is a statistical hypothesis test for determining whether one time series is useful for forecasting another. If the probability value is less than any level, then the hypothesis would be rejected at that level.
This test generates an F-test statistic along with a p-value. We can reject the null hypothesis and infer that time series X Granger causes time series Y if the p-value is less than a particular significance level (e.g., =. 05).
The test was done for all four countries separately by conducting a Granger causal analysis between the variables to determine the direction of the relationship between entrepreneurship and sustainable development in three dimensions (Hungary, Croatia, Latvia, and Slovenia) during the mentioned period (2006 – 2016) as well as knowing which variables caused the growth of other variables, and the hypothesis was as follows:

- Null hypothesis 1: Entrepreneurship does not cause human development
  Alternative hypothesis 1: Entrepreneurship causes human development
- Null hypothesis 2: Entrepreneurship does not cause economic growth
  Alternative hypothesis 2: Entrepreneurship causes economic growth
- Null hypothesis 3: Entrepreneurship does not achieve environmental quality
  Alternative hypothesis 3: Entrepreneurship achieves environmental quality

It can show the following results from Figure 1:

- Entrepreneurship causes human development since the p-value is 0.0085, which is less than 0.05, therefore, we reject the null hypothesis and accept the alternative hypothesis, which states that TEA granger causes HDI and

therefore affects the economic and social dimensions of sustainable development and therefore affect sustainable development.

- Entrepreneurship is one of the causes of economic growth, Where the p-value was 0.01, therefore, we reject the null hypothesis and accept the alternative hypothesis, which states that TEA granger causes GDPPC and the direction is from TEA towards GDPPC, thus affecting the achievement of sustainable development.
- The relationship between (entrepreneurship and the extent to which environmental quality is achieved) represents the environmental dimension of sustainable development. Where the p-value was (0.64), therefore we accept the null hypothesis, which stated that TEA does not granger cause CO_2.

It can also be noted that the impact is moving from the environmental dimension to entrepreneurship, the extent of the availability of a good environment has the consequence of supporting entrepreneurship in Latvia.

Pairwise Granger Causality Tests
Date: 02/01/22 Time: 03:23
Sample: 2006 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
HDI does not Granger Cause TEA	9	0.02269	0.9777
TEA does not Granger Cause HDI		19.6577	0.0085

Null Hypothesis:	Obs	F-Statistic	Prob.
TEA does not Granger Cause GDPPC	9	13.4302	0.0168
GDPPC does not Granger Cause TEA		0.07961	0.9249

Null Hypothesis:	Obs	F-Statistic	Prob.
CO2 does not Granger Cause TEA	9	1.41219	0.3436
TEA does not Granger Cause CO2		0.48850	0.6459

Figure 1: Latvia's Test Results.
Source: Conducted by the author.

Pairwise Granger Causality Tests
Date: 02/01/22 Time: 03:28
Sample: 2006 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
HDI does not Granger Cause TEA	9	0.35236	0.7229
TEA does not Granger Cause HDI		1.03138	0.4353

Figure 2: Slovenia's Test Results.

Source: Conducted by the author.

Pairwise Granger Causality Tests
Date: 02/01/22 Time: 03:33
Sample: 2006 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
HDI does not Granger Cause TEA	9	3.33489	0.1405
TEA does not Granger Cause HDI		0.47468	0.6532

Figure 3: Croatia's Test Results.
Source: Conducted by the author.

Pairwise Granger Causality Tests
Date: 02/01/22 Time: 03:41
Sample: 2006 2016
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
HDI does not Granger Cause TEA	9	1.33178	0.3603
TEA does not Granger Cause HDI		1.04726	0.4308

Figure 4: Hungary's Test Results.
Source: Conducted by the author.

Similarly, all three countries, Slovenia, Croatia, and Hungary have p-values (0.722, 0.1405, 0.360), which are more than 0.05 (Figures 2,3,4). Therefore, we accept the null hypothesis, which states that TEA does not Granger cause HDI in all three countries. TEA does not granger cause CO_2, and TEA granger causes GDPPC.
Entrepreneurship affects HDI and represents the social dimension of sustainable development, and this finding is consistent with Dhahri & Omri (2018).
According to Granger, entrepreneurship affects the economic dimension of sustainable development, which represents the GDP per capita, as it causes an increase in GDP per capita. Increasing entrepreneurship also has a role in increasing innovative, productive opportunities in the market, which in turn increases GDP and economic growth, and this is consistent with (Majid & Koe, 2012).
The study found that in the selected countries, entrepreneurship had no effect or reason to increase CO_2 emissions, which supports the environmental dimension, the most important dimension of sustainable development, and this is consistent with (Dhahri & Omri, 2018).
In the end, sustainable entrepreneurship companies must have a plan to balance the three dimensions of sustainable development, which is consistent with (Perrini et al., 2007; Egri & Herman, 2000).

Figure 5 shows the TEA percentage for all countries, and it can be noticed that Latvia had the highest percentage by the end of 2016. Croatia had the highest in 2006, but the percentage started to drop in 2007 till 2010, while it started to recover in 2011 but not at the same rate as in the upcoming years. Hungary started with a relatively low percentage of TEA in 2006 but started to achieve high rates starting from 2009, followed by a drop in 2011 to go back and recover in 2012 and followed by a continuous drop till 2016. Slovenia had the lowest percentage of TEA in 2006, started to increase in 2008, followed by a sharp drop in 2011, then had the chance to increase the rate in the upcoming years with a continuous upward direction.

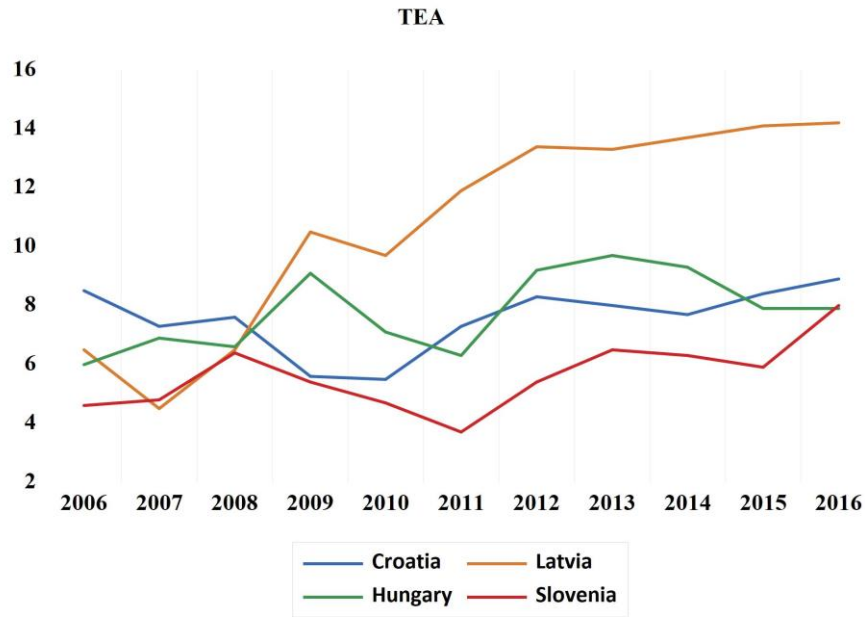

Figure 5: Total Early-Stage Entrepreneurial Activity (TEA) combined in all countries.
Source: Conducted by the author.

Conclusion

This paper showed the bidirectional causality between TEA and other variables such as HDI, GDPPC, and CO_2, by using the Granger causality test, where each variable represents a relationship with one of the sustainable development pillars.
The increase in the TEA percentage can have many positive impacts on achieving the sustainable development dimensions since the higher TEA percentage positively impacted the SDGs achievements. It was noticed in the case of Latvia, starting from the economic dimension, where it positively affects GDPPC—moving to the environmental dimension where the TEA increase did not show any cause with the emissions of CO_2. In general, and lastly, where the social dimension increased in HDI was a cause an increase in TEA percentage.

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