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**INVESTIGATING SOCIO-ECONOMIC
AND PERCEPTUAL VARIABLES OF EARLY-STAGE
ENTREPRENEURIAL ACTIVITY IN SELECTED EU
COUNTRIES¹**

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Key words: entrepreneurship, socio-economic, perceptions, GEM data.

A b s t r a c t

This paper investigates socio-economic and perceptual factors affecting the likelihood of being a total early-stage entrepreneur in selected EU countries (Denmark, Germany, Finland, Sweden and Latvia) during 2005–2012.

The data used for our empirical research comes from Global Entrepreneurship Monitor (GEM). Our findings show that the probability to become a total early-stage entrepreneur increases for males and younger individuals with a bachelor's degree or secondary education and who are working part time or full time. Furthermore, these entrepreneurs are characterised by a lower fear of failure and higher entrepreneurial skills and perception of opportunity.

Policy makers should improve the institutional framework that involves measures aimed at empowering potential entrepreneurs in finding new market opportunities. Territorial cooperation in a macro-regional perspective may be a facilitator aimed at entrepreneurial development.

**BADANIE ZMIENNYCH SPOŁECZNO-EKONOMICZNYCH I PERCEPCYJNYCH
PRZEDSIĘBIORCZOŚCI WE WCZESNEJ FAZIE ROZWOJU
W WYBRANYCH KRAJACH UE**

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Słowa kluczowe: przedsiębiorczość, społeczno-ekonomiczne, percepcja, dane GEM.

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Abstrakt

W pracy zaprezentowano badania nad czynnikami społeczno-ekonomicznymi i percepcyjnymi mającymi wpływ na prawdopodobieństwo zostania początkującym przedsiębiorcą komercyjnym w wybranych krajach UE (Danii, Niemczech, Finlandii, Szwecji i Łotwie) w okresie 2005–2012.

Dane wykorzystane w badaniach empirycznych pochodzą z Globalnego Monitora Przedsiębiorczości (*Global Entrepreneurship Monitor* – GEM). Wnioski wskazują, że prawdopodobieństwo zostania początkującym przedsiębiorcą komercyjnym jest większe w przypadku osób płci męskiej oraz osób w młodszym wieku, mających licencjat lub wykształcenie średnie oraz pracujących w niepełnym lub pełnym wymiarze czasu. Ponadto przedsiębiorców takich cechuje niższy poziom lęku związanego z niepowodzeniem oraz lepsze umiejętności przedsiębiorcze oraz rozpoznawanie możliwości.

Decydenci powinni usprawnić ramy instytucjonalne, które są związane z działaniami mającymi na celu wspieranie potencjalnych przedsiębiorców w wyszukiwaniu nowych szans rynkowych. Współpraca terytorialna w perspektywie makroregionalnej może stanowić ułatwienie dla rozwoju przedsiębiorczości.

Introduction

Entrepreneurship is a topic both of individual interest (for entrepreneurs, traders, researchers, practitioners, employees, etc.) and social value.

In this view, entrepreneurship is a pillar for economic development and an intersection point of relations between different private and public operators.

The present work focuses on five EU countries (Denmark, Finland, Germany, Sweden, Latvia). This choice was motivated by three main reasons: Firstly, the level of development of the countries: Central-Northern European countries lead in the ranking of EU innovators; Sweden confirms its leadership in the field of human resources and quality of academic research; Denmark reached a high level of digital skills; Finland experienced the best governance and practices in R&D policy application; Germany achieved the highest performance in terms of private investments; and Latvia also records one of the highest growth rates in recent years. In fact, the GEM 2014 Report includes Latvia for the first time within the so-called “innovation driven economies”.

These common characteristics and the territorial proximity define a form of macro-region, which represents the second motivation for our choice: to contextualise the analysis of entrepreneurship within the EU macro-regional framework. Our results confirm previous works and shed light on the processes of governance and organisation of different EU macro-regions. Incidentally, the entire Baltic Macro-region may be a driver for other macro-regional aggregations (such as the Danube, Adriatic Ionian, etc.), at least in terms of best practice (PIOTROWSKI, ORGANIŚCIAK-KRZYKOWSKA 2014), given that the five selected countries may be considered as the core of the Baltic Macro-region.

Thirdly, the choice is strictly related to the robustness of the outcomes. In fact, the preliminary approach, which involved other countries belonging to

the EU Baltic Macro-region, has been abandoned because of too much missing data.

This paper attempts to intercept the socio-economic and entrepreneurial factors affecting the probability of becoming an early-stage entrepreneur (individuals who are either a nascent entrepreneur or owner-manager of a new business between 18–64 years of age) in selected EU countries during 2005–2012.

The paper is organised as follows: In the first section, we present some empirical and theoretical aspects of literature. The second section describes the data used and research methods. The third section provides some characteristics of the sample, and the fourth section presents the results. In the final segment, the conclusions are presented.

A selection of theoretical and empirical aspects of entrepreneurship

Promoting entrepreneurship is one of the key targets of the European Union's cohesion policy (European Commission 2013). Entrepreneurship is considered by researchers, public authorities and stakeholders as a source of new job opportunities and a determinant of economic growth.

Since 1985, GARTNER has stated that entrepreneurship is a multi-dimensional phenomenon, which should be studied from various perspectives and with all its complexities. To date, this analysis has been conducted at different levels, such as micro- (individual), meso- (industry) and macro- (country or group of countries).

A few authors (FRITSCH et al. 2015, CUETO et al. 2015) have explained that the topic concerning the factors affecting entrepreneurial activity has not yet been completely examined; therefore, it is relevant to further investigate the factors contributing to the decision to start up new firms, as these factors may vary over time and across countries (KOELLINGER, THURIK 2012).

Many studies emphasise the role of socio-economic factors, such as age, education (VAN DER SLUIS et al. 2005), gender, income and work status in affecting entrepreneurial activity (GARCÍA-PEREIRO, DILEO 2015). For example, REYNOLDS et al. (2003) showed that men are more likely to start up new firms compared to females when they applied the empirical method to US entrepreneurial trends. ELAM and TERJESEN (2007) demonstrated that men are more likely to become entrepreneurs especially within areas specialised in agricultural activities.

However, research has confirmed that there are strong differences between young adults and other age groups, due to varying interplay within everyday

opportunities, risks and stages of cognitive development. Particularly, KLYVER et al. (2007), GRILO and THURIK (2008) underlined that various age groups have different impacts on the likelihood to start new firms, and LEVESQUE, MINNITI (2006) and ARENIUS, MINNITI (2005) demonstrated that the likelihood to start new businesses is higher for younger people.

AUTIO, ACS (2010) and DE CLERCQ et al. (2011), to name a few, demonstrated that the higher the educational level is, the more the awareness of own knowledge is in shaping the intention for undertaking entrepreneurial initiatives. Among socio-economic variables, literature also identifies employment status and income level as factors that directly influence the probability to start up a new business. Some studies (DAVIDSSON et al. 1994, REYNOLDS 1995, RITSILÄ, TERVO 2002) found evidence of the negative effect of unemployment on the birth of firms.

Over the past few decades, thanks to the Theory of Planned Behaviour (AJZEN 1991) and the Cognitive Psychology of Entrepreneurship (BANDURA 1986), many scholars have begun to analyse in-depth the relation between individual start up activity and perceptions.

In fact, to date, research mostly focuses on perceptual variables as factors influencing the decision to start up a new business (ARENIUS, MINNITI 2005, MINNITI, NARDONE 2007).

According to AJZEN (1991), SHANE et al. (2003), MCMULLEN, SHEPHERD (2006), BAYON et al. (2015), HESSELS et al. (2007) and FISHBEIN, AJZEN (2010), the perception of opportunity shapes entrepreneurial intentions (KRUEGER 2000) and, subsequently, the choice to start a new business. BOSMA, SCHUTJENS (2011) also showed that the individual perception of external characteristics is a crucial factor for an entrepreneurial decision.

One more factor influencing the creation of new firms is risk propensity. In literature on entrepreneurship, when fear of failure increases, individuals are more likely to back out as they are warned of the risk of investing resources for uncertain activities (ARENIUS, MINNITI 2005, LANGOWITZ, MINNITI 2007, MINNITI, NARDONE 2007). According to the cognitive approach, fear of failure may be considered similar to risk aversion (VAILLANT, LAFUENTE 2007, HESSELS et al. 2011, GÓMEZ-ARAUJO et al. 2015). WELPE et al. (2012) found that fear of failure may prevent unsuitable decisions and bad investments, and this strongly depends upon personal feeling (MITCHELL, SHEPHERD 2010, LI 2011, WOOD et al. 2014).

Many scholars (BANDURA 1977, BOYD, VOZIKIS 1994, MITCHELL, SHEPHERD 2010, GARCÍA-PEREIRO, DILEO 2015) have shown that the perception of having skills and knowledge is related to the probability to start a business. In fact, confidence in own skills influences entrepreneurial intentions and leads to the start up of new ventures (KRUEGER, BRAZEAL 1994, VERHEUL et al. 2003,

KARADENIS, OZDEMIR 2011). KOELLINGER (2008) identifies that the likelihood to valorise innovative business opportunities rather than imitative opportunities is strictly related to individuals characterised by a higher level of self-confidence.

Finally, social status can influence individual behaviour and stimulate the comparison between own attitudes and the most appreciated social symbols; this characteristic can foster or discourage the choice to start up a firm (URBANO, ALVAREZ 2014). Consequently, a desirable career choice is influenced by the common sense which changes around the world (XAVIER et al. 2013).

Data and methods

The data used for our empirical research derives from the Global Entrepreneurship Monitor (GEM), which is an exhaustive and well-harmonised worldwide data source, started in 1998 and coordinated by the London Business School (London, Great Britain) and Babson College (Boston, USA).

Every year the project provides international harmonised data on entrepreneurship, through a survey of a sample of at least 2,000 randomly chosen adults in a country (Adult Population Survey – APS) and standardised questionnaires of national experts (National Expert Survey – NES). Following the GEM key terminology, the NES is “administered to 36 ‘experts’ in each GEM country and collects data on the context in which entrepreneurship takes place in a country”.

According to the GEM Consortium, it is possible to identify entrepreneurs at three stages. First, Nascent Entrepreneurs – entrepreneurs whose businesses have been paying wages or any other payments to the owners for more than three months; New Business Owner-Managers – individuals who are currently the owner-manager of a running business, that have paid salaries, wages or any other payments to the owners for more than three months, but not more than 42 months; lastly, Established Business Owner-Managers – individuals who are currently the owner-manager of an established business, i.e. owning and managing a running business that has paid salaries, wages or any other payments to the owners for more than 42 months. All the categories take into consideration that the individuals are between 18–64 years of age.

Our empirical research includes APS data (from the national database) and takes into consideration individuals who are either a nascent entrepreneur or owner-manager of a new business between 18–64 years of age. This category is commonly defined as “Total Early-Stage Entrepreneurs”.

To test our hypotheses, we performed a logistic regression model on a total of 31,609 observations, using as dependent variable the probability of being

involved in total early-stage entrepreneurial activity (TEA) during 2005–2012. We established a set of independent variables, such as Socio-economic (Gender, Age Class, Educational Level, Employment, Household Income), Entrepreneurial Perceptions (Opportunity, Fear of Failure, Entrepreneurial Skills) and Entrepreneurial Attitudes (Standard of Living, Entrepreneurial Career). Dependent variable takes the form of a dummy variable and explanatory variables are both dummy and categorical. Finally, we control for year and country effects.

Table 1

List of variables

| Variable Name | Type | Description |
|---|-------------|---|
| Probability of being a total early-stage entrepreneur | Dependent | 0=No; 1=Yes |
| Gender | Independent | Female/Male |
| Age Class | Independent | <24; 25–34; 35–44; 45–54; 55+ |
| Educational level | Independent | Some secondary or less educational level; Secondary Degree; Post Secondary; Graduate experience |
| Employment | Independent | Working Part time or Full time; Not Working; Retired or Student |
| Household Income | Independent | In the upper 33% average; 33–66% and in the lower 33% |
| Opportunity | Independent | In the next six months there will be good opportunities for starting a business in the area where you live? (No; Yes) |
| Fear of Failure | Independent | Fear of failure to prevent you from starting a business? (No; Yes) |
| Entrepreneurial Skills | Independent | Do you have the knowledge, skill and experience required to start a new business? (No; Yes) |
| Standard of Living | Independent | In your country, most people would prefer that everyone had a similar standard of living (No; Yes) |
| Entrepreneurial Career | Independent | People consider starting a business a desirable career choice (No; Yes) |

Source: own elaboration.

Characteristics of total early-stage entrepreneurship within selected EU countries

In this section, various descriptive statistics are shown. Figure 1 provides the percentage of individuals involved in TEA for our selected EU countries, comparing the first (2005) and the last year (2012). As we can see, each country experienced a growth in terms of individuals involved in TEA: Denmark's total early-stage entrepreneurial activity moved from 4.8% in 2005 to 5.4% in 2012,

and Sweden from 4.0% to 5.8%; Finland also exhibited a positive growth between the two years (5.00% vs. 5.90%), as well as Germany (5.1% vs. 5.6%), although with the lowest increase; finally, Latvia shows the highest TEA growth (6.00% vs. 13.3%).

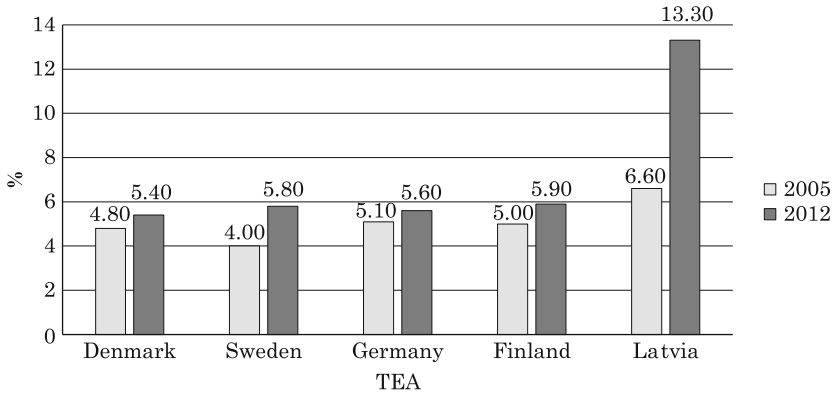


Fig. 1. Percentage of individuals involved in TEA (2005 and 2012)

Source: Own elaboration based on data from GEM.

Table 2

Characteristics of the sample (1)

| Socio-Economic | Variables | | Not involved in TEA [%] | Involved in TEA [%] |
|-------------------|------------------------|----------------|-------------------------|---------------------|
| | Gender | Female Male | 53.3 46.7 | 36.9 63.1 |
| Age Class | <24 | 11.4 | 10.0 | |
| | 25-34 | 17.8 | 26.7 | |
| | 35-44 | 22.7 | 29.6 | |
| | 45-54 | 23.5 | 21.9 | |
| | 55+ | 24.6 | 11.8 | |
| Household Income | Lowest | 33.0 | 22.3 | |
| | Middle | 35.0 | 30.7 | |
| | Upper | 32.0 | 47.0 | |
| Educational Level | Some secondary or less | 19.6 | 11.5 | |
| | Secondary Degree | 29.7 | 28.6 | |
| | Post secondary Degree | 34.5 | 39.3 | |
| | Graduate experience | 16.2 | 20.6 | |
| Employment Status | Working f-t; p-t | 71.9 | 89.0 | |
| | Not working | 11.0 | 6.6 | |
| | Retired/Student | 17.1 | 4.4 | |

Source: own elaboration based on data from GEM.

Table 2 describes the profiles of individuals involved in total early-stage entrepreneurial activity vs. individuals not involved, using the percentage

distribution of certain socio-economic factors. The first impact regards gender differences: from 2005 to 2012, a higher proportion of men involved in TEA emerged (63.1% vs. 36.9%). Another interesting element is the distribution per age. Individuals involved in TEA are mostly concentrated in the 35–44 (29.7%) and 25–34 (26.7%) age classes.

We also observe a higher proportion of individuals within the upper income class (47.0% vs. 32.0%), as well as a slightly higher percentage of individuals involved in TEA with Post-Secondary Degree and Graduate Experience compared to those not involved in TEA (39.3% vs. 34.5% and 20.6% vs. 16.2%, respectively). Finally, there is a higher quotient of entrepreneurs within the working (Part time/Full time) category (89.0% vs. 71.9%) compared to those who are not entrepreneurs.

If we take into consideration entrepreneurial variables, we observe a higher proportion of individuals involved in TEA who believe that starting a new business in the area where they are living represents a good opportunity when compared to individuals not involved in TEA (58.9% vs. 44.0%). Furthermore, a higher percentage of individuals involved in TEA declaring not to have a fear of failure (78.8% vs. 59.1%) and a higher percentage of individuals involved in TEA perceiving themselves to have the entrepreneurial skills to start a new business (85.4% vs. 39.5%) emerges. Finally, Table 3 presents a slightly higher percentage of entrepreneurs (43.2% vs. 41.1%) who do not believe that most people would prefer that everyone had a similar standard of living and a higher percentage of entrepreneurs who do not perceive that individuals consider starting a business a desirable career choice (51.4% vs. 48.2%).

Table 3

Characteristics of the sample (2)

| | Variables | | Not involved in TEA [%] | Involved in TEA [%] |
|------------------------------|--------------------------------|-------------|-------------------------------|---------------------------|
| | Entrepreneurial Perceptions | Opportunity | NO | 56.0 |
| YES | | | 44.0 | 58.9 |
| Fear of Failure | | NO | 59.1 | 78.8 |
| | | YES | 40.9 | 21.2 |
| Entrepreneurial Skills | NO | 60.5 | 14.6 | |
| | YES | 39.5 | 85.4 | |
| Entrepreneurial Attitudes | Standard of Living | NO | 41.1 | 43.2 |
| | | YES | 58.9 | 56.8 |
| | Entrepreneurial Career | NO | 48.3 | 51.4 |
| | | YES | 51.7 | 48.6 |

Source: Own elaboration based on GEM data.

Results

The results of logistic regression are shown in Table 4. The influence of independent variables on the dependent variable (TEA) is in line with the theory of entrepreneurship. Our results demonstrate that individuals involved

Table 4
Results from the logistic regression model

| Socio-economics | | B | Exp (B) | S.E. | Sign |
|-----------------------------|-----------------------|--------|---------|-----------|------|
| Gender | (Female) | - | - | - | - |
| | Male | 0.234 | 1.263 | 0.043 | *** |
| Age Class | (<24) | - | - | - | - |
| | 25-34 | 0.021 | 1.021 | 0.082 | - |
| | 35-44 | -0.220 | 0.802 | 0.082 | *** |
| | 45-54 | -0.562 | 0.570 | 0.084 | *** |
| | 55+ | -0.954 | 0.385 | 0.091 | *** |
| Household Income | (Lowest) | - | - | - | - |
| | Middle | -0.104 | 0.901 | 0.570 | ** |
| | Upper | 0.005 | 1.005 | 0.056 | - |
| Educational Level | (Some Secondary/Less) | - | - | - | - |
| | Secondary Degree | 0.103 | 1.108 | 0.074 | - |
| | Post Secondary Degree | 0.204 | 1.227 | 0.070 | *** |
| | Graduate Experience | 0.233 | 1.263 | 0.080 | *** |
| Employment Status | (Full-Time/Part-Time) | - | - | - | - |
| | Not Working | -0.260 | 0.771 | 0.082 | *** |
| | Retired/Student | -1.008 | 0.365 | 0.101 | *** |
| Entrepreneurial perceptions | | | | | |
| Opportunity | (No) | - | - | - | - |
| | Yes | 0.408 | 1.503 | 0.043 | *** |
| Fear of Failure | (No) | - | - | - | - |
| | Yes | -0.532 | 0.587 | 0.049 | *** |
| Entrepreneurial Skills | (No) | - | - | - | - |
| | Yes | 1.577 | 4.842 | 0.056 | *** |
| Entrepreneurial attitudes | | | | | |
| Standard of Living | (No) | - | - | - | - |
| | Yes | 0.010 | 1.010 | 0.042 | - |
| Entrepreneurial Career | (No) | - | - | - | - |
| | Yes | -0.062 | 0.940 | 0.041 | - |
| Time Fixed Effects | Yes | - | - | - | *** |
| Country Fixed Effects | Yes | - | - | - | *** |
| Constant | | -2.977 | 0.051 | 0.140 | *** |
| Obs | | - | - | 31,609 | - |
| Log Likelihood | | - | - | 16,805.52 | - |
| R-squared Nagelkerke | | - | - | 0.223 | - |

In brackets: Reference Category.

Statistical significance = *: $p < 0.01$; **: $p < 0.005$; ***: $p < 0.001$.

Source: own elaboration, GEM 2005-2012.

in TEA are more likely to be males (Exp $B = 1.263$), and this result is consistent with ARENIUS, MINNITI (2005) and ARENIUS, DE CLERCQ (2005). The likelihood of becoming an entrepreneur decreases in older age groups (Exp B : 35-44 age class = 0.802; 45-54=0.570; 55+=0.385).

Entrepreneurs are characterised by a lower probability of being within the middle income level (Exp $B = 0.901$) and a higher probability of having received a Bachelor's Degree (Exp $B = 1.263$) or Post-Secondary Degree (Exp $B = 1.227$). It is also consistent with ARENIUS, DE CLERCQ (2005) and DAVIDSSON, HONIG (2003), who demonstrated the strong relation between highly educated people and the perception of opportunity in starting a new business.

Furthermore, entrepreneurs show a lower probability of being Not Working (Exp $B = 0.771$) or Retired/Students (Exp $B = 0.365$). This result is more likely associated with the fact that individuals start new ventures when they attain money from an existing job.

Regarding perceptions, it is more likely that entrepreneurs declare that they do have the skills for entrepreneurship (Exp $B = 4.842$). Perceived skills are also an important prerequisite influencing the decision to start a new venture. This is consistent with BAYON et al. (2015), who found that a positive perception of own knowledge leads individuals to convert the thought phase into action.

Our results have also pointed out that the likelihood to become a total early-stage entrepreneur is positively related to those believing that entrepreneurial activity will be an opportunity (Exp $B = 1.503$), and this positive impact has been recently confirmed by BAYON et al. (2015). In line with the recent outcomes by VAILLANT, LAFUENTE (2007) and WOOD et al. (2013), these entrepreneurs also have a lower fear of failure (Exp $B = 0.587$). The negative sign of this variable suggests that an increased fear of failure slows down entrepreneurial incentives to start new businesses.

The "Standard of Living" and "Entrepreneurial Career" variables are not statistically significant.

Conclusions

The present paper represents preliminary research aimed at collecting individual data on entrepreneurial activity, focusing on the so-called total early-stage entrepreneurship.

Our results are consistent with literature on the subject. Socio-economic variables play an important role in affecting the likelihood to start new ventures: the probability to become an early-stage entrepreneur increases for

males and younger individuals with higher education, a bachelor's degree or secondary education and who are working part time or full time.

Furthermore, this paper corroborates the role played by perceptual variables. In fact, individuals involved in total early-stage entrepreneurship are also characterised by a lower fear of failure and higher entrepreneurial skills and perception of opportunity.

As mentioned in the introduction, the countries analysed seem to be the best performers among EU countries in terms of entrepreneurial growth and innovation performance. However, our findings may be more likely justified through different reasons: the characteristics of the sample, the small number of countries analysed and the lack of institutional context. In fact, further research will be oriented towards testing if our findings also depend on specific conditions of development of entrepreneurship and the quality of the institutions.

Obviously, the recent economic crisis produced an overall slowdown of economic and entrepreneurial growth and increased internal disparities and exasperated the delicate equilibrium within the public budgets. The subsequent decrease of financial resources also had a negative impact on the propensity of individuals to start up new businesses and also impacted the mortality rates of many other firms.

Consequently, if our goal is to contextualise the findings in a macro-regional perspective, further research will be oriented towards in-depth analysis of other EU macro-regional systems, such as the Adriatic Ionian and Danube systems, and compare each one in order to test the most representative policies and best practices.

However, the nexus between entrepreneurship and growth perspectives is not so easy to explain. In fact, although fostering entrepreneurial activities can be useful, mostly where unemployment rates are higher and job opportunities are lower, a positive and successful entrepreneurial policy may be followed through direct measures addressed to individuals who have a high degree of risk aversion, and mostly to those having the ability to successfully pursue an entrepreneurial upgrading.

Apart from the country, policy makers would have to strengthen the institutional framework that involves measures aimed at empowering potential entrepreneurs in finding new market opportunities. Territorial cooperation in a macro-regional perspective may be a facilitator aimed at entrepreneurial development; within such a framework, governments would have the important role of supporting innovative ventures and to consistently check the levels of skill of potentially eligible entrepreneurs.

If the objective of the EU is to stimulate new entrepreneurial activities, there will also need to be an understanding of whether this goal may be

reached within the framework of territorial aggregation strategies among member and non-member countries.

Territorial cooperation in a macro-regional perspective can be a facilitator for entrepreneurial development in the context of structural change where social and economic marginalisation is strong, mostly where the aggregation occurs between countries characterised by wider historical, economic and social differences and which are undermined by a lower level of development compared to other territorial aggregations.

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