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## **Does Globalization Impact Entrepreneurship? Comparative Study of Country Level Indicators**

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# **Does globalization impact entrepreneurship? Comparative study of country level indicators**

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**Abstract:** The impact of increased level of globalization on entrepreneurship remains unexplored area within the domain of international business. In this paper we aim to explore the relationships between globalization and entrepreneurship based on a comparative study of globalization and entrepreneurship indicators at a country level. We use the Global Entrepreneurship Monitor (GEM) data for measuring level of entrepreneurship at a country level, and the KOF index of globalization for measuring level of globalization of a country. We find no statistical evidence for correlation between the level of globalization and the level of entrepreneurship at a country level when tested for all countries in our sample. When testing for low-GDP countries however we find a negative effect of globalization on entrepreneurship. The framework presented in this paper provides a starting point for study and analysis of the relationship between the level of globalization and the level of entrepreneurship.

**Keywords: International Business, Entrepreneurship, Globalization,**

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## **1. Introduction**

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The field of international business as an academic discipline emerged and remained largely focused on the study of multinational enterprises (MNE). Growing number of young entrepreneurial MNE's bypass internationalization as a process as they start as global enterprises – global start-ups, from day one. The emergence of these global start-ups, growing interest in globalization and the recognized importance of entrepreneurship arises the need to understand if and how globalization impact entrepreneurship.

The intersection of globalization and entrepreneurship phenomena--an intersection defined by McDougall and Oviatt (2000) as international entrepreneurship has received attention in recent research (Mathews & Zander 2007). This article studies the intersection of globalization and entrepreneurship by addressing the questions of the effect an increased level of, and exposure to globalization has on the country's level of entrepreneurship. The impact of globalization at the firm level is discussed in literature (eg. Knight, 2000). According to Knight the more the firm responds to globalization, the better is the performance of the firm. In the context of our study we ask whether entrepreneurship is one of the globalization responses.

Globalization and entrepreneurship cannot be discussed in isolation, yet the topic has not been given much attention by scholars in the field of international business. Audretsch (2007) argues that globalization has led to a shift in developed countries from an industrial to an entrepreneurial model of production. Globalization is interpreted by Audretsch as a level shock in the supply of unskilled labor to the world economy, a decrease in the level of political risk associated with foreign direct investment (FDI), and the widespread diffusion of ICT. References to the impact of country's level of globalization on its level of entrepreneurship can be found in (Acs & Preston, 1997; Gibb 2002; Knight, 2000; Korine & Gomez, 2002; O'Doherty, 1993; OECD, 2005; Sakai, 2002), but often not based on comparing data measuring entrepreneurship and globalization.

Understanding the effect of globalization on entrepreneurship at a country level can help public policy makers and governments the possibility to act upon it, can help entrepreneurs and investors gain insight about the opportunities and risks in the context of globalization-

At present, even contributions of an international collaborative initiative of the likes of GEM do not explicitly mention a relationship between a country's level of globalization and national entrepreneurial activity. As a part of its *General National Framework Conditions*, GEM only refers to *Openness (External Trade)*, which is a recognized element for measuring a country's level of globalization (OECD,

2003). It is recognized that more emphasis is needed on the broadest scope, when understanding and abetting entrepreneurship; one in a context of globalization, as can be concluded from a report from the OECD (2005).

Acs & Terjesen (2005), observe increased attention to international entrepreneurship that is understandable considering broad group of disciplines involved, and the challenging nature of the topic but this is not inline with the occurrences in publications.

## **2.1 Entrepreneurship**

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A practical view of the necessity of entrepreneurial research is found in a recent edition of the Flash Eurobarometer survey on entrepreneurship (OECD, 2005). In order to ensure researchers' ability to aid policy makers when the latter try to stimulate potential entrepreneurs, the simplistic divide between entrepreneurship as an 'activity' and as an academic subject (Beranger, 1998 in: Gibb 2002, p. 239) needs to be closed on every level.

It is not the objective of this article to develop new insights in the definition of entrepreneurship, nor is this within its scope. Swedberg's (2000) provides a description of the historical developments. Schumpeter (1934) sums up several entrepreneurial characteristics, including the entrepreneur "acting in a way leading to creative destruction". The latter characteristic is known as the Schumpeterian notion (Gibb, 2002). This explanation of the nature and process of the capitalist economy – wherein innovation is the engine, and entrepreneurs serve as the commanders and risk takers, while creative destruction symbolizes remains foundational and fundamental to date (Ma & Tan, 2005).

A number of issues in the field of entrepreneurial research field remain unresolved, or not agreed upon (some are highlighted in for example Ma & Tan, 2005; Ripsas, 1998). Acs & Preston (1997) arguer that it is not even clear if we should stimulate entrepreneurs in their Schumpeterian attempt to generate creative destruction.

In the context a study of globalization and entrepreneurship we draw upon Mathews & Zander (2007) view of the entrepreneurial process in international context defined as:

1. the discovery of opportunities
2. the deployment of resources to exploit the opportunities, and
3. the engagement with international competition

## **2.2 Globalization**

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In the last two decades, the concept of globalization received attention from researchers because of its generally recognized importance as an economic factor, but seemingly also due to of the lack of a generally accepted definition (see for example Morrison & Soesastro, 1998). Although globalization has become a widely used term, equally widespread is its related misconception. Some go as far as stating that globalization is no more than “*the name given for lack of a theoretical concept matching more closely observed phenomena*” (Humbert, 1993, p. 3). Others (for example Knight, 2000) highlight the need for a broad definition. Dreher (2006) uses a rather broad definition of globalization as he measures a country’s level of interconnectedness to the world. His definition is outcome (Brahmbhatt, 1998) based and looks at direct and indirect effects (Andersen & Herbertsson, 2005) of globalization.

An aim for academic research on globalization should be describing the relationship between visible (societal) elements and the broad term “globalization”, as this will lead to awareness. Many terms can be found in literature describing aspects – or features – of mainly economic globalization [Brahmbhatt (1998) calls them “outcomes”]. This clearly shows the (simplifying effect of the) academic focus on economic globalization. As a result, much of the studies linking globalization to another subject – including the ones used for this article - use this narrower view for their analysis. Although easier to research and compare, by no means should this “stripped version of globalization” be regarded as a substitute to the term globalization used in this article. The broader definition extracted from Dreher’s (2006) work includes much more than the elements measured and influenced by for example the IMF and OECD (see also Bodek & Vide, 2005; Sutcliffe & Glyn, 1999).

Measuring globalization, especially using methods that have the aspiration to be “all including” is often described to be difficult (Bobek & Vide, 2005, p. 601). Consequently, a little academic congruence has arisen regarding the need to split the broad term up - into a number of dimensions - often including the likes of cultural ~, economic ~, ecological ~ and informational globalization (Beck, 2000). Many attempts have been made to give an evaluation or ranking to countries regarding their level of globalization. Included in these attempts – since they thus far all lack unanimous recognition, the best word would still be attempts – are more official, but often somewhat overly pragmatic ones [e.g. indicators by the OECD, or Andersen & Herbertsson (2005)], and “less official” ones, such as the A.T. Kearney *Index of Globalization*. The latter type however, often gives researchers few possibilities of using the output for credible statistical analysis or comparison. As a result, the reach of these measurements in the academic world is often limited to its critics [in the case of the A.T. Kearny index, the scientific killing is performed by for example Lockwood (2001)].

What attracts the most interest from researchers is the often assumed positive relationship between openness (towards international effects/influences) and national economic growth. This consideration has developed to a level where it can be regarded as accepted - or perhaps even as economic law - as a result of the research done by for example Dollar (1992) and Sachs & Warner (1995). Criticism has arisen recently though, deeming the assumption not totally correct (Rodriguez & Rodrik, 2001). Early research also indicates arguments pro and contra are visible when describing the same process (Romer, 1986).

### **3. Globalization and Entrepreneurship**

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We start with a descriptive overview of the relationship between globalization and entrepreneurship. As both terms pose subjects for many broad academic discussions, possible linkages are found in a wide spectrum of research literature. By highlighting theoretic interconnectedness and discussing the grey areas – of the effects of globalization on a country's level of entrepreneurship - that have troubled many researchers already, this and the next part will show its value by contributing to academic awareness. Work by Andersen & Herbertsson (2005) gives a theoretical basis for assumptions made; they already stated that elements such as increased Internet usage and MNCs presence and for example lower trade barriers are signs, if not criterions, of globalization in a country.

Although the interest in international or cross border entrepreneurship is well deserved and understandable due to the relatively young age of the phenomenon and its potential to create a broad collective – international – discussion, it is not the topic on the political agenda. An ever-present key policy item for governments is attaining economic growth (EC, 2006). And since this GDP growth has been linked to – at least for developed countries – a rising level of entrepreneurship in a country (Acs et al., 1994), the next step must be exposing all elements of importance in the entrepreneurial framework, as started by Reynolds et al. (2005).

Opinions differ as to why the importance of the effects of globalization has increased in recent years – or why entrepreneurship have gained an important role globally. One plausible argument can be described as the victory over information asymmetry. Mainly due to wide spread of ICT technologies, the costs of information gathering and gaining capabilities to participate in the global economy have greatly reduced (Dunning, 1993, in Acs & Preston, 1997, Audretsch 2007). Perhaps this can also be seen as a tactical response by firms. Moreover, research shows that firms threatened by the forces of globalization, can respond by acquiring technology (Knight, 2000). It is however clear that researchers generally seem to

agree on the lack of real knowledge on the processes by which SMEs participate in the global economy (Acs & Preston, 1997).

#### **4. Measuring country levels of entrepreneurship and globalization**

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In the following section we discuss the data used for analyzing the relationship between globalization and entrepreneurship. We use data from the Global Entrepreneurship Monitor (GEM) as a measure for entrepreneurship at a country level and the KOF index as a measure of level of the country's globalization.

##### **4.1 Global Entrepreneurship Monitor (GEM)**

In 1997, the GEM was set up as a combined research proposal of Babson College in Wellesley (USA) and the London Business School. Now including around 45 different countries, by the end of 2006, almost 200 country reports had been published. These countries include developing nations, highly developed countries as well as transition economies (Reynolds et al., 2005). The main difficulty for comparing the level of entrepreneurship in different countries is the great quantity and sometimes complexity of the determinants possibly influencing entrepreneurship and what "type" is present in a country. Regarding the latter, a main topic under current discussion is necessity vs. opportunity entrepreneurship (see for example Wennekers, 2006).

GEM (Minniti et al., 2005) attempts to measure the level of entrepreneurship in a country, compare differences in the level of entrepreneurial activity between countries, uncover factors determining the levels of entrepreneurial activity and, identify policies that may enhance the level of entrepreneurial activity.

Reynolds et al. (2005) provided empirical support for the validity of the index based on TEA numbers. They did so by comparing it with national administrative data on firm birth rates. Reliability of the index was also proved. There is a remarkable resemblance to the work of Kostova (1997), as it conceptualizes and determines country-level characteristics affecting organizations. One way of looking at it, is that GEM targets a niche of this research, as it solely speaks of the forces important to entrepreneurial companies. Figure 4.1 depicts what is considered entrepreneurial by GEM.

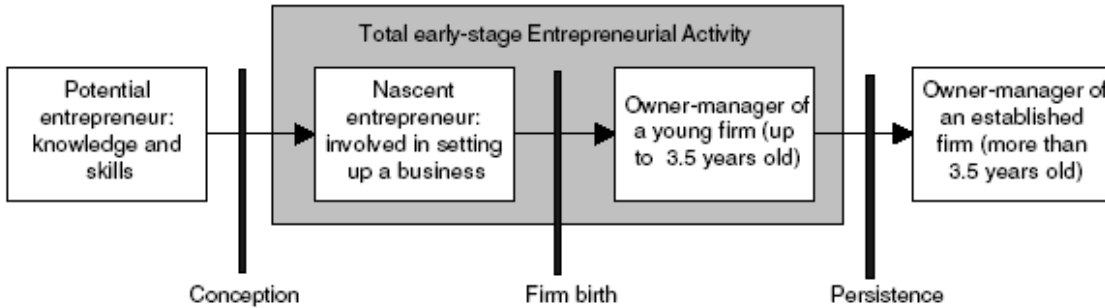


Figure 1. Entrepreneurial activity according to GEM (Derived from Reynolds et al., 2005)

Three investigation methods are used in the GEM studies: an adult population survey; interviews with entrepreneurship experts in that country; and selected national and demographic data. GEM has contributed gravely by: i) creating a possibility to compare countries in terms of the rate of entrepreneurial activity and/or ii) their entrepreneurial framework conditions. But their research is also used for international time-series analysis of these factors (Sternberg & Wennekers, 2005). The criticism GEM supporters have most trouble with when defending the Monitor, is the remark that the values used could be dependent on the observations or subjective judgments of one or a small number of individuals (Reynolds et al., 2005).

#### **4.2 KOF Index of globalization**

Dreher (2006) sets out to describe globalization as a broad term, including many relevant aspects that had previously only been researched separately (Andersen & Herbertsson, 2005). The KOF index of globalization is created by Konjunkturforschungsstelle (KOF) of the Eidgenössische Technische Hochschule in Zürich<sup>2</sup>, Switzerland and is the result of the call for an encompassing measurement tool. All information about definitions, calculations of rankings and papers on which the index is based, and papers that use the index).The paper has thus developed an index of globalization covering aspects deemed most important:

1. economic globalization, characterized as long distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges,
2. political globalization, characterized by a diffusion of government policies and
3. social globalization, expressed as the spread of ideas, information, images, and people

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<sup>2</sup> <http://www.kof.ch/globalization>.

So far, few researchers have included the index in their work, due to the very recent release of the paper. Comparative contributions are also scarce if not non-existent. Because of this, little criticizing or supportive opinions can be found.

## **5. Globalization and Entrepreneurship**

We consider qualitative, non-quantifiable as well as measurable indicators for the relationships between globalization and entrepreneurship. We consider FDI, network and market reactions, by means of macro-economics and on a cognitive basis as well as the measurable indicators.

Table 5.1 identifies some of the global pressures<sup>1</sup> entrepreneurs might encounter due to increasing level of globalization. Rather than solely portraying opportunities for entrepreneurial acts, these pressures can clearly also be interpreted as threats. Other “risks of globalizing” mentioned in literature that could have their effect on entrepreneurial spirit and agenda are imitation and un-sustainability (Korine & Gomez, 2002).

### **Global Pressures for entrepreneurs**

International capital mobility	Travel
Reduction of barriers to international business	Conservation
Growth of trading blocks	The ICT revolution
Universality of English language	International standards

Table 1. Global Pressures shaping the ‘Entrepreneurial Landscape’ (from Figure 1: Pressures molding the ‘Entrepreneurial Society’, Gibb 2002, p. 244)

Jones (2006) also sets out to describe some of globalization’s aspects influencing the decision process of an entrepreneur determining his scope of abilities. Some of his assertions are supported by research done by the EC (2004). Knight (2000) looks at this debate from another angle, as he describes a process wherein companies are inclined to act more entrepreneurial due to the effects of globalization. By altering their operations while applying innovative marketing and emphasizing on quality or for example product specialization, Knight (2000) believes companies could cope better with “the forces of globalization”. At the micro-environment and industry levels, globalization gives rise to market turbulence, increased competition from (especially multinational) firms, loss of protected markets due to trade liberalization, and the emergence of international marketing opportunities. All of which can affect the operations and performances of SMEs or, put positively, create business gaps for them to fill (Knight, 2000, p 14, also mentioned in OECD, 2005). A similar statement was made by Wennekers et al. (2005). The above is in

line with results from another research, where the author concludes that small firms are becoming i) partners in international strategic alliances, ii) targets of cross-border mergers and acquisitions, iii) specialized suppliers to multinational enterprises (MNEs), and iv) participants in actual and virtual business networks on a global level (Sakai, 2002). The reason for this (increased & global) importance is their quality tangible and intangible assets, including highly targeted products and sophisticated technologies coming along with their niche-market strategy.

Foreign Direct Investment (FDI) has had a tremendous influence on the world economy in recent times (Chesnais, 1993). The effect a flow of incoming investments has on a country (net benefits) depends largely on the characteristics of a country's industry and policy environment (Blomström & Kokko, 1997). For instance, if the country wants to host FDI and opens up to it, one of the economic benefits could be productivity of labor improvement there, as additional capital comes into the country. Additionally, FDI is said to bring new technologies, managerial experience, and training into the country (Jones, 2006). Especially for developing countries, entrepreneurial levels could also rise as the availability of foreign VC increases. Since capital accessibility is seen as one of the top start-up difficulties (Keuschnigg & Nielsen, 2002), raising external capital input may satisfy the entrepreneurial sector's need for start-up financing in a country.

Jones (2006) also states that FDI may create supplementary business opportunities for local entrepreneurs. A statement backed by results from Clercq et al. (2006), who found that inward FDI will most likely lead to increased local competition. As foreign MNCs introduce new technologies into their host countries, for instance, it is widely recognized that this technology is bound to be adopted by their affiliates and spread (technological benefits) to local firms (Clercq et al., 2006). As a clear "symptom" of globalization (Andersen & Herbertsson, 2005), FDI is a broadly researched and documented economic occurrence that is still gaining in importance. The above described indicates it is defensible to assume that FDI positively influences entrepreneurship in the host country. However, research done on a comparable subject, shows the difficulty of making factual statements on relationship in which FDI plays a role (Clercq et al., 2006).

A good example of the significance of network reactions<sup>ii</sup> is seen by the division of regimes based on Schumpeter (1934, 1975). In the Schumpeter Mark I regime (creative destruction) new entrepreneurs are bound to challenge existing enterprises by introducing new inventions. In the Schumpeter Mark II regime (creative accumulation), the rate of innovation is determined by R&D activities of existing enterprises. Separating these regimes is important, as industries in the former regime offer more opportunities to small businesses and to new entrepreneurial ventures while for industries in the latter regime, a clear dominance

of large established firms and the presence of relevant barriers to entry for new innovators are perceptible (Wennekers et al., 2005; Malerba, 2002). Based on this distinction, the type of Schumpeter Mark regime in a country is also a variable in determining what kind of effect (positive or negative) globalization will have on a national basis. The explanation is that the Mark type regime defines the readiness of entrepreneurial firms for (or the willingness of potential entrepreneurs to compete with) increased or altered competition.

Focusing mainly on the differences in prospects of entrepreneurs between the two regimes formulated by Schumpeter (1934, 1975), the influence of networks and a country's market status becomes quite clear. Partly due to perception – to what degree do entrepreneurs see their environment as a threat? – and partly due to opportunity manifestation – how does the competition play the business game? – different scenarios exist for entrepreneurship development in a given country. Presuming that globalization brings economic opportunities and (entrepreneurially interesting) uncertainty, the present regime in a country will determine whether or not these “benefits” will come to effect. Again using the example of developing countries (DCs); all who operate in countries that are opening up for the first time will be threatened due to an abnormal level of trade penetrations. And as SMEs in DCs are confronted with (multi national) companies that are familiar with working in a “Mark II manner”, competition may be too rough on the inexperienced entrepreneurs of Mark I.

Macro-economical alterations in a country – due to globalization - are likely to be experienced differently by SMEs than large companies (Harvie, 2002; Turpin, 2002). SMEs have to operate within (and are part of) the macro-economic environment of domestic and international markets, and as such are affected by changes in this environment (Harvie, 2002). Among others, two social-economic results of an increased level of globalization in a country are i) enlarged inequality (Kim, 1998) and ii) enhanced consumer demand for variety (Chen, 1998). Both of these have been marked as determinants for higher levels of entrepreneurship in a country (Wennekers, 1998).

Alternatively, rising numbers of foreign entrants [a recognized aspect of increased globalization (Dreher, 2006)] may lead to higher local competition. If because of this the rules of the game were to be changed, Knight (2000) states, it could possibly lead to increased threats for especially SMEs. Although it has also been mentioned this could lead to more competitive businesses; through infusion of new technologies into the local market (see for example Barrell & Pain, 1997). Having researched the subject, Jones (2006) concludes that:

*“There is, as a result, a compelling case for supporting trade liberalization as an instrument of promoting entrepreneurship, both domestic and global”* (p. 26).

Another macro-economic matter of influence is new MNC presence. Examples set by new MNCs can have a demonstration or imitation effect for local entrepreneurs (Clercq et al., 2006). However, as Blomström & Kokko (1997) indicate, research can also be found which repudiates the idea that (new) MNC competitive involvement should always lead to a more favorable situation for SMEs. Some MNC activities may create spillovers through backward linkages<sup>iii</sup> (Lall, 1980), possibly leading to higher productivity and efficiency levels. The actions of successful MNCs encourage innovativeness by new ventures (Acs & Terjesen, 2005). The basic proposal is that MNCs purchase an input from an innovative supplier in one country, use it company wide and throughout their international operations, thus applying that supplier’s innovation worldwide. The OECD (2005) also recognizes (potential) benefits for entrepreneurial firms in their role as subcontractors and suppliers to - or comparable affiliation with – “global firms”. According to its report, advantages can be observed in terms of upgrading of business and organization models, managerial and technological upgrading, skill acquisitions and innovative capacity (p. 43). Sakai (2002) summarizes some of the ways small firms (or even individuals) can be involved with – if not drawn into - global industrial restructuring. The contributions by new and small firms to MNC’s global strategic implementation processes are seen by some as a possible “*necessary component for enhanced economic well-being*” (Lucas, 1988, in Acs & Preston, 1997, p. 6).

To conclude, a potential benefit created by MNCs may also be the improvement of industrial efficiency and resource allocation in their host countries. This could be obtained by entering into industries where high entry barriers had decreased the degree of domestic competition, forcing existing firms to become more efficient (Blomström & Kokko, 1997). Among these existing firms, smaller (entrepreneurial) firms may benefit to a greater extent from (knowledge) spillovers compared to larger firms (Acs et al., 1994). As MNC presence has become more and more common globally, a desired competitive environment for entrepreneurs has manifested itself on a national level. On a macro-economic level then, globalization favors a country’s level of entrepreneurship.

Simon et al. (2000) disclose a rather strange novelty; entrepreneurs may well be people making not so much more risky bets, they simply perceive the odds differently. These researchers also believe that “distributing” credible information of the likes of role models and exposing stories on entrepreneurial successes could trigger a potential entrepreneurial mind or even create one. Through globalization (of information), the amount of examples of entrepreneurial successes brought to cognitive proximity of the

common individual has undoubtedly increased. In other words; globalization could result in the creation of a more daring business climate.

An often discussed topic is brought to the table again by Dassen-Housen (2002). Globalization is giving the development of societies towards knowledge societies extra significance and velocity. Essential skills needed for information gathering, learning, but also company promoting and multi-party communication, all tend to be more ICT (and with this change flexibility) orientated (Dassen-Housen, 2002). Albeit a somewhat stanch conclusion to draw on this basis, the converted essence of entrepreneurial skills could encourage a more diverse or wider group of people to attempt entrepreneurial behavior.

Ma & Tan (2005) talk of two things when describing entrepreneurial mindset (labeled “perspective” in their research). First, as a result of global competition among countries, Japan deliberately altered its national policies in order to favor manufacturing innovation. With this, the “*obsession with global dominance*” (p. 709) pushed the government and national firms to outperforming themselves and raised the country’s entrepreneurial capacities. Second, Ma & Tan (2005) discuss the matter what motivates an entrepreneur to carry out innovations. By and large, independence and sense of personal achievement are important *cognitive* driving forces for their actions. Hence, as rising globalization is said to lead to increased individualism and personal endeavor (Arnett, 2002), a further explanation is found why globalization could make the individual’s mind more entrepreneurial.

We analyze the relationship between globalization and entrepreneurship using the following hypothesis:

*The level of Total Entrepreneurial Activity (measured by TEA index) in a country is positively related to the country’s level of globalization (measured by the KOF Index).*

## **6. Analysis of the indicators for globalization and entrepreneurship**

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The data used was obtained from the lists of the 2003 *Executive Report* by GEM (Reynolds et al., 2003) and Dreher’s (2006) index of globalization (representing 2003 data). Calculations were done using *Eviews*.

<b>Country</b>	<b>Index glob</b>	<b>Rank glob</b>	<b>TEA</b>	<b>Rank TEA</b>
<b>Uganda</b>	1.79	30	29.3	1
<b>Croatia</b>	2.09	29	2.6	29
<b>Brazil</b>	2.21	28	12.9	4
<b>South Africa</b>	2.43	27	4.3	22
<b>Argentina</b>	2.50	26	19.7	2
<b>Greece</b>	2.94	25	6.8	14
<b>Poland</b>	3.02	24	4.4	21
<b>Slovenia</b>	3.04	23	4.1	23
<b>Portugal</b>	3.09	22	7.1	12
<b>Hungary</b>	3.19	21	6.6	16
<b>Spain</b>	3.27	20	6.8	15
<b>Iceland</b>	3.68	19	11.2	7
<b>Italy</b>	3.69	18	3.2	27
<b>Israel</b>	3.74	17	7.1	11
<b>Belgium</b>	3.99	15	3.9	24
<b>Hong Kong, China</b>	3.99	16	3.2	26
<b>Denmark</b>	4.05	13	5.9	18
<b>Norway</b>	4.05	14	7.5	10
<b>New Zealand</b>	4.08	12	13.6	3
<b>Germany</b>	4.11	11	5.2	19
<b>Japan</b>	4.22	10	2.8	28
<b>Finland</b>	4.25	9	6.9	13
<b>Ireland</b>	4.26	8	8.1	8
<b>Singapore</b>	4.36	7	5	20
<b>Netherlands</b>	4.37	6	3.6	25
<b>Australia</b>	4.53	5	11.6	6
<b>France</b>	4.71	4	1.6	30
<b>United Kingdom</b>	5.05	3	6.4	17
<b>Canada</b>	6.30	2	8	9
<b>United States</b>	6.86	1	11.9	5

Table 2. (comparison of values for TEA and Index of globalization)

The full list of both resources can be found on [www.gemconsortium.org](http://www.gemconsortium.org) and [globalization.kof.ethz.ch](http://globalization.kof.ethz.ch). Table 2 depicts the values on TEA and the globalization index for countries that has a value in both lists. This resulted in a list of 30 countries.

The aspect that catches the eye is the combined existence of high as well as low globalization index values, both appearing to correspond with high TEA values. The most logic (considering the values in table 1), correlation is looked into: the U-shaped correlation. A logical model of further analysis would then be:

$$TEA=c1 + c2*Indexglob + c3*Indexglob^2 + u, E(u|Indexglob)=0 \quad (2)$$

In this data table (below), coefficients of c1, c2 and c3 clearly differ significantly from zero. Therefore, the values for the index of globalization gain explanatory significance regarding the expected value of TEA in a country.

Dependent Variable: TEA

Method: Least Squares

Sample: 130

Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	<b>34.58254</b>	8.109620	4.264385	<b>0.0002</b>
INDEXglob	<b>-12.89642</b>	3.985577	-3.235771	<b>0.0032</b>
INDEXglob^2	<b>1.413631</b>	0.471994	2.995017	<b>0.0058</b>
R-squared	0.292471	Mean dependent var		7.710000
Adjusted R-squared	0.240062	S.D. dependent var		5.677685
S.E. of regression	4.949489	Akaike info criterion		6.131085
Sum squared resid	661.4309	Schwarz criterion		6.271205
Log likelihood	-88.96628	F-statistic		5.580503
Durbin-Watson stat	2.443243	Prob(F-statistic)		0.009366

To conclude, what is found is that a country's level of entrepreneurship is not positively related to the level of globalization. The hypothesis is therefore rejected. A straight line would – on the basis of these values – in no correct way represent the manner in which values of TEA are linked to the index of globalization for a country.

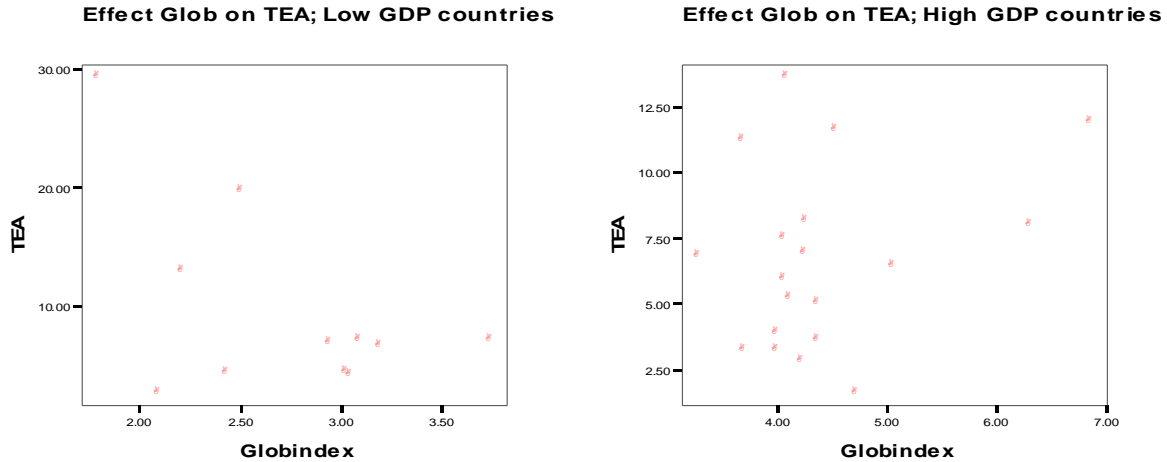
In the light of the explorative nature of the present article, “alternatives” for categorizing should be attempted. Thus, two other theoretical probabilities thought of to lead to new insight were pursued:

- Dividing the countries in two groups; low and high GDP/capita
- Dividing the countries in two groups; low and high GDP growth

The first is based on the assumption put forward in part 5. A justification for the second probability can be found in Iyigun & Owen (1999).

First, regarding GDP growth, information coming from imf.org proves this assumption untrue, as can be seen in appendix C. Inserting GDP growth as a potential manipulator does not result in a better match or categorization concerning TEA values and globalization index grades. Then, the World Bank (2002) is used for classifying the countries on their respective GDP per capita. The World Bank report ranks countries on their GDP/capita on the scale of one (very poor) to six (rich). Arguably, lower GDP/capita countries have a higher percentage of necessity entrepreneurs, whereas high GDP/capita countries have a relatively high level of opportunity entrepreneurs. The countries on the left side of the figure would represent those with lower GDP/capita, while all that occupy the space on the right would be in the highest (category six) group. Indeed a notable finding for globalization research, but unfortunately of less importance in this research. However, this division does appear to lead a new area with a noticeable correlation between TEA and globalization index grades; that of the low GDP/capita countries. Specifics can be found in table 6.2.

Using the data from table 6.2, figures 6.1 and 6.1 depict the scatterplots for the 11 (including Croatia) low (non-category 6) GDP/capita countries and the 19 (including Iceland) high (category 6) GDP/capita countries, respectively. What comes out of this separation is evidence (although the sample is small, calculations – given on page 45 - that lead to figure 6.5 speak of a p-value of  $< 0.05$ ) for a negative relationship between TEA and globalization for low GDP/capita countries. That is, when using the formula (3).



Figures 1 (left) and 2 Separating low and high (right) GDP/capita while relating TEA to the index of globalization

Analysing figures 6.1 and 6.2, the clear correlation is notable between globalization and GDP. All high GDP/capita countries have an index of globalization value of at least 3.00, whereas low GDP/capita countries mostly have values below 3.50. Although the wealth vs. globalization discussion has produced some relatively solid statistical proof (Dreher, 2006), due to the explorative status of researches, this correlation can not yet be taken as a given (Bobek & Vide, 2005) for the present article. Thus, separately looking at low or high GDP/capita -countries while explaining TEA by their globalization level, is interesting and (thus far) reasonable.

$$TEA=c1+ c2*1/Indexglob + u, \quad E(u|Indexglob)=0 \quad (3)$$

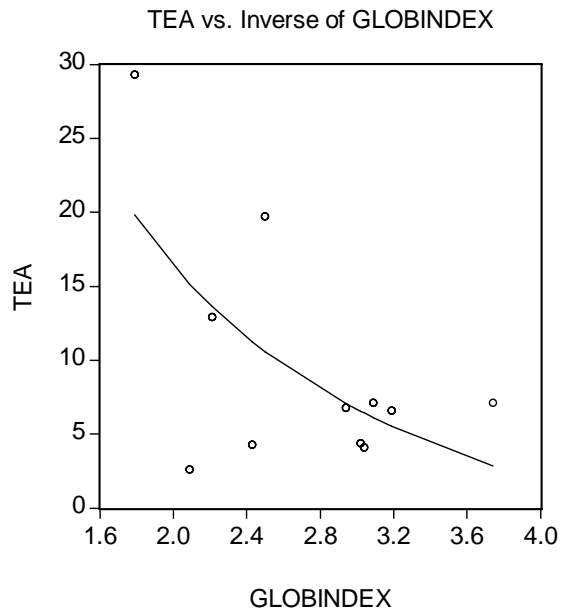
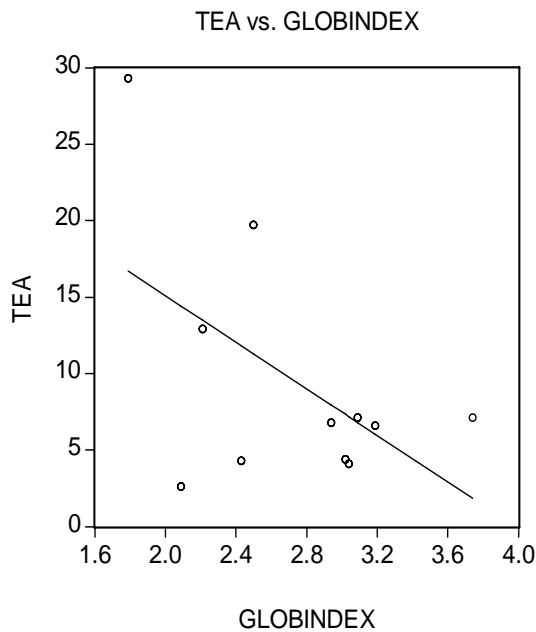
Dependent Variable: TEA

Method: Least Squares

Sample: 1 11

Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12.74390	9.632924	-1.322952	<b>0.2185</b>
1/INDEXGLOB	58.27214	24.62583	2.366302	<b>0.0422</b>
R-squared	0.383536	Mean dependent var		9.536364
Adjusted R-squared	0.315040	S.D. dependent var		8.152702
S.E. of regression	6.747366	Akaike info criterion		6.819147
Sum squared resid	409.7426	Schwarz criterion		6.891492
Log likelihood	-35.50531	F-statistic		5.599384
Durbin-Watson stat	2.525723	Prob(F-statistic)		0.042164



Figures 3 (left) and 4. Linear and Inverse (right) regression on the values for TEA while using the index of globalization as an independent, for low GDP/capita countries

Preliminary backing for such a relationship can be found in the form of statements made in part 5. To further analyze if increasing globalization is indeed a “bad thing” for the entrepreneurial endeavors of a low-GDP/capita -country’s inhabitants, extensive data will be required. Results from analyzing a possible *linear* correlation in figure 6.1 gave no noteworthy reason to further probe such an existence (for visualization, see figure 6.3). Conversely, quite a significant fit is notable when using a formula of the likes as (3), above. Calculation and graphic support (see figure 6.4) seem to indicate a negative relationship between TEA and globalization for this situation. Then, increasing a country’s exposure to global connectedness will negatively affect entrepreneurial activity there. Unprotected or even unfair competition by MNCs with small businesses in poorer countries could be considered an explanation for decreasing appeal (or effectiveness) of the business start-up path for the country’s inhabitant.

## **7. Conclusions and discussion**

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With the rise of globalization and the emergence of entrepreneurial global start-ups we study the impact globalization has on entrepreneurship at a country level. A positive relationship between the development of a country’s level of globalization and the rate of entrepreneurship is hypothesized based on entrepreneurship and globalization literature. Our analysis, based on index data for country’s levels of globalization and entrepreneurship we conclude that there is no evidence for impact of globalization on entrepreneurship when tested for all countries in our sample. When tested for low GDP countries we find that high level of globalization has a negative impact (decreasing) level of entrepreneurship. A plausible explanation is that increased globalization and operation of MNE decrease the level of necessity entrepreneurship in low GDP countries.

In this article, a positive relationship between the development of a country’s level of globalization and the rate of entrepreneurship is hypothesized based on entrepreneurship and globalization literature, and related sources. This assumption could clearly be defended on several grounds, and has its body of knowledge, although no applied statistical research, let alone paradigms. What has come out of this article, is the knowledge that a causal relationship between globalization and entrepreneurship involving numerous (and highly diverse) countries can not be elucidated by a (linear) graphic line. And pursuing a more worldly or secular policy as a government will not spur the entrepreneurial spirit of a country, *ceteris paribus*.

The U-shaped line that has at least some explanatory power on this correlation, could be elaborated on. For example, some countries with low scores on the index of globalization may have less developed

industries and governmental services, sparking necessity entrepreneurship (Wennekers, 2006) while shielded from MNC competition; possibly the case for Uganda, Brazil and Argentina. The next question of course, then, is why this reasoning does not work for Croatia, South Africa or Poland. Perhaps the explanation can be sought in the negative effect the lack of “global connectedness” these countries have, as these countries for example do not have push from necessity entrepreneurship, but also miss out on a potential global pull created by opportunity entrepreneurship (Wennekers, 2006). Then; looking at the highly globalized countries, again from a “U-shape perspective”. Countries such as The US, Canada and Australia may gain from international business attention and experience, hereby offering (cross-border) opportunities to their entrepreneurs<sup>iv</sup>. For France, The Netherlands and Singapore however, being in the global spotlight appears to have an overwhelming effect on these country’s entrepreneurs, possibly because of high international competition without (national) government support. Ding (1998) concluded on a similar matter, with wise words:

*“Globalization presents both benefits and risks for a nation. The extent of these benefits and risk depends on domestic policy”* (p. 142).

In addition to entrepreneurship and globalization measures we looked at additional measure - the “Ease of Doing Business” ranking of the World Bank<sup>3</sup> and especially the sub category “Starting a Business”. Ranking numbers from the latter were bound to have a substantive correlation with rankings based on TEA, one would imagine. Appendix A1 represents the calculation of the relative ease to start a company in 29 - the countries used in the present article, except Iceland; no figures were available here - countries, using and repositioning World Bank figures. Then, comparing this ranking to the one based on TEA, Appendix A2 reveals a consideration said to be quite plausible before; when it’s easy to start a company in a country, start-up (measured by TEA) rates need not necessarily be high. No graphic input is needed to show the non-correlation detected in Appendix A. A determining factor in answering the question: what disturbs the relation between feasible and real entrepreneurship?, arguably, is globalization.

In part 5, the element of Schumpeter’s (1934, 1975) division of regimes into Mark I and II was brought forth. This element may be of great value for the understanding of the relationship between the two subjects under discussion in this article. Clercq et al. (2006) actually combine statements put forward in part 5 of this article, leading to an example showing individual country research might prevail in usability for this matter. On the one hand, there is the superior knowledge MNCs have when entering foreign markets, as a result of which they can successfully compete with (beat) local (small & new) firms. On the

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<sup>3</sup> (<http://www.doingbusiness.org/EconomyRankings>)

other hand, as MNCs knowledge-based assets are often intangible, making them hard to integrate and spillovers to domestic firms may occur (Clercq et al., 2006). On the whole, conclusions for this type of discussion – as is probably the case in many related cause-and-effect issues – seem unlikely to be made in a generalizing way.

Some attention should also be given to the theoretically newly developed – and (albeit rudimentarily) statistically tested – assumption that increased globalization leads to lower TEA in low GDP/capita countries. If proven – for example through the usage of a larger data pool – correct, it would mean countries in the developing phase of their national economies should strive for a protected or supported status of their (mainly) necessity entrepreneurs. Again, explanations should be sought in, for example, the Schumpeterian separation of company approaches thriving in either Mark I (“SME dominated”) or II (MNC dominated) regimes. Or, on a more social- economic level, countries could abet ambitions of their entrepreneurial workforce by putting a halt to the flow of incoming global products and related advertising (say, from Coca Cola), thus giving breeding space for the producers of local substitutes for these global products (a tactic used by the Chinese in the ‘90s an early ‘00s with quite some success).

To close this discussion, what better way then by recollecting a remark made by Shane and Venkataraman (2000) as they struggled with an uncertain and indefinite conclusion:

*“We recognize that we may have offered some uncertain assumptions, potentially flawed logical arguments, or have made statements that will prove, ultimately, to be inconsistent with data yet to be collected. Nevertheless, this framework provides a starting point”* (p. 224).

Proclaiming my views about this article and the possible results it will have, can not be done in a better way.

## **8. Limitations**

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In an analysis of the determinants of entrepreneurship, time series data on entrepreneurial activity for a large number of countries or longitudinal data on entrepreneurial individuals may shed more light on the factors determining entrepreneurship (Sternberg & Wennekers, 2005). As the availability of GEM data will increase, and KOF information will be updated, important extensions to this research should be possible. The author respectfully recognizes his work as a first step done with limited resources. Some of the work could be described as rudimentary and incomplete.

GEM and KOF are respected and academic bodies producing relevant research. However, both claim to have a definition for a subject still very much under scrutiny and clearly without paradigm. “Taking side” in this theoretical matter is a necessary, but subjective act. Until government approaches with a backbone of GEM or KOF research are tested, much of what is assumed in this article lacks practical proof. Additionally, GEM’s output has been criticized before because of its dependency on subjective data. Those who provide the “numbers” leading to TEA, are very likely to have their own opinion on what it is exactly, that makes them and their surroundings “entrepreneurial”.

While dividing the population of countries in two groups based on their GDP, a possible flaw is created. Several of the indicators of globalization are perhaps not directly, but in all probability indirectly related to wealth, or GDP per capita, in a country. Pending expanded research on lower GDP per capita countries and the effect globalization has on those countries’ entrepreneurial activity, one must recognize the falsifiable reasoning produced as a result of the ambiguous relationship between globalization and a country’s wealth.

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**Appendix A**

For the Year 2003  Country	Actual numbers				Rank				Rank # Starting a business
	Proce- dures; amount 1)	Time; days 2)	Cost; % of GNI / capita 3)	Minimal capital; % GNI / cap. 4)	1)	2)	3)	4)	
Canada	2	3	0.6	0	1	2	3	1	<b>1</b>
Nw Zealand	2	12	0.2	0	1	8	2	1	<b>2</b>
Australia	2	2	2	0	1	1	9	1	<b>3</b>
U. States	5	5	0.6	0	8	3	3	1	<b>4</b>
Singapore	7	8	1	0	13	5	5	1	<b>5</b>
H.Kong, Ch	5	11	2.4	0	8	6	10	1	<b>6</b>
U. Kingdom	6	18	1	0	11	9	5	1	<b>7</b>
Ireland	4	24	10.4	0	5	12	15	1	<b>8</b>
Denmark	4	6	0	49.8	5	4	1	24	<b>9</b>
Israel	5	34	5.5	0	8	16	12	1	<b>10</b>
Finland	3	31	1.1	29.8	4	13	7	20	<b>11</b>
Norway	4	23	3.5	29.8	5	10	11	20	<b>12</b>
S.th Africa	9	38	9.4	0	16	18	14	1	<b>13</b>
France	9	42	1.3	29.2	16	20	8	19	<b>14</b>
Italy	9	23	16.8	11.6	16	10	23	14	<b>15</b>
Netherlands	7	11	13.3	67.2	13	6	21	25	<b>16</b>
Belgium	7	56	11.1	24.1	13	24	17	17	<b>17</b>
Germany	9	45	5.9	49.1	16	21	13	23	<b>18</b>
Uganda	17	36	146.5	0	28	17	29	1	<b>19</b>
Japan	11	31	10.7	74.9	23	13	16	26	<b>20</b>
Brazil	17	152	13.1	0	28	29	20	1	<b>21</b>
Slovenia	9	60	14.8	19.9	16	25	22	16	<b>22</b>
Argentina	15	68	12.4	9.3	26	26	19	13	<b>23</b>
Spain	10	114	16.8	17.9	21	28	23	15	<b>24</b>
Hungary	6	52	40.4	96.4	11	23	28	27	<b>25</b>
Poland	10	31	21.2	247.4	21	13	26	29	<b>26</b>
Croatia	12	49	16.9	25.5	25	22	25	18	<b>27</b>
Portugal	11	78	12	40.4	23	27	18	22	<b>28</b>
Greece	15	38	36.7	135.2	26	18	27	28	<b>29</b>
Iceland									<b>n.a.</b>

Ease of doing business in a country, specified for start-up climate.

Numbers derived from the World Bank (doingbusiness.org)

Country	Rank TEA	Rank Starting a business
Uganda	1	19
Argentina	2	23
Nw Zealand	3	2
Brazil	4	21
Un. States	5	4
Australia	6	3
Ireland	7	8
Canada	8	1
Norway	9	12
Israel	10	10
Portugal	11	28
Finland	12	11
Greece	13	29
Spain	14	24
Hungary	15	25

Country	Rank TEA	Rank Starting a business
Un. Kingdom	16	7
Denmark	17	9
Germany	18	18
Singapore	19	5
Poland	20	26
South Africa	21	13
Slovenia	22	22
Belgium	23	17
Netherlands	24	16
H.Kong, China	25	6
Italy	26	15
Japan	27	20
Croatia	28	27
France	29	14
Iceland		n.a.

Table 7.2 Comparing rankings on TEA and “ease of starting a business” for the 29 countries

**Appendix B**

	<b>Glob index</b>	<b>Rank Glob</b>	<b>TEA</b>	<b>Rank TEA</b>	<b>GDP/ cap<sup>1</sup></b>	<b>GDP grw<sup>2</sup></b>
<b>Portugal</b>	3.09	22	7.1	12	5	-1.1
<b>Germany</b>	4.11	11	5.2	19	6	-0.2
<b>Italy</b>	3.69	18	3.2	28	6	0
<b>Netherlands</b>	4.37	6	3.6	26	6	0.3
<b>Brazil</b>	2.21	28	12.9	4	4	0.5
<b>Denmark</b>	4.05	13	5.9	18	6	0.7
<b>Belgium</b>	3.99	15	3.9	25	6	0.9
<b>Norway</b>	4.05	14	7.5	10	6	1.1
<b>France</b>	4.71	4	1.6	31	6	1.1
<b>Israel</b>	3.74	17	7.1	11	6	1.5
<b>Japan</b>	4.22	10	2.8	29	6	1.8
<b>Finland</b>	4.25	9	6.9	13	6	1.8
<b>Canada</b>	6.30	2	8	9	6	1.8
<b>US</b>	6.86	1	11.9	5	6	2.5
<b>UK</b>	5.05	3	6.4	17	6	2.7
<b>Singapore</b>	4.36	7	5	20	6	2.9
<b>South Africa</b>	2.43	27	4.3	22	4	3
<b>Spain</b>	3.27	20	6.8	15	5	3
<b>Iceland</b>	3.68	19	11.2	7	n.a.	3
<b>Australia</b>	4.53	5	11.6	6	6	3.1
<b>H. Kong, Ch.</b>	3.99	16	3.2	27	6	3.2
<b>Hungary</b>	3.19	21	6.6	16	4	3.4
<b>Nw Zealand</b>	4.08	12	13.6	3	6	3.4
<b>Poland</b>	3.02	24	4.4	21	4	3.8
<b>Ireland</b>	4.26	8	8.1	8	6	4.3
<b>Uganda</b>	1.79	30	29.3	1	2	4.4
<b>Greece</b>	2.94	25	6.8	14	5	4.8
<b>Croatia</b>	2.09	29	2.6	30	n.a.	5.3
<b>Argentina</b>	2.50	26	19.7	2	5	8.8
<b>Slovenia</b>	3.04	23	4.1	23	5	n.a.

Table 6.2 Comparing TEA and Index of Globalization, while looking at GDP & GDP growth

<sup>1</sup> Worldbank classification (2002); rankings divide countries in 6 groups

<sup>2</sup> IMF 2002 data (imf.org); using current prices

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<sup>i</sup> Regarding the pressure called “The ICT revolution” a side note must be made that other studies suggest up to two-thirds of SMEs relegate ICT as an important factor [something also seen by for example Brahmhatt (1998)] as a boost for global economic integration. Even more, ICT is said to be more of an aid in performing routine operations, rather than a leverage in the progress of a company’s strategy (Langley and Traux, 1994, in Bobek and Vide, 2005).

<sup>ii</sup> The broad array of uncontrolled reactions on government policies and international tendencies produced by peers, interest groups and informal parties, possibly resulting in adjusted perception and action by target groups (Huggins, 2000; Minniti, 2005).

<sup>iii</sup> Defined here as contacts between multi national firms and their local suppliers.

<sup>iv</sup> To explain the upper hand of these countries; what is considered globalization of culture is often the same as Americanization of culture (Dreher, 2006).