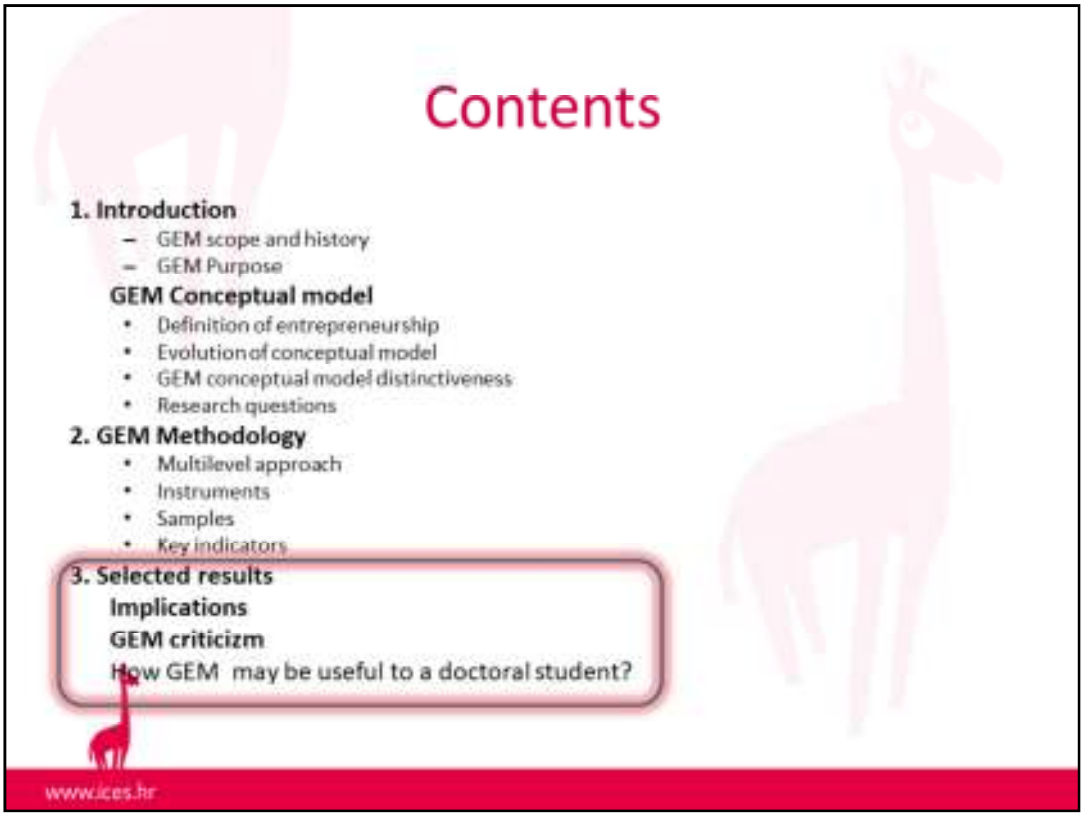
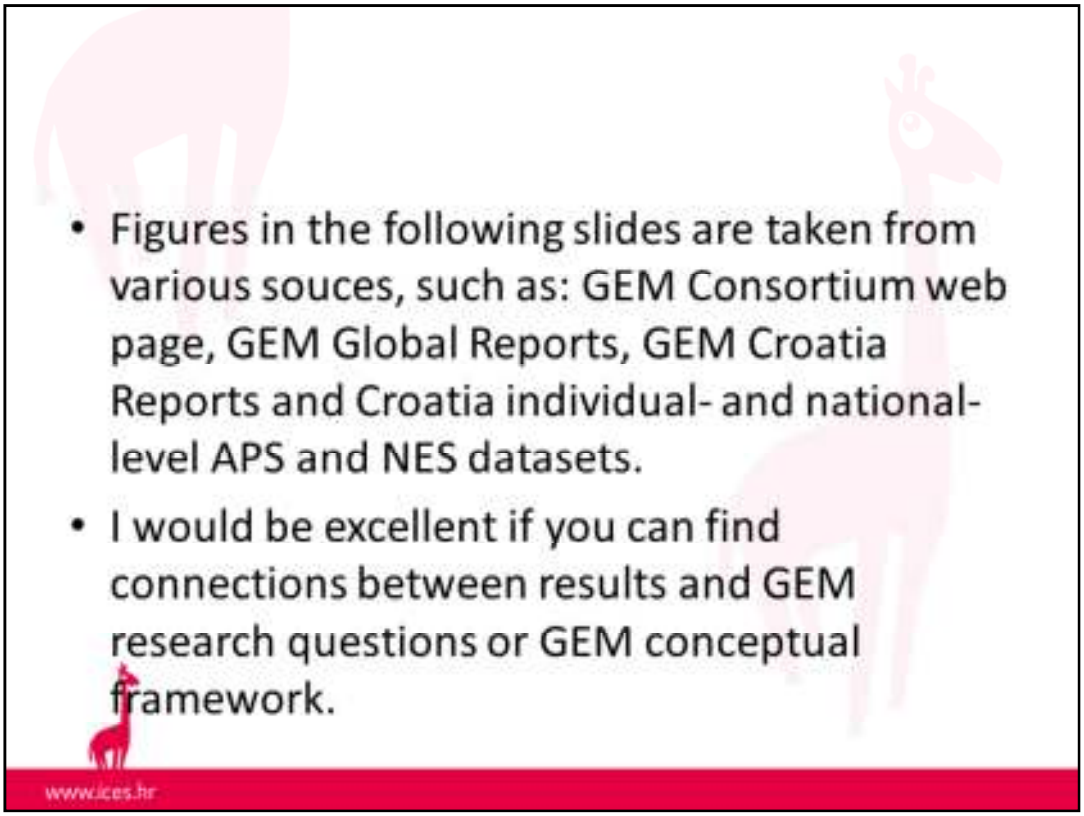
In this part of the Global Entrepreneurship Monitor approach to entrepreneurship research you will be able to look into the empirical evidence and main results of the GEM research.

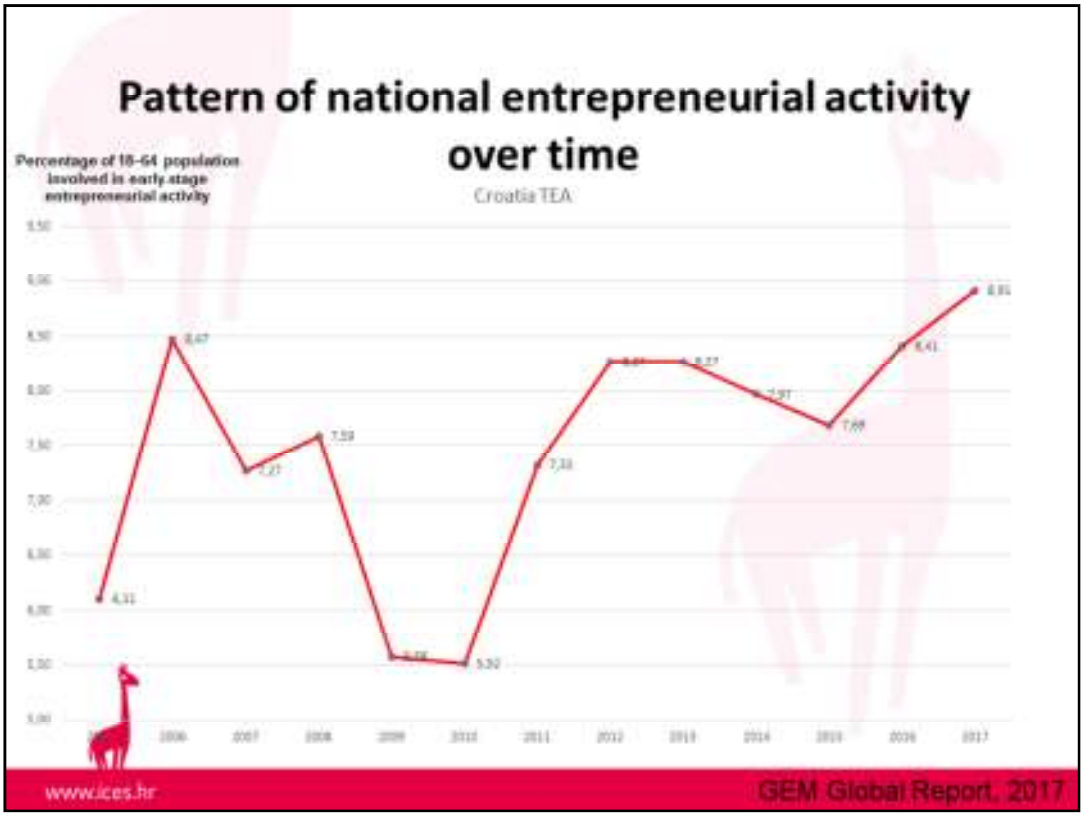


The aim of the third part of the presentation is to give you an insight on how GEM results can be used, and their implication. Additionally, it presents few limitations of the GEM research and give you the opportunity to think about how GEM be used by doctoral students.



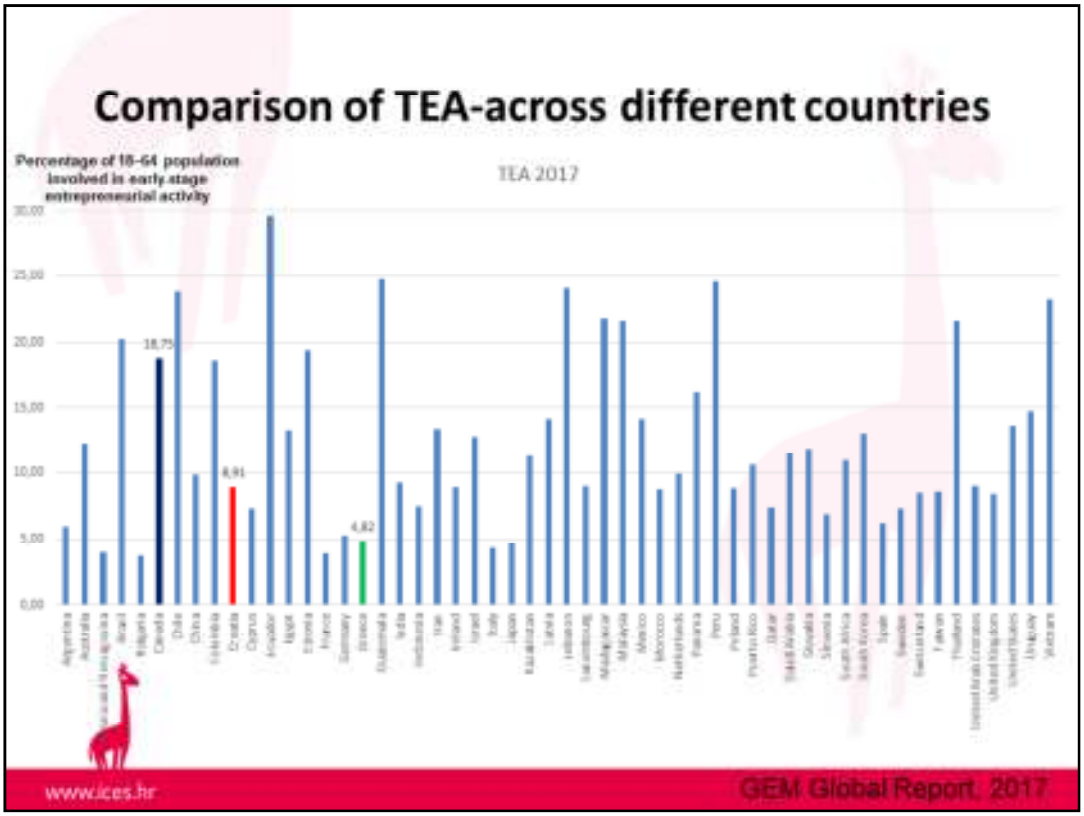
Figures in the following slides are taken from various sources, such as: GEM Consortium web page, GEM Global Reports, GEM Croatia Reports and Croatia individual- and national- level APS and NES datasets.

Please note, that the main results of the GEM will not be discussed in too many details. The emphasis is on how is the particular figure related to the GEM research questions.

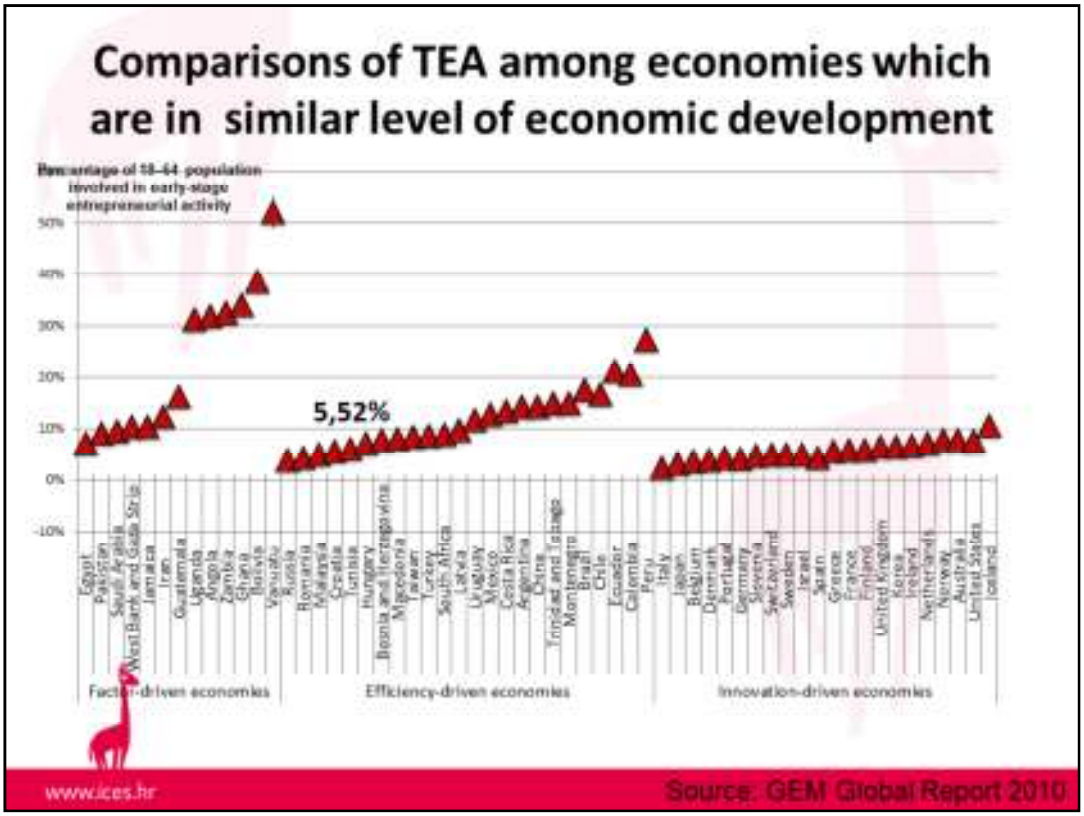


As previously mentioned, GEM measures level of entrepreneurial activity in particular country over time. This figure is developed through using GEM website interface which allows any interested visitor to use the large amount of data about national level indicators. Let us assume that we need to know what is the level of new entrepreneurial activity in Croatia throughout 2005-2016. Does a level of entrepreneurial activity vary across time? We can see that entrepreneurial activity in Croatia fluctuates. The lowest is in 2010, when economic crisis made a dramatic impact on entrepreneurial activity in Croatia. The highest level of entrepreneurial activity was measured in 2017.

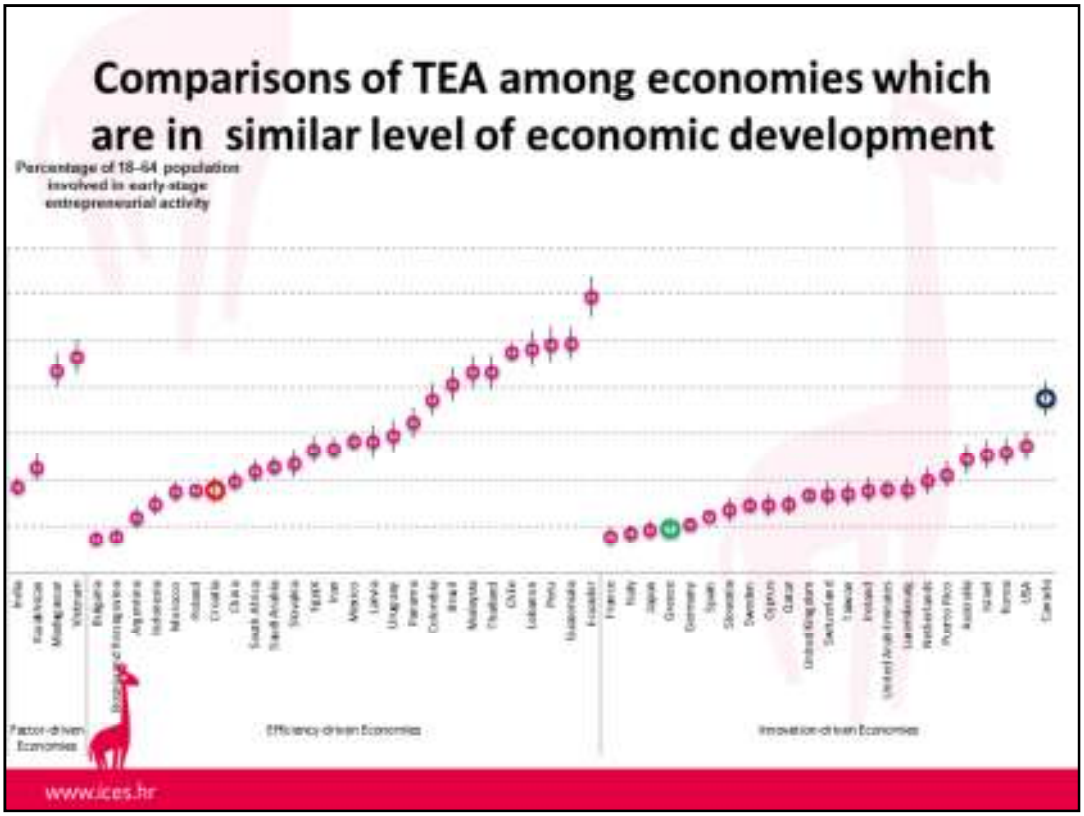
However, from this type of analysis we cannot conclude whether 5,5% of adults engaged in the total early stage entrepreneurial activity (recorded in 2010) is fairly good, or bad. That can be understood only if we compare results for Croatia with other participating countries.



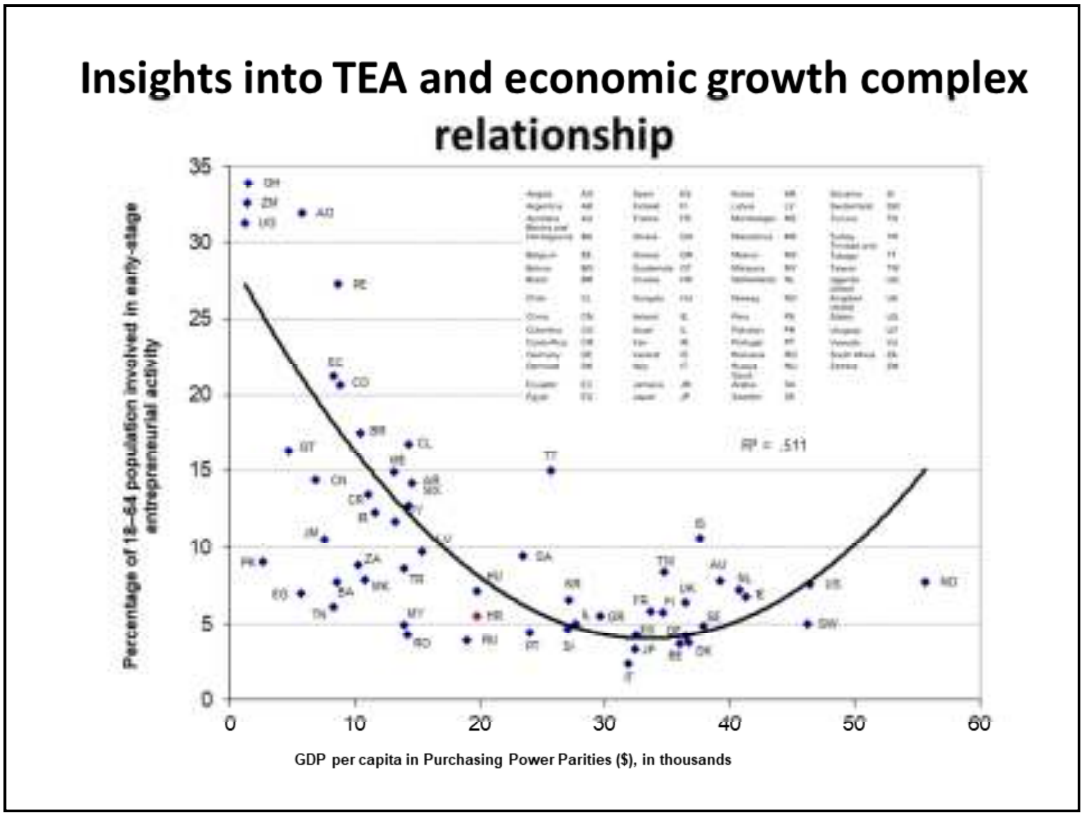
One of the GEM research question is: Does the level of entrepreneurial activity varies between countries and if so, to what extent and why? Therefore, in this slide we can see that entrepreneurial activity between different countries varies from fairly low (below 5% for Bulgaria, Italy, Malaysia and for instance Germany to fairly high level of more than 25% for Chile or, Lebanon. However, it would be helpful to compare the results of geographically close countries (or those in the similar stage of economic development). For instance: CANADA and USA; or Slovenia and Croatia. GEM does provide meaningful comparisons of the cross country analysis using several different criteria for grouping countries in broader categories.



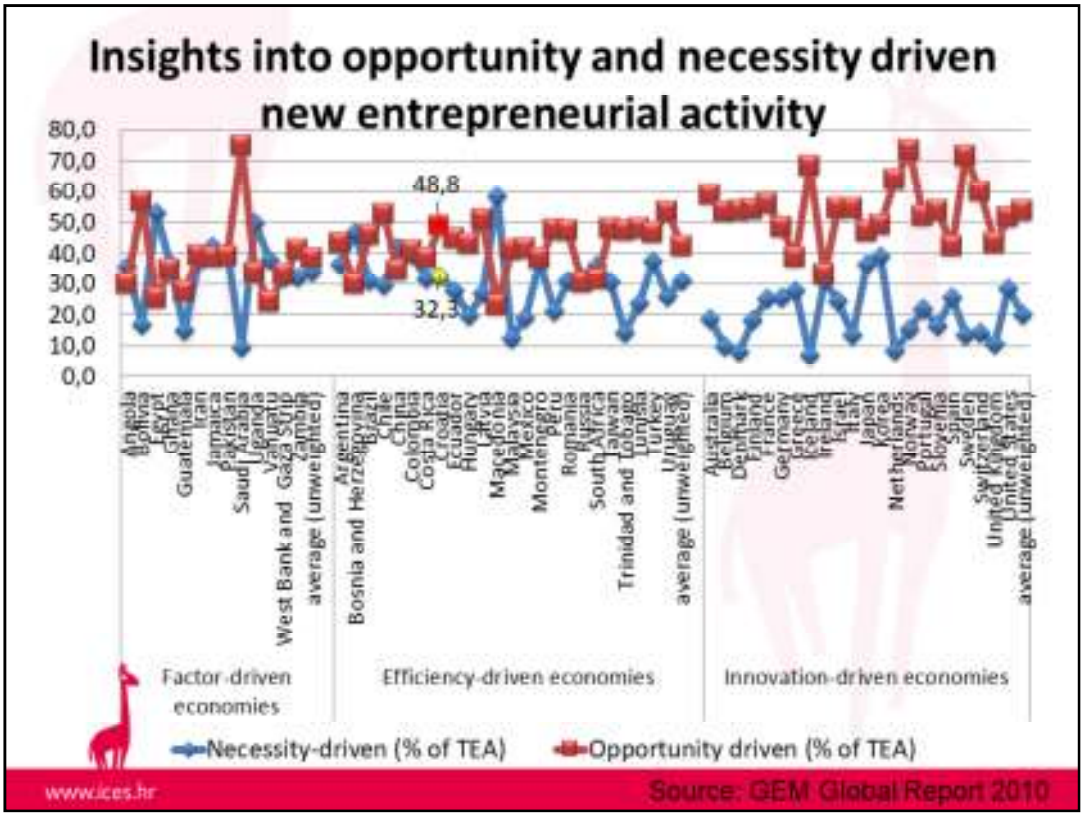
The GEM aims to explain not only why early stage entrepreneurial activity fluctuate, but also how and why. In this slide we see that one of the explanation may be the level of economic development. For instance, this picture shows that total early stage entrepreneurial activity is highly dispersed in the countries that belong to category of „factor-driven economies". These countries in general have higher percentage of people involved in entrepreneurship. For instance, if you look at the small island state of Vanuatu, you will see that 60% of Vanuatu adult population is engaged in early stage entrepreneurial activity. On the other hand, the innovation driven economies, not only have lower levels of adults engaged in early stage entrepreneurship activity, but there is almost no dispersion in the level of entrepreneurship activity across innovation driven economies. If we look at the efficiency driven economies, we see that Croatia is close to the bottom of the list of countries in this category. Should Croatia be worried about it's relatively low level of entrepreneurial activity?



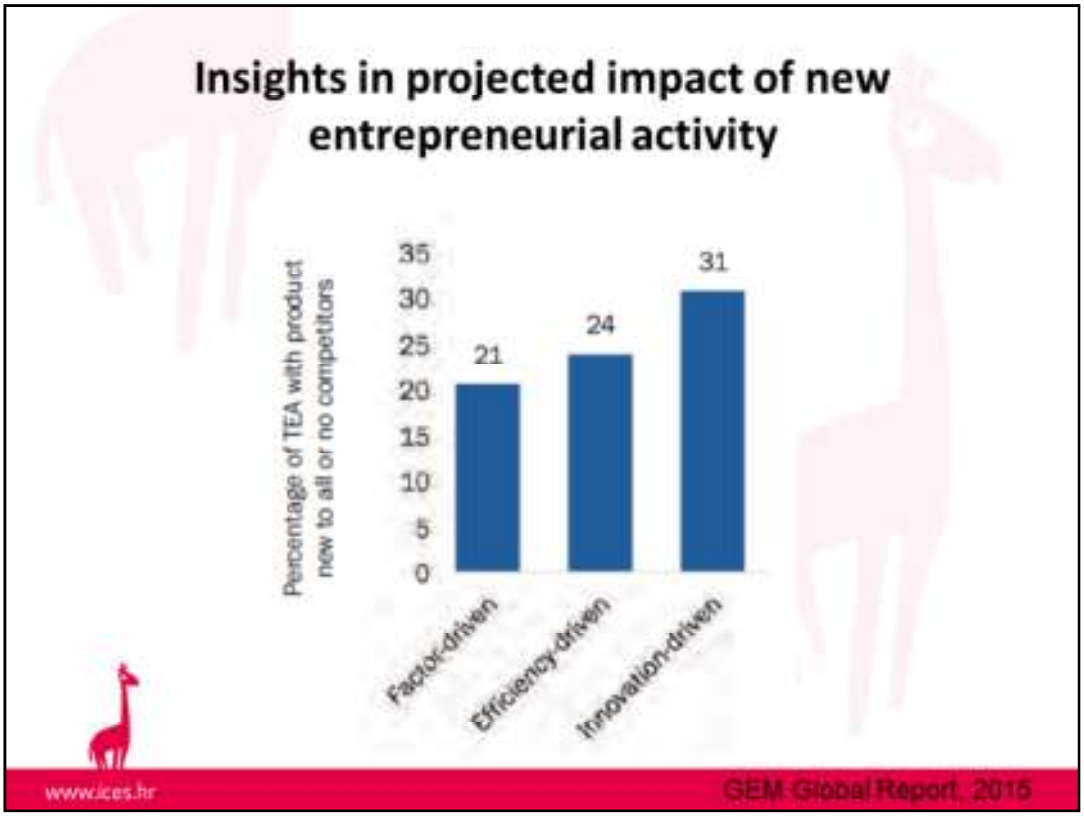
In addition, the GEM 2017 Report also support previous notion: factor driven economies have higher dispersion of the entrepreneurial activity, while the innovation driven economies seems to have less dispersed TEA indexes, and Croatia is again close to the bottom line. Canada is positioned at the higher end of the entrepreneurial activity, while Greece holds lower end among countries which are in the innovation-driven level of economic development.



If we apply more sophisticated quantitative analysis on GEM data, and investigate further what is the relationship between GDP per capita (which is used as the proxy for the level of economic development) we will find out that the relationship between these variables is not linear and that „more entrepreneurs" do not necessarily mean „merrier society" or higher economic development. The relationship looks like a U-shaped curve. It seems that as the country progress along the GDP per capita axis, the level of entrepreneurial activity drops down or stays the same. It may be so because the enlarged established businesses offer enough attractive job opportunities so the individuals find a lot of opportunities to work for established firms. Drop of the early stage entrepreneurial activity rates, usually might concern particular country. But it could also mean that the general economic climate has improved and that job opportunities are moving by a shift toward more promising aspirations for growth, innovation and international trade, even while the number of entrepreneurs decline. Now, if we look at the vertical axis we will see that some countries have the same rate of early stage entrepreneurial activity but achieve very different GDP per capita. Croatia and Sweden are having the similar level of TEA but very different GDP per capita. What might explain that?

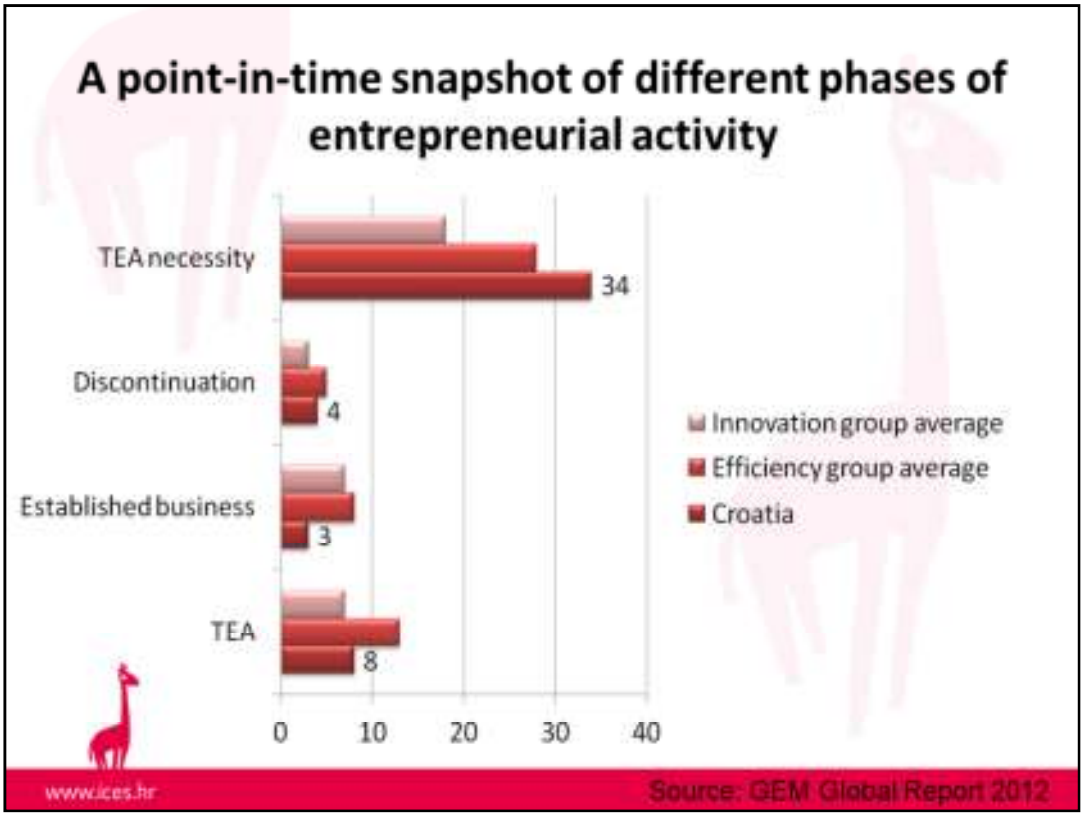


One of the explanation for such a result is the quality of the entrepreneurial activity. Variations in GDP might be attributable to the quality and sophistication of the entrepreneurship activity. GEM provides plenty of evidence for that. Innovation driven economies seem to have low level of entrepreneurial activity but these individuals seems to be engaged in starting or managing businesses which have high impact. GEM provides evidence that the quality of entrepreneurship activity matters. So in this slide we see that innovation driven countries have very high percentage of early stage entrepreneurial activity who are improvement and innovation driven. On the other side of the majority of other countries have on average relatively lower percentage of entrepreneurs who start their ventures driven by opportunities. The less developed countries have less opportunity driven entrepreneurs and sometimes the number of necessity driven entrepreneurs is higher than opportunity driven ones, or there is similar number of opportunity and necessity driven entrepreneurs. In wealthiest societies government developed entrepreneurial finance, open markets, R&D, and other entrepreneurship specific framework conditions. The role played by entrepreneurship sector in innovation driven economies may be more substantial because individuals start their businesses due to the perceived opportunity which is knowledge intensive.

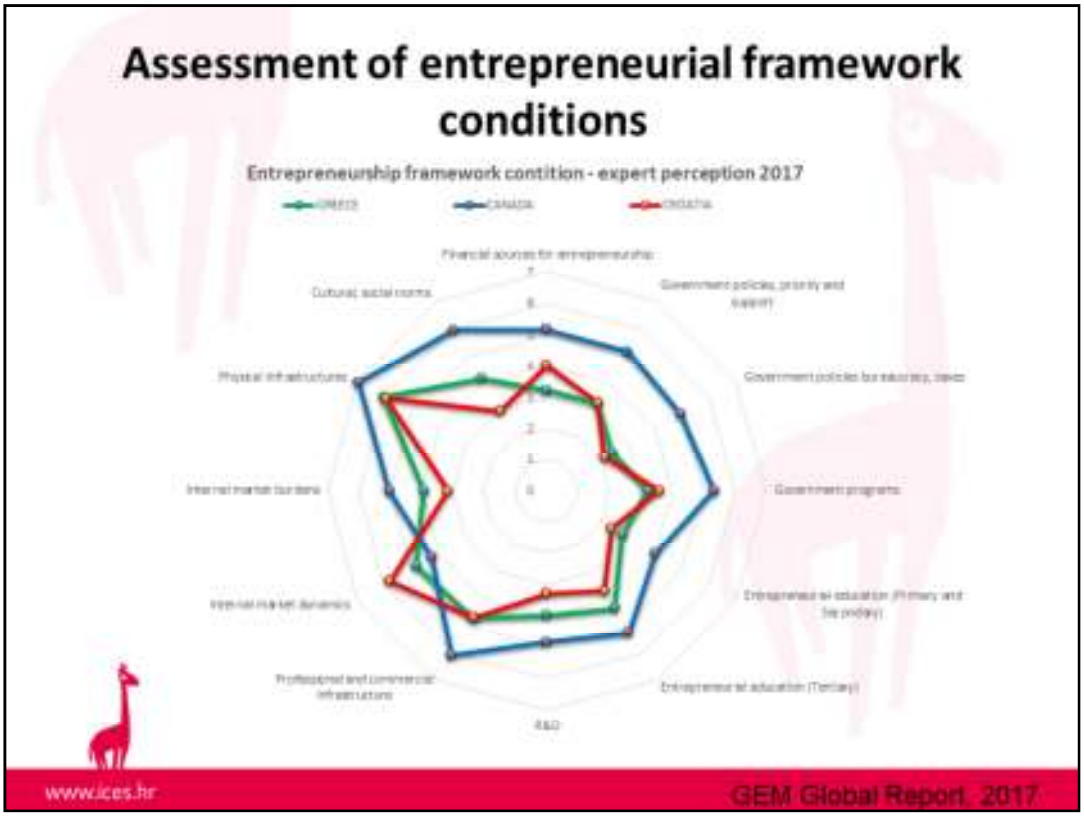


GEM provides evidence about aspiration or innovativeness of the early entrepreneurial acitivity. In this slide we can see another interesting pattern. The innovation driven countries have highest percentage of early stage entrepreneurial activity with high products innovativeness. For instance, the percentage of the TEA active individuals who perceive their product as new to the market is 31%. In contrast, factor driven economies have on average 21% of TEA active individuals who think their products have no competitors or who believe their products are new to the customers.

This slide shows how GEM provide evidence on what is the nature of the entrepreneurial activity, how innovative they are.

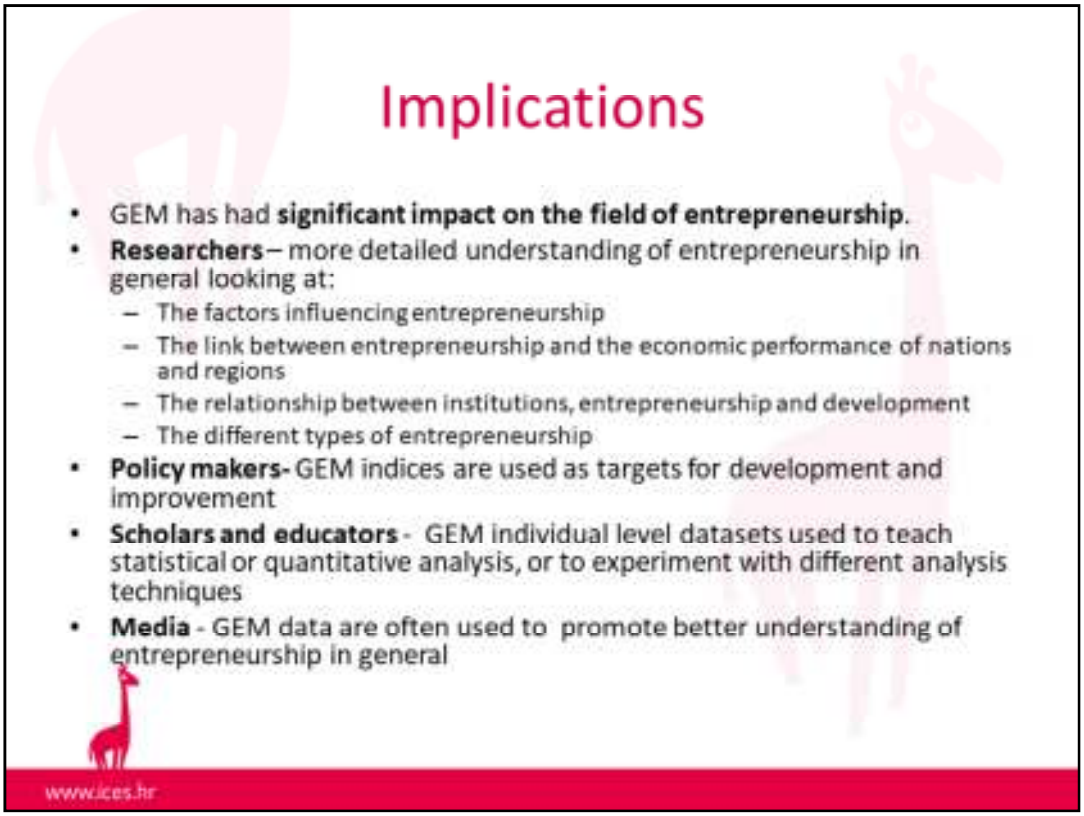


GEM datasets gives broader insights into the types of entrepreneurial activity. For instance, GEM captures how much of the entrepreneurial efforts of adult population is put into the early stage activity and what is the percentage of the adults who are engaged in established entrepreneurship activity or discontinuation of the businesses. If we take Croatia as an example, in 2012 there were more people engaged in discontinuing than managing established businesses, while one third of those who were engaged in early stage entrepreneurship activity were those who are driven by necessity. If we compare these results with the averages for the countries in the efficiency driven stage of economics development (where Croatia belong), we will notice that Croatia lags behind them in almost all indicators, except for the share of necessity driven entrepreneurs.



GEM provides an evidence on the quality of entrepreneurship framework conditions. There is sufficient support to the assumption that wealthiest society's governments developed entrepreneurial finance, open markets, R&D, and other entrepreneurship specific framework conditions of higher quality. The quality of these structural conditions allows entrepreneurship sector to have more substantial impact due to a fact that individuals start their businesses due to the perceived opportunity which is knowledge intensive. The GEM allows us to compare the perception of different countries in each of the nine key segments. In this slide we see that perceived quality of different entrepreneurship framework conditions is rather similar in Greece and Croatia. On the other hand, Canada have higher perceived quality of almost all segments of entrepreneurial framework (except internal market dynamics).

Since there is no conclusive evidence about what predict the main constructs in GEM conceptual framework the challenges nominated by the GEM research questions are still open and continue to attract researchers or doctoral students to further explore these topics.



GEM has got significant impact on the field of entrepreneurship.

Aggregated-national level datasets on key indicators across participating countries are important empirical evidence and reference in exploration of entrepreneurship

Individual-level data sets on individual or expert responses in each country important for advancing knowledge.

Researchers – may contribute to more detailed understanding of entrepreneurship in general looking at:

The factors influencing entrepreneurship

The link between entrepreneurship and the economic performance of nations and regions

The interplay between institutions, entrepreneurship and development

The different types of entrepreneurship

GEM is regularly cited in high quality academic publications such as The Journal of Business Venturing, Small Business Economics, Entrepreneurship Theory and Practice, and the Journal of International Business Studies.

Policy makers-In many countries, GEM indices are used as targets for development and improvement, and policymakers can make comparisons with similar countries and discover which policies are working elsewhere.

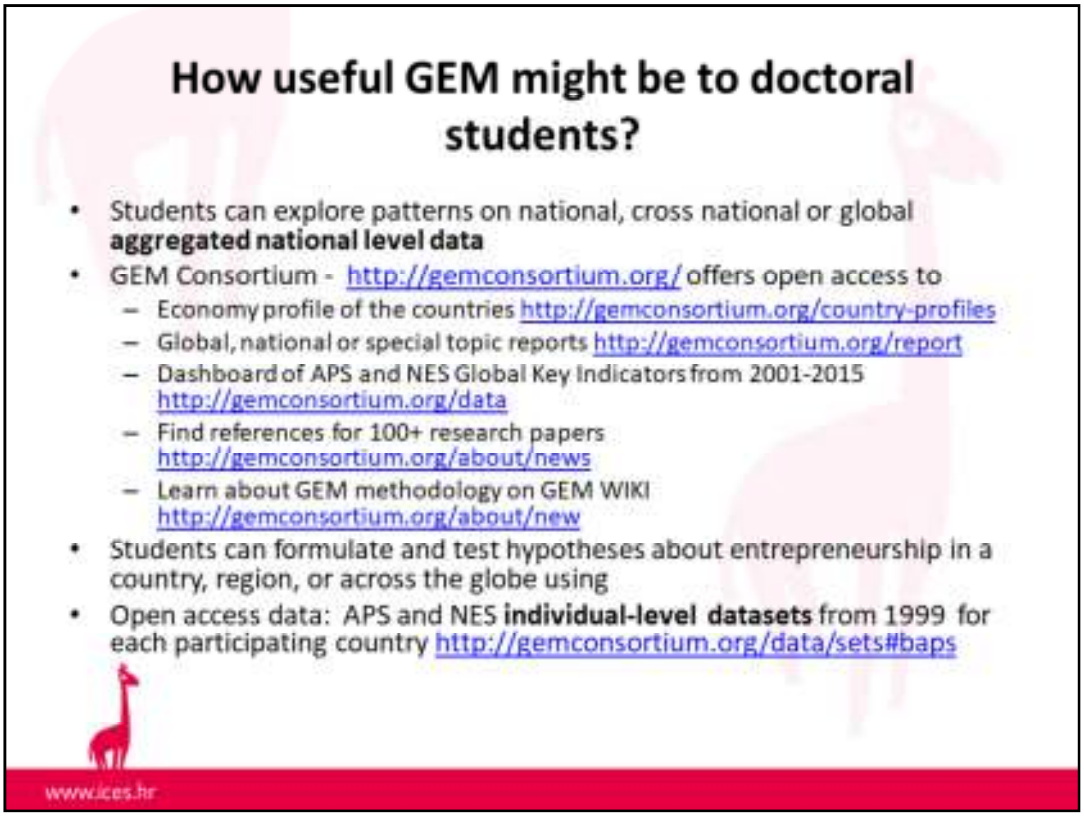
Scholars and educators: Educators may use data to teach statistical or quantitative analysis, students can experiment with different analysis techniques; can formulate and test hypotheses about entrepreneurship in a country, region, or across the globe.

Media - GEM data are often used to promote better understanding of entrepreneurship in general

GEM is regularly cited in high quality academic publications such as The Journal of Business Venturing, Small Business Economics, Entrepreneurship Theory and Practice, and the Journal of International Business Studies.

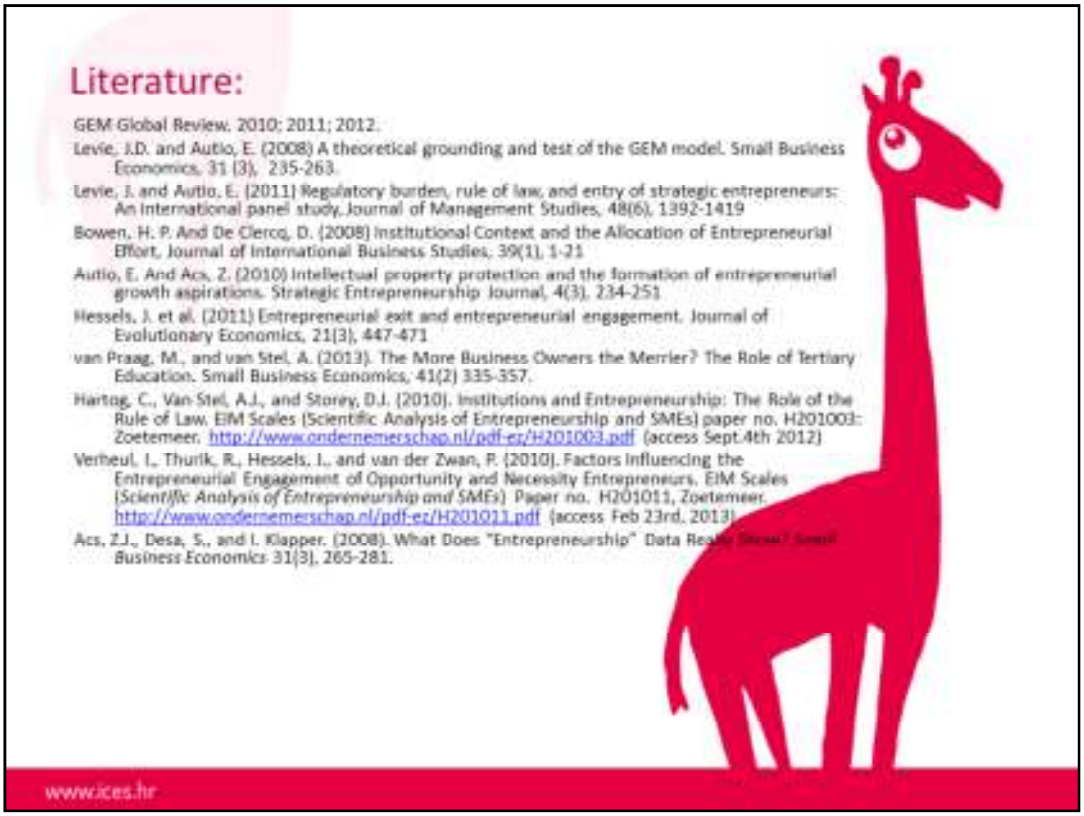
There are few advantages and disadvantages in using GEM approach to entrepreneurship research. It is difficult to gain datasets which are longitudinal, harmonized and methodologically standardized, so having longitudinal observations gained by strict standards and harmonized across variety of countries is a huge advantage of GEM approach.

In contrast, there are a few limitations of the GEM approach: it is easy to get confused because there is other similar multinational projects for tracking entrepreneurship across countries (for instance Eurobarometar, SME observatory, etc). The point- of –time snapshots do not allow to explore how an individual entrepreneurial activity progress from intention to nascence, early, or mature stage of the business. Finally, some of GEM criticism is related to the standard flaws of any survey. For instance in surveys people tend to give answers they perceive as right or expected, there is always probability of misunderstanding the question and so on.



There is a plenty of opportunity to use GEM datasets or GEM conceptual framework for a doctoral thesis. Patterns of national, cross national or global entrepreneurial behaviors lack the theoretical or empirical grounding, comparisons or explanations, and are still largely untapped. In addition, interested candidates may search for new insights in particular economy profile; focus on some special topic, such as high-growth entrepreneurship, internationalization, techopreneurship, etc. GEM provides: (i) aggregated data on national, cross national, global entrepreneurial behavior as well as (ii) individual-level data.

Aggregated-national level datasets on key indicators across participating countries are important empirical evidence and reference in exploration of entrepreneurship. Individual-level datasets on individual or expert responses in each country are very important for advancing knowledge on individual-level entrepreneurship activity. GEM's comprehensive reports are a valuable resource for teachers and students. Students can use GEM data to **determine patterns** within one national economy across time, or within a range of countries with different economic development levels and geographic position. Teachers can use the data to illustrate various techniques of quantitative or qualitative analysis. Students can use open access data and look into the APS or NES datasets from 1999 and test various hypotheses about entrepreneurship in a country, region, or across the globe.



If you are interested in more detailed elaboration on GEM approach, results or implications, there are lot of references. This slide presents the selection of the references you might be interested in.