HAPPY & COMPETITIVE CITIES:

ENTREPRENEURSHIP & LIFE SATISFACITON IN EUROPEAN CITIES

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ABSTRACT

This thesis investigates the assumed relationship between entrepreneurial activities and life satisfaction aggregates in the context of the European cities. The main research question that will be answered is the following: *To what extent can the happiness and entrepreneurial activities of European Cities be connected directly and through common determinants?* Based on previous research important city specific characteristics and their effects on the relationship will be tested using a hierarchical regression models in an elaborative fashion. Data has been obtained from various national statistical offices and the Urban Audit program. The results will provide details on how different factors affect the life satisfaction of the population itself as well as the relationship to entrepreneurship. From this, a set of policy implications are being derived that will address the maximization of both life satisfaction and entrepreneurship.

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1. INTRODUCTION

In the past years, both according to scholars such as Bjørnskov, Dreher, and Fischer (2008); Blanchflower and Oswald (2011); Easterlin (2001); Florida, Mellander, and Rentfrow (2013); Lawless and Lucas (2011); Rodriguez-Pose and Maslauskaite (2012); Zagorski, Kelley, and Evans (2010), and the amount of search results on the web of knowledge, happiness research has gained a growing amount of attention from the academic community. For one this may be due to the multidisciplinary nature of the subject-matter. The many facets of happiness research allow for scientists from many different backgrounds to participate in this field: from the philosophical and sociological backgrounds on how to actually define what happiness entails, to the human geographers and social scientists studying how space and people interacting affect happiness, the environmental engineers, working out new ways to increase amenities and decrease negative impacts on happiness: 'Almost everyone is interested in happiness' (Blanchflower & Oswald, 2011, p. 25).

In one of the early publications on this matter, Ruut Veenhoven (1991) defines the term happiness as the overall enjoyment of life. In later publications (2007) he stated that happiness could also be considered a specialization of the subjective side of well-being studies. Richard A. Easterlin (2001, p. 465) views happiness as a more broad concept, synonymous with 'subjective well-being, satisfaction, utility, welfare'. Similar statements have been made by Veenhoven: 'the term well-being is synonymous with quality-of-life' (2007, p. 216). Mahadea & Rawat (2008) provide a brief overview over the debate surrounding the subjective well-being research. Their definitions range from the economic view, happiness in the form of reported subjective well-being as proxy for utility, to the use as a synonym for pleasure and satisfaction.

In two recently published reports by the European Union, the quality of life in Europe is assessed by using subjective measures in the form of surveys. The European Quality of Life Survey (Eurofund, 2013) has been carried out with the national level as focus, providing a general overview on how satisfied the different nations are. Findings of this report lead the authors to giving a few policy recommendations. These recommendations are of a more general nature. Due to the observed level, the degree of detail that is needed for more concise and to the point policy pointers cannot be observed. As argued by Lawless & Lucas (2011), (cross-) national level well-being analyses do not provide sufficient information accounting for potential within-nation variances. Thus a lower level of observations might be of use. In the Quality of Life in Cities-report, published by Eurostat (2013a), the focus is on the metropolitan level. Their results provide a more detailed overview of how the population is satisfied with certain aspects of their city,

ranging from life-as-a-whole, to quality of green spaces and employment opportunities, to public transport. This level of observation thus provides a more to-the-point-view on actual issues. Findings by scholars such as Moro et al. (2008), Florida et al. (2013) or Lawless & Lucas (2011), suggest there is a high degree of variation among different regions. Possible explanation of this according to Florida et al. (2013) is that people tend to actively select 'their place of residence on the light of job opportunities, public goods, and services they provide [...] and derive both satisfaction with their community and emotional attachment from the city in which they live' (p. 614).

Ruut Veenhoven's World Database of Happiness, suggests there is little research that has been conducted at the sub-regional level in Europe, focusing on the metropolitan level of more than one country. Yet the metropolitan level should be of particular interest, because '78% of the European population live in cities' (Morais & Camanho, 2011, p. 398). In the regional development context, cities are viewed as a catalyst for growth and economic development. From the policy maker's perspective, a focus on the growth of an urban area thus provides an accessible way to foster growth within a region. Providing deeper understanding of the sub-regional level thus might be useful. Previous research has found significant differences among regions, which may go unnoticed when setting the analysis up on a higher level of observations. Following the principle of subsidiarity, as it is heavily promoted by the EU, the city level is one of the lowest levels of policy making. This provides to tackle the causes of potential issues closer to the source. (Borozan, 2009; Garcia, 2014; Morais & Camanho, 2011; Morais, Migueis, & Camanho, 2013; Moro et al., 2008)

The performance of regions is generally associated with economic output and economic performance. Whether this is appropriate is hotly debated, yet the predominant method to assess a regions performance is by relying on GDP data. The ability to foster continued growth in economic output, often is referred to as being competitive. Similarly, for example are GDP per capita measure utilized as indication for the wealth and well-being of regions. Promoting economic growth is one of the principle goals of regional policy. A prominent example of this is European Commission's route: The 'Directorate-General for Regional and Urban Policy helps regions that are less prosperous […]to improve competitiveness and to achieve a faster rate of economic development' (EuropeanCommission, 2014a). In an urban context, economic output and growth thereof are linked to entrepreneurs and the formation of new businesses, as is indicated in Graph 1[1], showing a strong positive connection.

[1] See Graph 1, Appendix p. 39.

The more recently popularized terminology of the *smart city* indicates a new trend that is spearheaded by the ever more rapidly accelerating advances of technology and its new applications in the civil society. Although the concept is still fuzzy, the smart city can be said to be characterized by a focus on business-led urban development. A focus on the importance of social and relation capital in an effort to improve the quality of life in a city, while at the same time promoting urban growth has been argued to be of significant importance as well. The major drivers behind the smart city are claimed to be high tech and creative industries. As this however is not the focus of this thesis, the smart city itself may not be entirely applicable to this thesis. Yet it does provide a nice example of how the economic spheres, the entrepreneurs and businesses, are tried to be combined with social realms of the city. Overall, the goal is to promote urban economic growth, while easing the people's lives, in turn presumably increasing their happiness. (Caragliu, Del Bo, & Nijkamp, 2011; Sauer, 2012; Shapiro, 2006) Moreover Morais, & Camanho, (2011, p. 408) state that urban quality-of-life improvements, 'can lead to a growing competitiveness of cities'. Thus giving reason to assume, there may be a connection between competitiveness of cities and their happiness. Graph 2[2] supports this claim, as it hints at a connection between GDP per capita and the cities happiness aggregate. Testing whether the connection between life satisfaction and entrepreneurial activities holds up, once the GDP per capita proxy is removed may present interesting observations and provide valuable insights.

Therefore, in this thesis, the author intends to answer the following research question:

> *To what extent can the happiness and the entrepreneurial activities of European Cities be connected directly and through common determinants?*

In order to able to properly answer that question, the following two sub-questions have been constructed. They are intended to ease paving the road ahead to answering the above introduced main question. These sub-questions are the following:

SQ 1: What is the relationship between happiness and entrepreneurship in European Cities?

SQ 2: How do city specific factors such as unemployment, income, and education agglomeration affect happiness and the relationship?

[2] See Graph 2, Appendix p. 40.

These two sub-questions are designed to, if combined, provide sufficient information for the author to be able to answer the main research question. Sub-question one will provide us with details on the relationship between life satisfaction and entrepreneurial activities in the cities. The second sub-question aims at determining how select socio-economic factors, considered to be city specific, affect the relationship. This will also help ruling out possible confounders. That is to say, determining significant socio-economic factors and the effects they are having is the underlying idea of this second question.

In order to answer these questions, this thesis will to a large extent follow the approaches applied by several authors such as Florida et al. (2013); Garcia (2014); Lawless and Lucas (2011) and Rodriguez-Pose and Maslauskaite (2012) upon others. The majority of the authors included in this thesis used regression models to determine casual relationships between their happiness and / or life satisfaction measures. It is important to note, that the term happiness as has been used here quite frequently already, is a simplified way of referring to the aggregated life satisfaction scores as have been calculated by the author based on Eurofund (2013). Several publications on happiness or entrepreneurship will be considered in the creation of the variables for the analysis. Garcia (2014) uses the Urban Audit data provided by Eurostat, a Europe-wide program providing all sorts of socio-economic data tailored for European cities, allowing for easy comparisons between them. Over the period from 1999 to 2010, the data for 284 European cities has been attained. (Garcia, 2014; Morais & Camanho, 2011) Using data from the Urban Audit, as well as national statistical offices as sources upon others, an elaborative approach will be followed. This will provide information on a multitude of things, primarily this will give an indication at how different factors affect the happiness and entrepreneurship relationship. Other insights include that this thesis will aid in understanding the aggregation effects of happiness better.

Having established the angle of this thesis, the paper will subsequently be divided into five parts: First the underlying theory and previous findings will be presented in chapter two. Chapter three will introduce the methodology, followed by the fourth chapter containing the analysis, assessment and discussion of the relationship between the happiness and entrepreneurship of European cities. The final conclusions in chapter five will wrap up the thesis, provide answers to the research questions, outline some practical implications for the EU and give a short round up of the shortcomings of this thesis.

2. Happiness, Entrepreneurship and Cities

This second chapter will lay the groundwork for the continuation of this thesis. The theoretical framework that is going be the fundamental basis for answering the questions will be set up on these following pages. To provide a basic understanding of the theoretical groundwork of this thesis, first an introduction into happiness theory and happiness in cities shall be provided. This will be followed by a similar overview over entrepreneurship and entrepreneurship in cities. The third segment will provide an elaboration on how entrepreneurship and happiness of cities are expected to be connected. A focus of this chapter is to provide an overview over previous research in the respective fields and from that derive the main concepts that will be used in this thesis.

2.1. Happy People and Happy Cities

This segment will introduce the concept of happiness and happiness of cities. First the concept and term itself will be addressed before the city-level happiness and previous findings will be presented. This thesis will follow the approach by Easterlin (2001), using happiness, quality of life and life satisfaction interchangeably. Further justification for this step is provided by Ruud Veenhoven, supporting the possible use in terms of life satisfaction and well-being of individuals (1991, 2007).

There is no single universally applicable definition of the term happiness. In the context of this thesis, it will be viewed as 'an individual and subjective pursuit' (Mahadea & Rawat, 2008, pp. 276-277). Following the argumentation of Veenhoven (2007), happiness of individuals is part of one of four different concepts of well-being. These different concepts are the quality of the environment of a person, a person's life-ability, worth for the world and the enjoyment of life of a person. Attempts to measure these different forms of well-being can either be based on objective measures, subjective measures, or a mix of the two. Different measures have been assessed by Veenhoven (2007), leaving him to conclude his preferred indication for overall well-being measures: The number of happy life years a person has led. The Happy Life Years measure combines subjective and objective indicators into one, thus providing the most complete picture of well-being, while not being distorted by the inclusion of other measures. Due to data availability concerns however, the author will opt for the second best subjective indication presented by Veenhoven (2007) simply asking people for how satisfied they are with their life.

Self-reported subjective well-being measures as indication for life satisfaction has gained significant traction in the scientific community. Although not uncontested due to reliability

and validity concerns of self-reported measures, the majority of the scholars emphasize their applicability after all. As stated by Mahadea & Rawat (2008, p. 279), subjective well-being measures are highly consistent, reliable and valid,) as well as highly stable over time. Further evidence is provide by Moro et al. (2008, p. 449) whom argue that 'self-reported well-being is a satisfactory empirical proxy for individual utility'. Ruut Veenhoven's assessment of validity and reliability of subjective measures for well-being yields similar results.

The previous segment shed a light on the terminology and the general applicability of life satisfaction measures. Following in the subsequent paragraphs, previous empirical findings on happiness, with a focus on the city-level, will be presented. This is intended to help outlining the different factors that might have significant impacts on the life satisfaction. Although different scholars have selected different approaches, many results are highly consistent throughout the body of scientific literature. 'The statistical structure of well-being in the European nations looks almost exactly the same as in the United States' (Blanchflower & Oswald, 2011, p. 13). That is to say, that variations in happiness among different regions can be statistically explained by a co-variation in other observable factors. These factors and what their effects are will now be the subject of the discussion. Income has been argued by many scholars to be one of the more popular determinants of life satisfaction. Rodriguez-Pose & Maslauskaite (2012) find that there is a strong significant correlation between life-satisfaction and relative income at the national level. This is confirmed by Blanchflower & Oswald (2011), whom conclude that money does indeed buy happiness. Especially in poorer countries, the correlation between income and national level life satisfaction becomes stronger, than in more wealthy countries, thus a income-happiness relationship could be characterized as one of diminishing returns. (Blanchflower & Oswald, 2011; Eurofund, 2013; Zagorski et al., 2010)

Turning the focus towards the subnational level, it can be found that happy cities, i.e. cities which population reports very high life satisfaction, can be described by a set of important characteristics: At the metropolitan level, Florida et al. (2013) find human capital agglomeration to be the strongest predictor of life satisfaction. As is confirmed by Lawless & Lucas (2011), who conclude that education does not seem to have significant effect on the individual. Yet, on the aggregated county level[3] education becomes one of the strongest predictors of the aggregated happiness. Further do previous findings

[3] Can be considered the US' equivalent of the NUTS3 level. Metropolitan level as has been used by Florida et.(2013) al can be viewed as the equivalent of the *larger urban zone* (LUZ). The spatial units that have been considered as cities are the Local Administrative Unit 1 and 2 (LAU 1 / 2), formerly NUTS4 and NUTS5, levels. More on this can be found in the Methodological handbooks of the Urban Audit rounds. (Eurostat, 2004, 2007, 2012, 2014d)

indicate, that more densely populated cities tend to experience lower happiness levels. Cities characterized by a young aged demography reportedly are more satisfied. (Blanchflower & Oswald, 2011; Florida et al., 2013; Rodriguez-Pose & Maslauskaite, 2012) Employment has been found to have more diverse effects: While unemployment is negative correlated with life satisfaction at the city level as found by Florida et al. (2013), Lawless and Lucas (2011) only find a partial correlation at the county level. Rodriguez-Pose & Maslauskaite (2012) conclude that unemployment rates at a national level are not significantly correlated with reported life satisfaction. Interestingly, while higher housing costs have a negative effect on happiness, happiness is found to be higher in metropolitan regions where housing is less affordable (housing costs to wage ratio). Thus giving reason to believe, that housing prices might be an indication of a combination of other locational amenities. (Florida et al., 2013)

The previous empirical findings indicate, that happy cities are most likely characterized by high human capital agglomeration, low unemployment and a comparatively young population. To phrase this in a more appropriate fashion: we expect cities characterized by the previously listed factors, to be reporting higher life satisfaction levels. Several other factors, such as climate, crime rates, and absolute income have yielded inconsistent results. Best performing among income measures that have been found to be significantly correlated to the happiness throughout the scientific literature however, is income inequality: The greater the dispersion within the population, the more likely it is that lower life satisfaction levels are found. (Easterlin, 2001; Florida et al., 2013; Lawless & Lucas, 2011; Moro et al., 2008) As has been previously found, corruption – or rather absence thereof - is a strong predictor of happiness and one of the best measures of institutional effects. Rodriguez-Pose & Maslauskaite (2012) found that lower corruption yields large positive effects on reported life-satisfaction. Conducting the measurement of institutional quality via the proxy of corruption has been found to be an appropriate measure.
In conclusion, this segment provided an overview over previous findings on happiness in cities as well as a basic understanding of life satisfaction itself. It showed that there is a consensus among scholars that happiness reports vary among different regions. Some evidence has been presented that suggests, that the happiness variations may be explained by different external factor, exerting different kinds of effects onto life satisfaction aggregates. Following this segment, the subjective well-being will be used as indication for the cities happiness. Several different factors such as employment measures, measures for institutional quality, corruption, and equality upon others will be considered as control variables in the following analysis.

2.2. Entrepreneurship and Cities

The issue of entrepreneurship in the context of urban competitiveness is a highly complex one, thus going into details, would go beyond the scope of this thesis. As has been put by Borozan (2009), competitiveness necessitates the identification and appropriate fostering of growth potentials. In an economic context this thus becomes the search for economic growth capacities. Applied to the city level, urban competitiveness is about successful realization of fostering the growth of production within city limits. According to Begg (1999), the overall performance of urban areas, is linked to the standard of living, employment rates and the overall productivity. A good performance therefore may be a low unemployment rate being sustained, while at the same time the standard of living and productivity increase.

Generally, perceived driving force behind any growth in a modern western economy is the entrepreneur, traditionally belonging to the middle-class of society. Entrepreneurship in the urban economics context is to be viewed as 'the study of entry' (Glaeser et al., 2010, p. 2), that is to say, entrepreneurs are the driving forces behind innovation, business creation and transformation of regions (Borozan, 2009). By that definition, every new business is being formed by an entrepreneur. An entrepreneur in the context of this thesis will be defined as a self-employed business owner. (Naudé, Amorós, & Cristi, 2014) The middle class entrepreneur is generally perceived as the backbone of a modern economy, because it is he, who brings upon innovation, new ideas and new markets and in turn fosters economic output and employment. (Audretsch & Keilbach, 2004; Garcia, 2014; Glaeser, Rosenthal, & Strange, 2010) An appropriate measure for entrepreneurship has been frequently discussed in scientific literature. The issue of the observed spatial unit remains the most difficult here. An index such as the Global Entrepreneurship Development Index (GEDI) enables easy cross-country comparison and provides information on several different aspects incorporated into the respective index. However, the available data is tailored to the national levels. The measure used by Naudé et al. (2014), the Global Entrepreneurship Monitor Survey, is not suited for the subnational level. An appropriate measure of entrepreneurship at the city level, according to Garcia (2014) and Glaeser et al. (2010) are absolute business creation numbers. The two papers argue that this represents the best way to measure the entrepreneurial activities. Audretsch & Keilbach (2004) use entrepreneurship capital as indication for the capacities of a region to foster economic output. Entrepreneurship capital of a spatial unit is stated to be the number of businesses registered per 1000 inhabitants. It represents 'the propensity of inhabitants […] to start a new firm' (Audretsch & Keilbach, 2004, p. 954)

Both measures will be considered as indication and consequently be checked as to their fit for this analysis. City size has been found to have to significant effects on the new businesses registered according to Garcia (2014). The higher the endowment of factors fostering business creation in a region, the higher is their entrepreneurial capacity. Key requirement for any kind of entrepreneurial activity is the availability of knowledge and human resources as per Glaeser et al. (2010), and Audretsch & Keilbach (2004). Further are cities with high entrepreneurial activities characterized by a high density of small and medium enterprises (Garcia, 2014), the availability of capital and appropriate infrastructures (Audretsch & Keilbach, 2004; Glaeser et al., 2010). Assessing the determinants of entrepreneurial activities in European cities, Garcia (2014) finds that self-employment rates and tertiary education are important predictors. Another factor appears to be the capital-city status, i.e. whether or not that city is a national capital. Garcia's (2014) results indicate that capital cities experience high degrees of entrepreneurial activity, regardless of size.

It is important to note, that this analysis is incorporating cities from over 30 different countries. Although economic policy in the EU and EEA is relatively harmonized, different national policies still may have effects on business creation and entrepreneurial activities. Thus the inclusion of a measure accounting for differences in economic policy may be in order. The suggested measure is the total economic freedom index as used by Naudé et al. (2014). It has been found to have significant effects on the business creation. Moreover, it provides some degree of controlling for the effects of national institutions. The importance of entrepreneurship in an urban context, thus has been outlined by this chapter. Varying degrees of entrepreneurial activities in different cities can be expected. Several different city specific have been associated with increased entrepreneurial activities. As has been found in previous research, several factors may significantly foster the entrepreneurial activities in a city. In the context of this thesis, the effects these factors have on happiness and on entrepreneurship respectively will be established in the analysis as well.

2.3. Connecting Happiness and Entrepreneurship

In this segment the perceivably most pressing issue of this theoretical framework will be addressed: The issue of a relationship between happiness and entrepreneurship. As has already been stated in the introductory chapter very little scientific literature is concerned with the connection of the two. Hence, this segment will have to heavily rely on a select few publications.

Wim Naudé et al. (2014) assess the relationship between happiness and entrepreneurship at a national level. Their reasoning behind the perceived connection is twofold: First they argue that happier people tend to be more productive. Second, they are hypothesizing that the GEDI does in fact not measure entrepreneurship itself, but rather the entrepreneurial economy, hence not excluding possible confounding factors such as happiness. Following this logic of argument, their assumption is that there is a bi-directional causal relationship between happiness and entrepreneurship of nations. Their argumentation is in line with previous findings by Foo (2011), who finds that individuals experiencing happy emotions are more likely to partake in riskier business ventures. Thus giving reason to believe that if a cities' population is reporting high life satisfaction, we may be likely to find higher degrees of entrepreneurial activities. Findings by Naudé et al. (2014) support this claim on a national scale: Higher levels of life satisfaction increase opportunity-driven entrepreneurial activities[4]. Moreover the authors find that there appears to be a turning point in the relationship. After a certain threshold of entrepreneurs able to gain increased life satisfaction, is crossed, national life satisfaction may decline.

Turning our attention towards the city-level, we have to rely on the publications concerned with either one of the phenomena we are concerned with. The two previous segments of this chapter provide an overview of the different factors that have been found to exert their effects onto the respective levels of entrepreneurial activities and life satisfaction. What can be observed there is that a few characteristics appear to have similar effects on both: Garcia (2014) has found that self-employment rates in cities hint at the degree of entrepreneurial activity. Similarly self-employment, assuming incomes remain stable, appears to be positively connected with happiness (Blanchflower & Oswald, 2011). Observations regarding the agglomeration of human capital and education in general paint a similar picture, indicating their positive effects on both.

While these findings hint at a possible positive directly observable relationship, findings regarding the size of a city distort this picture: City size and population density have been found to be positively correlated to the entrepreneurial capacity of a city, whereas they appear to be negatively associated with reported life satisfaction. (Blanchflower & Oswald, 2011; Florida et al., 2013; Garcia, 2014; Lawless & Lucas, 2011; Rodriguez-Pose & Maslauskaite, 2012). Having considered the previous findings and the effects and causes of both happiness and entrepreneurship, it is presumed that higher entrepreneurship in cities yields higher life satisfaction of the population. Given the effects

[4] It is important to note here, that the authors made a distinction between opportunity driven entrepreneurs, who endeavor into new business ventures because they can and want to, not because their welfare is dependent on it, as would be the case for necessity driven entrepreneurs. This distinction, while important, cannot be made in the context of this thesis, as data is unlikely to be available for the desired level of observation. (Naudé et al., 2014)

attributed to entrepreneurial activities by previous findings, the author deems this assumption justified.

2.4. Concluding Remarks

Following these previous three segments, thus, although a causal relationship may not be blatantly obvious at first glance, we assume a connection between the life satisfaction reports of a city and the entrepreneurial activities that may be present, the nature of which remains to be seen. It is possible we may be finding a non-linear curve as Naudé et al. (2014) have. Both happiness and entrepreneurship are varying across regions. The differences among regions have been associated with variations of confounders. Previous research indicates that there is a core of characteristics significantly correlated to the reported life satisfaction levels of cities. This hints at their importance in the context of city-happiness levels. (Blanchflower & Oswald, 2011; Florida et al., 2013) Similarly, research focusing on possible determinants of entrepreneurial capital of cities, has found comparable trends. (Garcia, 2014; Glaeser et al., 2010) The following chapters will provide clarity on the roles the different factors have, what the nature of the relationship is and how possible third explanations can be ruled out.

3. Methodological Approach

In the third chapter of this thesis, the methodology will be in the focus. Following the previous chapter, the theoretical basis will now be molded into actually observable measures. The intent of this chapter is to provide the actual plan on how the data will be obtained, manipulated and analyzed. This chapter will thus first introduce the Urban Audit program by Eurostat as primary data source in the data collection segment. This will be followed by the description of the variables that transform the data into indications of the factors as theorized before. Finally, the selected elaboration model, including several multiple regressions, will be explained. The steps of how and when variables will be introduced shall also be included in that explanation. This chapter will thus provide a complete overview over the methodological approach used in the thesis.

3.1. Urban Audit Program & Data Collection

The Eurostat Urban Audit program (Eurostat, 2014d) will be the primary source of data. The project itself was started in 1999, and incorporated into the Eurostat framework in 2004, data collection rounds lasting 3 years. It provides comprehensive data for European cities, enabling for comparisons and highlighting differences between cities. The data included in the Urban Audit covers a wide range of socio-cultural and economic aspects of cities. Nine dimensions are covered, addressing demography, economic aspects, civic involvement, training and education, environment, transport and travel, culture and leisure, and innovation and technology. Further, included in the Urban Audit framework we find information on subjective perceptions of the quality of life as reported by citizens. The general Urban Audit program includes over 800 urban areas and cities of 50,000 inhabitants or more, fulfilling the joint OECD and European Commission criteria for cityhood. The perception survey data is collected for a geographically representative sample, limited to 83 cities and urban agglomerations located in the EU and EEA. These 83 cities and metropolitan areas are going to be the cases analyzed in this thesis.[5]

The age of the data used throughout this thesis will vary depending on the chosen variables. The data sources of the variables are going to be the focus of the next segment of this chapter. Most data has been attained between 2004 and 2010. The most up-to-date data that will be used has been published in October 2013, the fieldwork for these perception data has been conducted in 2012, however. If data for more relevant variables, as deemed so by the author, is not available for a city, respective national statistics offices will be searched for respective data.

The advantage this data brings with it, is that it already is tailored for the city level. The NUTS3 and 4 classifications have been predominant in this Urban Audit set. However, some pieces of datum may still have been observed at the LAU2. A robustness-check performed by Garcia (2014, p. 92) showed that this difference does not affect the empirical results. Further does the project's methodology and data collection remain stable, thus providing a high degree of reliability. Further advantage of this program is the availability of data providing high degrees of generalizability and comparability. The Urban Audit has been specifically designed for purposes such as this thesis. Their datasets are already tailored for comparisons between cities and performance evaluations.

(Eurostat, 2013b, 2014a, 2014d; Garcia, 2014; Morais & Camanho, 2011; Morais, Migueis, & Camanho, 2013)

[5] A complete list of all cities included can be found in the Appendix.

3.2. VARIABLES & DATA

In this segment the respective variables shall be introduced. The variables presented here, are going to be utilized in further analysis. A complete list of the variables and summary statistics can be found in the Appendix[6][7]. As has been theorized, subjective well-being offers the best indication of happiness. Hence, the dependent variable of this thesis is going to be the *life satisfaction scores* for each city, as has been taken from the Quality of Life in Cities Publication. The data has been obtained in 2012 by conducting 500 interviews per city. (Eurofund, 2013) According to Ruut Veenhoven and his World Database of Happiness, the measure employed in the report is an accepted measure for happiness. In the questionnaire respondents were asked to assess their satisfaction with their life as a whole on a four point scale, 1 as not at all satisfied, 2 not very satisfied, 3 fairly satisfied, and 4 very satisfied. The obtained data has been aggregated and recalculated in to percentages. The author then recalculated these into average scores for each city, ranging from 1 as worst to 4 as best. Thus the closer the life satisfaction is to a four, the more satisfied the city.

Two measures will be employed for entrepreneurship of the cities. *Entrepreneurship capital,* as calculated by the new business formation ratio per 1000 inhabitants, will be the first. *New business registrations,* recalculated along a common logarithmical scale will also be included. The best fit entrepreneurship measure will be determined in the first segment of the analysis. Most of the data used has been taken from the Urban Audit as introduced in the previous segment. Naudé et al.(2014) employ a different measure, relying on three-fold measure for entrepreneurial activity based on survey responses. They use a measure for the percentage of the population engaged in new businesses created in fewer than 42 months as overall indication. Further, a distinction between opportunity-driven entrepreneurs, i.e. businesses created as a way to exploit a new business opportunity, and necessity-driven entrepreneurs, those whom had exhausted all other employment opportunities is made by them. No sufficient such data is available for the city level however, thus this thesis has to rely on the previously introduced means.

Following the extensive discussions in the theoretical chapter, several other controlling variables will be included. Most important here is the *human capital* variable. It is calculated following a standard as share of bachelor degrees or higher educational background of the total labourforce. (Florida et al., 2013) Other variables that have been included from the Urban Audit dataset are the *unemployment rate* and *average disposable*

[6] See Table 1.

[7] A sample of the final data file as used in for this thesis can be found in Appendix, Table 3.

income per household per annum[8]. The marginal utility of income has been found to diminish with income increases (Blanchflower & Oswald, 2011; Eurofund, 2013; Lawless & Lucas, 2011; Rodriguez-Pose & Maslauskaite, 2012). Absolute income increases also have been proven to yield limited results; relative increases vis-à-vis others has been found to be more significant. To control for these effects, and at the same time controlling for the inequality of income distribution the *Gini income inequality coefficient* (Eurostat, 2014b) will be included. The Gini coefficient represents a measure that indicates the diversion from the optimal and most even distribution of income in a spatial unit. The higher the number on the 0 to 100 point scale, the higher the inequality. Since no Gini coefficients are available for the city levels and insufficient data in order to be calculated by the author, this thesis will be relying on national level Gini coefficients. Thus this will also provide a control for national differences. Cities located within the same country will consequently be associated with the same Gini coefficient.

Two more variables only available at the national level will be included to control for the effects of national policies and quality of the institutions, namely *Index of economic freedom* (TheHeritageFoundation, 2014) and Transparency International's (2014) *Corruption Perceptions Index*. The former is a composite measure for economic freedom, i.e. the uninhibited ability of conducting business, as close to the market letting regulate itself as possible, in a country. Several other aspects from the countries have been included as well, in the end providing a rating from 0 to 100, one hundred being considered completely free of any intervention. The use of this measure will primarily be the control for national economic and social policies, assuming that the findings by Naudé et al. (2014) hold up at the sub-national level. The latter variable is an indicator for public sector corruption, or rather the absence thereof. It is based on surveys conducted in 187 cities around the globe which are then aggregated and fit along a 100 point scale, 0 representing highly corrupt, 100 very clean. Thus the higher the score, the less corrupt a country is assumed to be as perceived by its inhabitants. Previous findings have indicated the importance of the quality of the public sector on both happiness and entrepreneurship. Thus the inclusion of this measure is expected to be controlling for not only the national differences but also for the quality of institutions.

Finally, two variables that are quite straight forward will be included: the population of a city and the capital city status. The population variable will be normalized along a common logarithmical scale to reduce skew. Measuring the capital city status, a dummy variable has been created. A value of one indicates that a city is a capital city, while a zero does

[8] Due to many missing values, the income variable has been imputed using GDP per capita & human capital as predicting variables. There has been a strong linear relationship between each of these variables and income, thus they were considered suitable for imputing the missing values. Luxembourg has been excluded from the process as an outlier; cities where income measures were available retained the same value.

indicate the opposite. Effects of these variables are expected to be limited, as neither have been theorized to exert significant effects onto happiness. They have however been found to be of importance for the entrepreneurship measure.(Garcia, 2014) Having presented the variables that will be included in the analysis, the next chapter will provide the actual approach that will be used in this thesis.

3.3. Data Analysis

This segment will provide details on the analyses that are going to be conducted. Information addressing both how and why will be provided. The variables introduced above will be analyzed by applying a regression model utilizing IBM's Statistical Package for the Social Sciences. The data as forged into variables in the previous segment will be analyzed in the form of an elaboration model utilizing a hierarchical regression technique. A hierarchical regression model consists of multiple ordinary least squares regressions conducted after one another. Each new model will introduce one or more new variables in an effort to determine the added effects of the variables. The elaboration model will examine on how the different control variables exert their effects onto the relationship between happiness and entrepreneurship in cities. Two stages of analysis will be conducted. The first stage of the analysis will consist of establishing the nature of the direct relationship by regressing entrepreneurship over happiness. Following that first initial understanding of the relationship, the control variables will expand the very same in stage two. The following regression equation has been adapted from Naudé et al (2014) and Rodriguez-Pose & Maslauskaite (2012):

$$H_i = \alpha + \beta' E_i + \delta' C_i + u_i$$

In the regression model, that will be applied, the happiness measure H as observed in city i is being considered the dependent variable. Following the constant alpha, city i Entrepreneurship measure E and the Control variables for city i and the error term u are included. The complete set of variables that will be tested can be found in the appendix, Table 1. As is the case with elaboration approaches, the effect of different sets of variables, from now on referred to as models, will be tested. This will provide us with ample information of how the relationship can be influenced by different variables, providing sufficient ground to answer our research questions as posed in the introductory chapters. The advantage of the selected hierarchical regression model is that it provides us with details on the best performing model, i.e. best suited set of variables for predicting the relationship between happiness and entrepreneurship. Moreover, both the effects of the complete model but also the added effect of the individual control variable will be able to be measured.

The following fourth analysis chapter will consequently first establish the uninhibited relationship between life satisfaction and the entrepreneurship measure. As first step however, the two different measures of entrepreneurship will be tested for their suitability using three ordinary least square regressions. The best performing variable will be selected for further analysis. After having established which entrepreneurship measure will be selected, the hierarchical regression will be performed. Control variables as established in *3.2*. will be added to the regression model and assessed for how their inclusion affects the relationship, the predictive power of the respective model, and their individual effect onto life satisfaction. Based on the evidence from these different models, the findings will be discussed and in an effort to provide answers to the research questions of this thesis.

4. Analysis

The following pages contain the report on the analysis, that is to say, it the relationship of happiness and entrepreneurship based on evidence from 81[9] European cities will now be tested. As already outlined, first the best suited entrepreneurship measure will be selected. Second, the hierarchical regression model will be applied, stepwise adding the selected control variables. The results from this will be presented below, preceding the discussion of the very same in the context of our research questions and previous findings. The discussion of the results and the results themselves will be providing information about the nature of the relationship between happiness and entrepreneurship and different factors and their effects on the relationship.

4.1. The Entrepreneurship Measure

The determination of the best suited entrepreneurship measure is the subject of this first segment of the analytical chapter. A total of three regression models has been applied, two of which regressed each of the selected measures, *entrepreneurship capital* and *new businesses registered in log*, over the life satisfaction variable individually. The third test regressed both as a combination. The purpose of this is to determine the best suited measure of entrepreneurship for drawing conclusions on the relationship between the

[9] As has been mentioned in 3.1. 83 Cities are included in the Urban Audit perception survey – due to a missing piece of business creation data for Vilnius and Lisbon's extreme outlier status, these two cities have been removed, thus reducing the $n = 81$.

very same and life satisfaction of cities. The different measures both measure two slightly different aspects of a cities entrepreneurial capacity. While the entrepreneurship capital indicates the populations' likelihood to start a new business venture, the absolute figures in the form of *new businesses registered in log* represent the actual entrepreneurial activities in a city. The author is expecting to find that the indication of entrepreneurial activities will be the better suited for our analysis both by theoretical reasoning and also by statistical evidence.

None of the tests has yielded a statistically significant results. However, all three suggest that *new businesses registered in log* is in fact the better suited measure for entrepreneurship. The individual test provided yielded a *p*-value of 0,413 and the paired regression a *p*-value of 0,257. Compared to the respective measures of $p = 0{,}504$ individually and $p = 0{,}302$, for *entrepreneurship capital*, it can be claimed that the new business registration variable, though both are statistically insignificant, is less insignificant. This gives reason to assume that the measure is better suited for providing us with information on a potentially existing relationship between entrepreneurship and happiness. The implications this has for the continued analysis are multiple. With regard to the statistical evidence, the regression analyses suggest that the direction of the relationship between *new businesses registered* and *life satisfaction* may in fact be non-linear. It is important here to bear in mind that these models that have been tested are all not suited for predicting happiness on the city level as indicated by insignificant p-values and large error terms. As visualized in Graph 3 in the Appendix, the relationship between entrepreneurship and happiness is difficult to assess upon first sight. Yet a slightly negative trend appears to be observable. However, we have to exercise caution when interpreting the results in the following chapters. The effect that both entrepreneurship measures exert onto happiness can be either positive or negative as per 95% confidence interval results. That is to say, an incremental increase of exactly one unit, can yield either reduce or add to the happiness of a city. Possibly interfering third causes or city specific characteristics increasing entrepreneurship yet have negative effects on life satisfaction hence have to be considered in the following segment.

Thus, this segment provided us with the best suited entrepreneurship measure, the *new businesses registered in log* variable. Moreover, the direction of the relationship has been questioned. In the next segment and the subsequently following discussion, an eye will thus be kept on this as well. Since the measure that will be used does not control for the size of the city as entrepreneurship capital did, the choice to include the city's population count has been made by the author. More information on how and which different variables are going to be tested for their effects will be provided in the next segment as well.

4.2. Models and the Happiness-Entrepreneurship Relationship

In this segment the findings from the different analyses will be presented. Several different steps will be taken in the process. First the different models tested in the analysis shall be introduced, second the findings shall be presented and third the implications shall be briefly discussed in order to set up the discussion of this thesis. Purpose of this segment is to provide detailed information on the roles of the different variables, how they shape the relationship between happiness and entrepreneurship in cities. In an effort to set the stage for the discussion, intended to deliver explicit answers to the sub-questions, the statistical findings of the analyses will be presented.

As explained in the methodological chapter, a hierarchical regression model has been run. All models and important tables can be found in the Appendix[10]. We find that Model 1, only regressing the entrepreneurship measure over happiness, is not statistically significant, $F(1, 45) = 1{,}173$, $p = 0{,}285$. Thus suggesting that entrepreneurship on its own is an insufficient predictor of happiness. In order to derive proper conclusions on the relationship between happiness and entrepreneurship in cities, other variables will have to be introduced in subsequent models. The variables selected for further analysis have consequently been introduced after one another. Model 2 introduced the *unemployment rate* variable. The educational variable *human capital* has been newly introduced to the other variables in Model 3, being followed by the inclusion of the *Disposable Household income* in Model 4. Finally, the institutional controls have been added to the mix in Model 5, the *economic freedom index* then concludes the introduction of new variables in Model 6. It had been stated that both city size and capital city status will also be tested for their effects. In a seventh independent model, they, together with the entrepreneurship measure, were regressed over the life satisfaction.

The findings indicate that all models, two through six, in the hierarchical regression are statistically significant at a 1 per cent significance level. In that sense they all can be considered to be suitable for predicting a cities happiness aggregates. To determine the magnitude of the different models, i.e. the share of happiness' variation the models correctly predict, the Adjusted R^2 values are to be considered. Model 2 provides 23,5 per cent prediction of the variation of the life satisfaction variable, $F(2, 44) = 8{,}050$, $p = 0{,}001$. The addition of human capital actually decreases the predictive power of Model 3 by 0,3 per cent, $F(3, 43) = 5{,}633$, $p = 0{,}002$. Model 4 introducing the income measure does not increase the predictive power, increasing the Adjusted R^2 by 3,7 per cent, $F(4, 42) = 5{,}239$, $p = 0{,}002$. The predictive power of the regression equations increases significantly

[10] Tables 4 through 6.

with the introduction of the variables controlling for the institutional effects in Model 5. The model provides a correct prediction for 68,6 per cent of the variation of happiness, F (6, 40) = 17,762, $p < 0,0005$. Adding the economic freedom index measure in Model 6 does not enhance the adjusted R^2, only providing 0,2 per cent more predictive power, F (7, 39) = 15,488, $p < 0,0005$. The final Model 7, not connected to the previous six models, incorporates the city size and capital city status variables, in an effort to assess their importance. The results indicate that the model is highly insignificant[11]. This gives reason to believe, that while city size and capital city status may have significant effects on entrepreneurship, these do not apply to life satisfaction.

Following the overview over the different Models, the best suited Model for predicting a cities happiness is Model 5. Although the sixth Model does provide 0,2 per cent more prediction, the higher F score of Model 5 has to be considered. Given the nature of the F statistic as ratio of explained variance to unexplained variance, a higher value is considered to be better suited for the purposes of this thesis. Moreover, it has to be emphasized that Model 5 one of two Models, Model 2 being the second, which statistically significantly increase the F-statistic, $p < 0,0005$. The two Models both introduce new variables that add significant explaining power, whereas the other Models do not. Given the higher adjusted R^2 statistic of Model 5, it has thus been selected for further analysis and the best fit Model.

Next to the entrepreneurship measure, Model 5 includes unemployment rates, the human capital of a city, average disposable household income, an inequality measure as well as a variable controlling for national institutions effects in the corruption perception index. The effects the different control variables are exerting onto happiness and its relationship with entrepreneurship in the city will be subjects of the following paragraphs. In Table 6 in the Appendix the individual coefficients for each variable are presented. The significance levels of Model 5's variables, indicate that *Human Capital*, p = 0,405, and the *Average Annual Household income*, p = 0,239, are insignificant in aiding the prediction of happiness with that very model. The other variables of Model 5 are all significant at least at a 10 per cent level. Most importantly it can be observed that the entrepreneurship measure is the most important predictor. The effect of the new businesses is stated to be negative, B = -0,095, i.e. an increase of one unit in business creations reduces happiness in cities by about 10 per cent, given all other variables included remain stable. The effects the other variables exert largely confirm the previous findings and are in line with has

[11] The linear regression that has been performed yielded the following results, F (3, 66) = 0,750, p = 0,526. Results for the respective independent variables look as follows: Capital city status, B = -0,020, p = 0,774; Total Population in log, B = -0,120, p = 0,243; New businesses registered, B = 0,40, p = 0,673. Thus both the model and the independent variables are all insignificant in predicting happiness.

previously been theorized. An increasing unemployment rate is associated with a 2,3 per cent decrease of happiness, B = -0,023, p = 0,001. This indicates that employment status of individuals are also of importance at the aggregated levels. Similarly, the national Gini coefficient is reported to be causing a 1,9 per cent decrease in happiness upon increase, B = -0,019, p = 0,009. This hints at the importance of the equality in predicting happiness, or rather the detrimental effects increased inequality exerts onto the life satisfaction. Finally, the measure controlling for the effects of institutional quality by focusing on corruption, the Corruption perception index as created by Transparency International (2014) is associated with a small positive effect on happiness, B = 0,012, p < 0,0005. The 1.2 per cent growth of happiness upon a decrease in corruption yielding an increase on the index thus suggests the quality of institutions has significant effects on happiness, confirming Rodriguez-Pose & Maslauskaite (2012).

The introduction of several control variables in the different Models has had significant effects on the importance that the new business creations have on happiness. While being statistically insignificant in predicting happiness all by itself, in combination with other socio-economic factors, entrepreneurship can be considered to a significant predictor of a cities populations' life satisfaction. Particularly interesting is the associated effect, as an increase in entrepreneurial activities is connected to a significantly sized decrease of happiness. When considering a 95%-confidence interval, the effects of entrepreneurship become more ambiguous, -0,199 < B > 0,09. Evidentially, the causal effect accredited to entrepreneurship can both be positive and negative. This holds up throughout the different models, regardless of the significance-levels of the variable. Thus, while the introduction of the control variables did affect the importance of entrepreneurship, the possible bi-directional nature of the effects has not been affected as can be derived from a comparison of these findings vis-à-vis the first tests in the previous segments. Possible causes have been briefly mentioned in the theoretical framework. The following segment will shine a light onto this newly arisen issue as well. The findings that this segment has produced, will consequently be put into perspective on the next pages. That is to say, the empirical findings will be discussed in the context of the research questions in an effort to answering them as explicitly as possible. The different effects the variables exert, both confirming, and providing ground for disagreement with, other authors.

4.3. Discussion

In the previous segments, possible implications, meanings and causes for the findings of this thesis have already been hinted at. This final segment of chapter four will now

discuss the findings in depth in an effort to clear the grey mist left behind by the analysis and provide answers to the research questions. That is to say, the relationship between happiness and entrepreneurship as well as the effects of the control variables will be discussed. This segment will first discuss the different independent variables and their effects in the context of previous findings. Second the very ambiguous relationship between happiness and entrepreneurship will be addressed. Finally, the segment will, in a summarizing effort, recap the findings and their implications for the research questions. The author wishes to present the nature of the relationship between entrepreneurship and life satisfaction, European cities' happiness determinants and potentially important lessons to be taken from this.

The hierarchical regression model has established that Model 5, including the entrepreneurship measure, unemployment rate, human capital, income, corruption index and the income inequality coefficient, is the best suited for predicting urban happiness in this thesis. Considering the different independent variables and their performances, we can observe that several of those are in line with previous findings. Similarly, the analysis does provide ground to disagree with previous scholars' findings. A variable that exerts consistent effects onto happiness in this analysis is the unemployment rate. The analysis has yielded that an increase in unemployment rates decreases the happiness levels significantly. Introducing the different variables has decreased the size of the effect throughout the different models, however, the negative effect and statistical significance prevail. In scholarly debate, the effects of unemployment rates have been attributed to have negative effects on life satisfactions by Florida et al. (2013) and Lawless & Lucas (2011). All of whom found higher unemployment rates to be detrimental to metropolitan (Florida et al., 2013) and county level (Lawless & Lucas, 2011) life satisfaction levels, thus confirming the findings made in this analysis. Considering their respective levels of analysis, the author is inclined to conclude that at the city level, unemployment aggregates are negatively associated with life satisfaction levels. This is opposing the inconsistent conclusions by Rodriguze-Pose & Maslauskaite (2012), who find that national unemployment rates are insignificant in predicting a nations happiness. Further, these findings confirm the initial assumptions of different observational levels do yield different results. Regional variances in employment may hence be considered as being highly important in the determination of happiness and hence have to be considered in the policy making processes.

As had been argued in the theoretical framework, happiness is a highly complex issue, hence limiting it to a causal relationship between the cities unemployment rate and the cities happiness would be false. It is important to consider the different aspects connected to a higher unemployment rate: On the aggregated levels this entails that

fewer employed people are earning a high income. Hence it is in line with previous research. Lawless & Lucas (2011) had determined that an individuals' employment status has a significant effect onto its happiness, upon aggregation yielding the negative effects of the unemployment rates. Similarly, it has been established by several authors that income measures have significant effects, partly also adding to the effects that unemployment rates yield. (Blanchflower & Oswald, 2011; Easterlin, 2001; Florida et al., 2013; Mahadea & Rawat, 2008; Rodriguez-Pose & Maslauskaite, 2012) In the context of this thesis, the income measure breaks with these findings: The income measure used is insignificant and its effect of negligible size. These findings are inconsistent throughout the different models: In Model 4, upon introduction of the income measure, it is attributed to have a significant[12] impact on the happiness. The degree of variation connected to the income is very limited however, $B = 6{,}694*10^{-6}$, $p = 0{,}081$. This also hints at the diminishing returns yielded by income increases in wealthy countries. (Eurofund, 2013; Mahadea & Rawat, 2008) The best suited Model 5 does change this, however. Thus giving reason to conclude that the income measures are in fact not as important as other factors in European cities. To a small extent it is possible to hence confirm scholarly findings that income is not the most important happiness predictor at the city level (Florida et al., 2013), while also disagreeing with others, whom have found income to be the strongest predictor. (Blanchflower & Oswald, 2011; Mahadea & Rawat, 2008; Rodriguez-Pose & Maslauskaite, 2012)

Following the approach of Florida et al. (2013), the education agglomeration in a city is assumed to be critical. The findings are breaking with the claims made by scholars as it is evident that human capital has no significant effect at any time. (Blanchflower & Oswald, 2011; Florida et al., 2013; Lawless & Lucas, 2011) The previous research had found education, both of individuals and aggregated levels, to be crucial in determining the happiness. But evidence from this analysis suggests otherwise. Reasons for this can be multiple. European cities happiness levels simply may not be depending on the education of its respective population. The two comparable analyses of the previously mentioned both have been conducted in the United States, thus it may be the case that certain trends cannot be applied on the other side of the Atlantic. A simple reasons for this may be, that caused by the higher density of cities in Europe, commuting is made easier. Thus a share of the highly educated labourforce members are not residing in the same place as the city as their employment. Apart from potentially closer proximity of cities and different methods of drawing borders of the statistical units may have contributed to the different results. As has been theorized by Mahadea & Rawat (2008), education does not necessarily directly relate to an individual's happiness, but rather does enhance it through

[12] At a 10% significance level.

various proxies such as a higher income as result of better education or just in general more employment opportunities. On the aggregated level, evidence varies whether these connections hold up. The case of this thesis will have to be categorized as opposing the theory that aggregated education is correlates to happiness through income:

The Pearson's correlation as calculated using SPSS during the hierarchical regression model is presented in Table 7 in the Appendix. It can be observed that education is only very weakly correlated to several variables, this shall be addressed again later.[13] The correlation between education and the income measure has been calculated to be of moderate strength, but statistically significant and positive, $r = 0{,}438$, $p = 0{,}001$. Thus it can be assumed that the education in European cities does positively affect the income, which in turn however has been found to be almost irrelevant in this thesis' context. It may thus be assumed that education is not directly to happiness or through the income variable, but possibly through other proxies.

The introduction of the Gini income coefficient and the corruption perception index significantly enhanced the predictive power of the regression model. In real-world-application terms, that would entail, that addressing corruption and income inequality may yield tremendously positive effects for the happiness of European cities. These results, opposing the previous trend of this thesis, do in fact converge with previous findings. Rodriguez-Pose & Maslauskaite (2012) have found that higher degrees of interpersonal inequality and corruption both exert negative effects onto life satisfaction. The importance of two national level indicators is particularly interesting in this context. It hints at the prevailing national differences affecting the respective cities. Both variables that measure the institutional quality and the inequality are observed at the national level but affect life satisfaction with such magnitudes at the sub-national levels is an important observations. This support their claim, that Europeans are prone to be negatively affected by corruption and inequality. Based on this confirmed claim and the evidence collected in this thesis, Blanchflower & Oswald's (2011) argument that the factors of happiness in Europe and the United States of America are basically the same gets weakened. Further this is supported by the findings by Lawless & Lucas as well as Florida et al. (2013), all of whom find that inequality and institutional effects only play an subordinate role.

After having discussed the individual variables and the effects they exert onto happiness in cities, the attention will now be turned towards the relationship between happiness and entrepreneurship. In the very first segment of this chapter, the relationship between happiness and entrepreneurship had been assessed for the first time. The results

[13] The interpretation of the coefficients is based on those by Cohen (1988) (as cited by Lund and Lund (2014)), whom established the following: $0{,}11 < |r| < 0{,}3$ -> small correlation; $0{,}3 < |r| < 0{,}5$ -> moderate correlation; $|r| > 0{,}5$ -> strong correlation.

indicated that, if there is a relationship, it is a negative one. Following the initial tests, selected measures have consequently been included in all models of the hierarchical regression in order to assess how the different variables affect the relationship. After the introduction of the unemployment rates as control variable, the entrepreneurship measure was found to be statistically significant. A negative effect has been ascribed onto it. That is to say, that more businesses forming, negatively affects happiness in cities. Considering the confidence intervals however, it can be observed that the effect potentially could be positive, thus hinting at a possible bi-directional nature. This is in line with the claims and findings by Naudé et al. (2014). The authors have theorized that there might in fact be a bi-directional relationship between life satisfaction and entrepreneurial activities. Their argumentation is that there are two kinds of entrepreneurship, one opportunity driven, the other necessity driven. While the former is considered to be more beneficial than detrimental, this does not apply to the latter. The necessity driven entrepreneurs are argued to be engaging into a new business venture only as income source, having exploited other more appropriate options. Exploring new businesses options due to necessity rather than the exploitation of a new opportunity for profit suggests that there must be considerable grievances present and detrimental to happiness. The negative nature of increased necessity driven entrepreneurial activities may also be attributed to the effects of self-employment: As stated by Blanchflower & Oswald (2011), self-employment only yields positive effects onto happiness if the income remains stable and is slightly above the average. Yet, self-employment rates also are positively associated with overall entrepreneurial activities and low unemployment. (Garcia, 2014) This suggests that possibly people are driven into the establishment of a business without the desire to pursue the self-fulfillment but rather out of plain need. The assumption that incomes are not going to be sufficient stands to reason, thus also suggesting the income being an important determinant if it is not available in sufficient quantities. To a certain extent this is contradicting the perception that entrepreneurs and entrepreneurial acitivies are the messiah of regional economics and bringer of increased wealth. As Naudé et al. (2014) conclude: Too many entrepreneurs are detrimental to national happiness, because the market is saturated. This is very much confirmed by the evidence in this thesis.

Considering the correlations presented in Table 7 in the Appendix, it has to be stated however that only one the economic freedom index is significantly correlated, and associated with a negative relationship. Thus indicating that higher economic freedom according to the Wall Street Journal and Heritage Foundation (TheHeritageFoundation, 2014), is weakly associated with lower entrepreneurial activities in cities. This opposes the findings by Naudé et al. (2014), who had found economic freedom to be positively associated with entrepreneurial activities. An interesting observation is that, although

economic freedom's effects on happiness are insignificant, it is associated with a positive influence on life satisfaction. Entrepreneurship has been very positively associated with economic performance of regions in the theoretical framework. But considering Graphs 1 and 2 in the Appendix, no strong connection between economic output and the entrepreneurial activities can be made in European cities. Similarly, the connection between GDP per capita and life satisfaction is weak if at all existing. Thus does the control for the economic wealth only yield insufficient results. The theorized effects of entrepreneurial activities on employment and unemployment figures are not entirely confirmed. Although the association is a weak one, the direction of the relationship is following what is proposed in the theory: increased entrepreneurial activities is associated with declining unemployment.

Hence, in conclusion, this chapter had been designed to discuss the empirical findings as presented in 4.2 in the context of previous findings and the research questions of this paper. Having addressed the different points that had to be discussed, several important discoveries have been made. First and foremost it is interesting to observe the negative effect that entrepreneurial activities appear to have on life satisfaction. This is certainly contradictory to parts of the theory, indicating that as agents of growth in regions, entrepreneurs are expected to increase the prosperity of the region and through proxies increasing the happiness of people. Evidence from the analysis has proven this to not be the case in European cities. Second, the effects of national level variables and their significance could be observed. While the magnitude of the variables is rather small compared to the entrepreneurship and unemployment measures, their significance at the city level is an interesting observation. This indicates that national differences are of considerable importance in a European context. Thus it can be concluded in this chapter, that the performed analyses have indicated that upon inclusion of several control variables, entrepreneurial activities in cities have become an important factor for the life satisfaction of the city, exerting negative effects. On the other hand however, other determining factors such as unemployment, equality in income and corruption have to be considered important in the shaping of the happiness. Implications of these findings for the European policy maker will be discussed in the fifth and final chapter of this thesis.

5. Conclusions and Policy Implications

Throughout this thesis the relationship between happiness and entrepreneurship in European cities has been theorized, assessed and discussed from several possible angles. Different possibly important factors have been presented and subsequently tested for their effects on happiness itself and the relationship between the former and entrepreneurial activities. Considering previous findings from other scholars, this thesis has provided room for agreement and disagreement. The different sub-questions added together, the information obtained from the analyses have delivered an answer to the main research question. The assessment of the connection between happiness and entrepreneurship in European cities has been the prime concern all the previous chapters have been directed towards. Thus in the concluding section, the research question will be answered and will consequently be discussed in the context of other research conducted on the matter. Finally this thesis will conclude in providing information on the practical implications this thesis and its findings have for the EU, the policy maker in particular. Possible shortcomings shall also be briefly addressed in this final chapter of the thesis.

The analyses performed on the relationship of subjective well-being measures and entrepreneurial activities in European cities have yielded a decently sized array of results. In general it has to be concluded that without paying attention to other factors and socio-economic & cultural conditions in a city, we cannot observe a connection between happiness and entrepreneurial activities. The introduction of several control variables has indicated that the relationship between happiness and entrepreneurship in cities can become significant when the conditions are right. Based on the findings from the analyses performed, it can be concluded, that populations in cities are likely to be happier if they are experiencing low unemployment and are located in a country with high income equality and low corruption. Fewer entrepreneurial activities will further contribute to higher life satisfaction reports among the population. Why entrepreneurial activities are detrimental to cities life satisfaction reports cannot be accurately established from these findings alone. The causes and effects of both entrepreneurial activities and happiness in cities are still very ambiguous and hard to accurately establish. (Scherpenzeel & Saris, 1996) Due to the limited number of other scientific literature concerned with this topic, possible explanations may not be provided at this time but rather remain subject for future research. A possible explanation may indeed be the differentiation as proposed by Naudé et al. (2014). Other factors that are attributed to having a positive impact on entrepreneurship, may actually be detrimental to happiness. As Garcia (2014) had found, city size for example is positively associated with businesses formations, however at the same time connected to various negative impacts on happiness such as noise and air

pollution, traffic, long commuting times etc. (Blanchflower & Oswald, 2011; Florida et al., 2013; Lawless & Lucas, 2011). In opposition to the theory, business creations are not an indication of economic output of European cities and vice versa.

Audretsch and Keilbach (2004); Blanchflower and Oswald (2011); Florida et al. (2013); Foo (2011); Garcia (2014); Lawless and Lucas (2011); Mahadea and Rawat (2008); Naudé et al. (2014); Rodriguez-Pose and Maslauskaite (2012) all provide several pieces of evidence confirming or contradicting findings of this thesis' results. Several scholars are conducting cross-national studies, and as evidence has shown, these findings only find limited confirmation on the city level. Other scholarly articles such as Florida et al. (2013) or Lawless & Lucas (2011) are set in the United States. Thus, although they are observing comparable levels, their findings do not necessarily apply in Europe as has been shown as well. Individual level analysis such as Foo (2011) and Mahadea & Rawat (2008) may not be comparable as well, given limited evidence on how aggregation of rates affects the outcome, thus causing an aggregation bias. Thus, this thesis has been placed in an awkward intermediate slot between the different other scholarly articles. The insights developed by this thesis are thus of a certain value. In particular it is interesting to observe the confirmation of Blanchflower & Oswalds' (2011) claim, that Europeans are prone to be affected negatively by inequality and corruption. The importance of the national level variables as has been suggested in this thesis is a key observation here. Hence leading to conclude that European cities life satisfaction itself is based to large extent on nation-wide characteristics. Only subordinately do the interregional variations arise due to city-specific factors. Finally, and most importantly, going against the expected findings of the author, it has been found entrepreneurial activities to be negatively associated with the population's life satisfaction. In turn suggesting that in fact the fostering of entrepreneurship in cities is detrimental to the enjoyment of life as a whole of its population. The relationship between entrepreneurship and economic performance has only been marginally addressed in this thesis, as it was not the primary concern. The potential relationship between the results of entrepreneurial activities and their effects on the city's life satisfaction may hence offer more insights as to why this negative effect arises.

The author had expected that in fact entrepreneurial activities in European cities will be positively associated with life satisfaction, thus proposing continued promotion of entrepreneurship as preferred instrument of regional development and in turn fostering the population's welfare. Since this is however not the case, the practical implications for the EU are fundamentally different. In the eyes of the author, the findings of this thesis suggest that connecting entrepreneurial activities and life satisfaction in policy is not advisable. Although the well-being of the population should be the goal of all policy, addressing it directly in the same breath with addressing entrepreneurship will not

achieve sufficient results. The topics covered in this thesis fall within the scope of several different Directorates-Generals of the European Commission.

One of the DG of Urban and Regional Policy's primary fields of action is the decreasing of interregional discrepancies in the EU. While this is not directly connected to this thesis and issues covered, the happiness-gap between East- and Western Europe (Rodriguez-Pose & Maslauskaite, 2012) is an issue that should be taken on in the process. The fostering of economic growth is being addressed in their policies and allocated funds. Though this thesis has provided little evidence this yields significant direct increases of life satisfaction, continued promotion of the growth in underdeveloped regions is advisable. Garcia (2014) concludes that the Small Business Act of 2008 is a step in the right direction, fostering entrepreneurship in cities by encouraging self-employment. A focus emphasized by Caragliu et al. (2011) is the continued investment in digital & communication infrastructures in European cities to prevent 'European cities from losing ground to global competitors' (p. 77). This would entail focusing on the smart city concept with a focus on the local entrepreneur. Outside the scope of the DG of Urban and Regional Policy, Morais et al. (2013) suggest that cooperation efforts between cities are to be increased to ease the adoption of best-practice efforts. Potentially positive effects may still arise, as there is ample evidence in previous literature, that relative increases in welfare, as compared to others, yields significant increases in life satisfaction. In order to address the three most important predictors of urban happiness according to this thesis, two other DGs have to be involved as well. The DG of Home affairs is concerned with the fight against corruption in the different member states. A recently published report revealed that the issue of corruption in regions is still a pressing one. (EuropeanCommission, 2014b) Further did it emphasize that there are severe differences in anti-corruption policy among the member states and no real improvement over the past years, thus confirming what had been observed by Rodriguez-Pose & Maslauskaite (2012). These authors further have found that fighting corruption will positively affect the economic output of nations, consequently may also positively affect different cities' wealth. The Commission's report mentions several on-going policy reforms in the public procurement sectors. By the time this thesis had been written, the new directives have been adopted, and are now being transposed into member state law by 2016. Thus their effects are still to be seen. The reforms are to make public procurements and concession contracts more transparent thus providing public control over the awarding bodies. If these measures prove successful significant positive effects on life satisfaction are to be expected. Concerned with fighting unemployment in Europe at all levels, the DG of Employment, Social Affairs and Inclusion is the acting European entity. The trend of promoting entrepreneurship in order to create more employment opportunities is being addressed by European Employment strategy. In a report published autumn 2013, the DG

expresses concern with the still increasing unemployment and growing income inequality in Europe. (EuropeanCommission, 2013). They also mention member states having taken steps to fight the grievances, however, more efforts, on all levels of policy making are needed. Especially crucial here may be the inter-DG communication in order to jointly address issues in urban and regional policy in particular.

This thesis has provided empirical evidence on how entrepreneurship and happiness can be connected in European cities. How different possible third explanations affect the relationship and exert effects onto urban happiness in Europe has been addressed in the process. Although there is some previous evidence on the connections and relationships, this thesis has ventured onto new ground. Yet the results have to be enjoyed with a degree of caution. Due to unforeseen data availability issues the quality of the dataset has not been ideal. Several missing values, different times of observation and other causes have forced the author to alter the approach several times. The Urban Audit program has its advantages, however, the occasionally incomplete sets of data have hamstringed the author severely. This was especially the case because next to other data offering the degree of comparability and methodological convergence does exist. Hence, the general applicability of the findings has to be questioned. While not entirely inapplicable, some findings completely contradicting the scholarly consensus have puzzled the author significantly. Better and more data for the European cities is therefore desirable.

But, in conclusion, this thesis elaborated on the relationship between happiness and entrepreneurship in European cities and different factors' influences. Several possible follow-up research areas have been unveiled: Results of urban entrepreneurship and their effects on life satisfaction, other regional specifics and their role in urban happiness, or the generally the variation in Europe examined, just to list a few. From the European policy point of view, the regional development and decreasing of discrepancies among regions is expected to result in a more satisfactory life for all Europeans, whether this holds true or not, remains to be seen.

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7. APPENDIX

Table 1: Variables, summary & descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Life satisfaction	81	2,30303	3,69697	3,1677953	,27679594
Entrepreneurial Capital per 1000 inh.	70	1,23136	37,54520	13,3964400	8,06114945
New Businesses registered in log	70	2,54	4,72	3,8082	,47787
Annual Average Disposable Household income in EUR	58	3367,00	64299,00	22947,0159	8875,47851
National Gini coefficient of equivalized disposable income	81	22,70	44,80	30,7210	4,54529
Unemployment rate	77	3,400	31,400	10,48571	4,356777
Human Capital per 1000 inh.	61	5,94122	332,47405	188,2219932	82,93325365
Corruption Perception Index	81	40,00	91,00	64,4691	15,57328
Index of economic freedom, 2014	81	55,70	81,60	68,6309	5,73081
GDP per capita in Purchasing Power Standards, 2007	69	8800,00	75300,00	31379,7101	13094,35868
Total population in log	81	4,80512	6,91243	5,7759879	,43292416
Capital status	81	0	1	,40	,492

Sources: Author's calculation based on BFS (2014); CSB (2014); CSO (2014); DeStatis (2014); DST (2014); eLuxembourg (2014); ES (2014); Eurofund (2013); Eurostat (2004, 2007, 2012, 2013a, 2013b, 2014a, 2014c, 2014d); INSEE (2014); INSSE (2014); Istat (2014); KSH (2014); ONS (2014); SISP (2014); SSB (2014); Statbel (2014); StatSi (2014); Sundell (2011); TheHeritageFoundation (2014); TransparencyInternational (2014); TURKSTAT (2014)

Table 2: List of all cities and metropolitan areas included in this thesis.

COUNTRY	CITY		COUNTRY	CITY
Austria	Wien		Italy	Verona
	Graz		Lithuania	Vilnius[14]
Belgium	Brussels		Luxembourg	Luxembourg[15]
	Antwerp		Latvia	Riga
	Liege		Malta	Valletta
Bulgaria	Burgas		Netherlands	Amsterdam
	Sofia			Groningen
Croatia	Zagreb			Rotterdam
Cyprus	Lefkosia		Norway	Oslo
Czech Republic	Praha		Poland	Bialystok
	Ostrava			Gdansk
Denmark	Aalborg			Krakow
	København			Warszawa
Estonia	Tallinn		Portugal	Braga
Finland	Helsinki			Lisbon[16]
	Oulu			Lisbon metro

[14] Vilnius has been excluded from the Analysis as no business creation data is available at the NUTS3 or below.

[15] Luxembourg has been excluded from the Missing value imputation.

[16] Lisbon has been removed from the sample due to its outlier status.

France	Bordeaux		Romania	Bucuresti
	Lille			Cluj-Napoca
	Marseille			Piatra Neamt
	Paris		Slovakia	Bratislava
	Paris metro			Kosice
	Rennes		Slovenia	Ljubljana
	Strasbourg		Spain	Barcelona
Germany	Berlin			Madrid
	Dortmund			Malaga
	Essen			Oviedo
	Hamburg		Sweden	Malmö
	Leipzig			Stockholm
	München		Switzerland	Geneve
	Rostock			Zürich
Greece	Athens		Turkey	Ankara
	Athens metro			Antalya
	Irakleio			Diyarbakir
Hungary	Budapest			Istanbul
	Miskolc		United Kingdom	Belfast
Ireland	Dublin			Cardiff
Italy	Bologna			Glasgow
	Napoli			London
	Roma			Manchester
	Palermo			Manchester metro
	Torino			Newcastle

Source: Eurofund (2013)

Table 3: Sample from the final SPSS-file (Split in two tables, to fit onto the page properly)

COUNTRY	CITY	AGE_MED	EC_UNEMPL	EC_INC_imp	LSAT_SCALE	POP_LOG	EC_HC
DE	Rostock	44,64	11,0	21.000	3,38	5,31	193,38
FI	Helsinki	38,00	7,5	25477,80	3,47	5,77	271,54
NO	Oslo	35,00	3,7	35.917	3,53	5,79	296,94
PL	Gdansk	39,90	9,0	15527,61	3,26	5,66	36,23

COUNTRY	CITY	EC_GINI	EC_FREEDOM	EC_GDP	NEW_BSN_log	EC_TRANS	EC_EC	CAPITAL
DE	Rostock	28,3	73,4	26200	3,28	78	9,22	0
FI	Helsinki	25,4	73,4	40300	4,11	89	21,88	1
NO	Oslo	22,7	70,9		3,99	86	16,02	1
PL	Gdansk	30,9	67,0	19400	3,79	60	13,27	0

Sources: Author's calculations, list of Sources can be found under Table1.

Table 4: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	,159[a]	,025	,004	,25014494	,025	1,173	1	45	,285
2	,518[b]	,268	,235	,21925548	,242	14,573	1	44	,000
3	,531[c]	,282	,232	,21962228	,014	,853	1	43	,361
4	,577[d]	,333	,269	,21422212	,051	3,195	1	42	,081
5	,853[e]	,727	,686	,14039832	,394	28,890	2	40	,000
6	,858[f]	,735	,688	,13999521	,008	1,231	1	39	,274

a. Predictors: (Constant), New Businesses registered in log

b. Predictors: (Constant), New Businesses registered in log, Unemployment rate

c. Predictors: (Constant), New Businesses registered in log, Unemployment rate, Human Capital per 1000 inh.

d. Predictors: (Constant), New Businesses registered in log, Unemployment rate, Human Capital per 1000 inh., Annual Average Disposable Household income in EUR

e. Predictors: (Constant), New Businesses registered in log, Unemployment rate, Human Capital per 1000 inh., Annual Average Disposable Household income in EUR, National Gini coefficient of equivalized disposable income, Corruption Perception Index

f. Predictors: (Constant), New Businesses registered in log, Unemployment rate, Human Capital per 1000 inh., Annual Average Disposable Household income in EUR, National Gini coefficient of equivalized disposable income, Corruption Perception Index, Index of economic freedom, 2014

g. Dependent Variable: Life satisfaction

Sources: Author's calculations, list of Sources can be found under Table1.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,073	1	,073	1,173	,285
	Residual	2,816	45	,063		
	Total	2,889	46			
2	Regression	,774	2	,387	8,050	,001
	Residual	2,115	44	,048		
	Total	2,889	46			
3	Regression	,815	3	,272	5,633	,002
	Residual	2,074	43	,048		
	Total	2,889	46			
4	Regression	,962	4	,240	5,239	,002
	Residual	1,927	42	,046		
	Total	2,889	46			
5	Regression	2,101	6	,350	17,762	,000
	Residual	,788	40	,020		
	Total	2,889	46			
6	Regression	2,125	7	,304	15,488	,000
	Residual	,764	39	,020		
	Total	2,889	46			

Sources: Author's calculations, list of Sources can be found under Table1.

Table 6: Individual Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	3,596	,331		10,849	,000	2,929	4,264
	New Businesses registered in log	-,092	,085	-,159	-1,083	,285	-,264	,079
2	(Constant)	4,179	,328		12,733	,000	3,518	4,841
	New Businesses registered in log	-,148	,076	-,256	-1,945	,058	-,301	,005
	Unemployment rate	-,035	,009	-,502	-3,817	,000	-,054	-,017
3	(Constant)	4,072	,349		11,684	,000	3,369	4,775
	New Businesses registered in log	-,148	,076	-,256	-1,946	,058	-,302	,005
	Unemployment rate	-,033	,010	-,468	-3,420	,001	-,053	-,014
	Human Capital per 1000 inh.	,000	,000	,124	,924	,361	,000	,001
4	(Constant)	3,957	,346		11,438	,000	3,259	4,655
	New Businesses registered in log	-,155	,074	-,268	-2,087	,043	-,306	-,005
	Unemployment rate	-,028	,010	-,399	-2,872	,006	-,048	-,008
	Human Capital per 1000 inh.	9,845E-5	,000	,029	,205	,839	-,001	,001
	Annual Average Disposable Household income in EUR	6,694E-6	,000	,262	1,788	,081	,000	,000
5	(Constant)	3,657	,380		9,630	,000	2,889	4,424
	New Businesses registered in log	-,095	,051	-,164	-1,847	,072	-,199	,009
	Unemployment rate	-,023	,007	-,319	-3,459	,001	-,036	-,009
	Human Capital per 1000 inh.	,000	,000	-,079	-,842	,405	-,001	,000
	Annual Average Disposable Household income in EUR	-3,524E-6	,000	-,138	-1,196	,239	,000	,000
	National Gini coefficient of equivalized disposable income	-,019	,007	-,248	-2,733	,009	-,033	-,005
	Corruption Perception Index	,012	,002	,690	6,154	,000	,008	,016
6	(Constant)	3,118	,616		5,064	,000	1,873	4,364
	New Businesses registered in log	-,077	,054	-,133	-1,430	,161	-,186	,032
	Unemployment rate	-,020	,007	-,277	-2,782	,008	-,034	-,005
	Human Capital per 1000 inh.	,000	,000	-,101	-1,056	,297	-,001	,000
	Annual Average Disposable Household income in EUR	-2,745E-6	,000	-,108	-,909	,369	,000	,000
	National Gini coefficient of equivalized disposable income	-,018	,007	-,242	-2,668	,011	-,032	-,004
	Corruption Perception Index	,011	,002	,616	4,712	,000	,006	,016
	Index of economic freedom, 2014	,007	,007	,133	1,109	,274	-,006	,021

Sources: Author's calculations, list of Sources can be found under Table1.

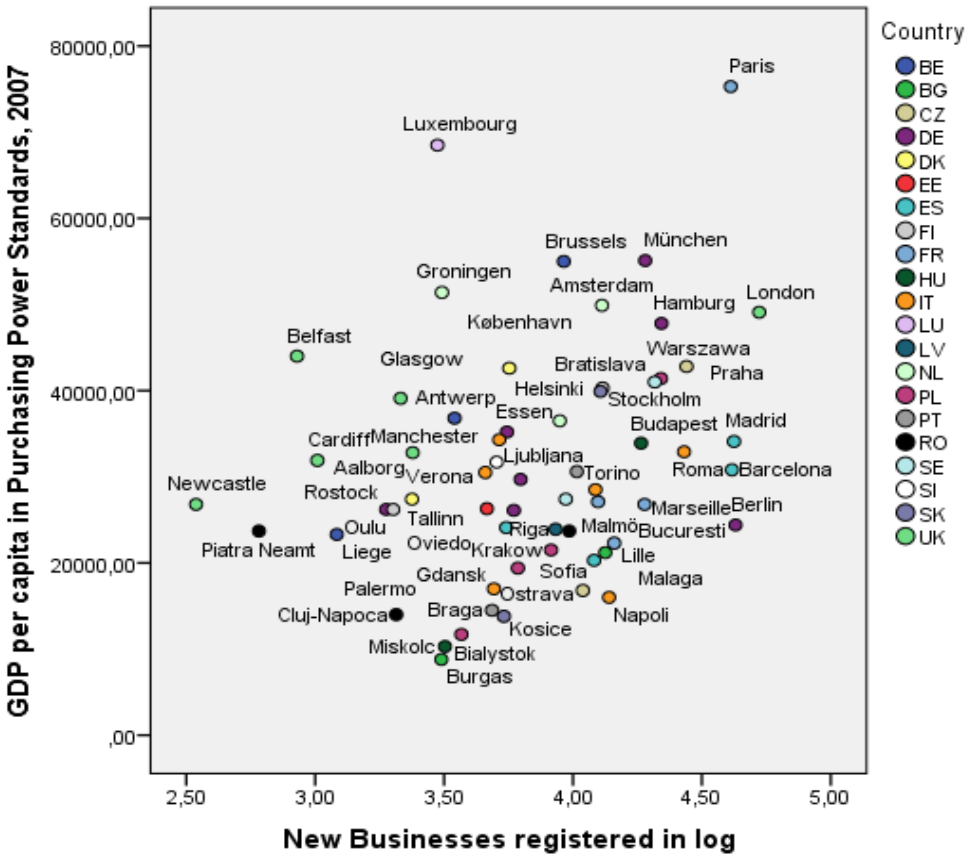
Table 7: Correlation Coefficients

N = 47	Life satisfaction	New Businesses registered in log	Unemployment rate	Human Capital per 1000 inh.	Annual Average Disposable Household income in EUR	National Gini coefficient of equivalized disposable income	Corruption Perception Index	Index of economic freedom, 2014
Life satisfaction	1,000	-,159	-,453	,238	,392	-,451	,750	,638
New Businesses registered in log	-,159	1,000	-,192	,057	,118	-,178	-,116	-,248

Unemployment rate	-,453	-,192	1,000	-,276	-,372	,246	-,257	-,390
Human Capital per 1000 inh.	,238	,057	-,276	1,000	,438	-,242	,347	,347
Annual Average Disposable Household income in EUR	,392	,118	-,372	,438	1,000	-,175	,611	,286
National Gini coefficient of equivalized disposable income	-,451	-,178	,246	-,242	-,175	1,000	-,286	-,243
Corruption Perception Index	,750	-,116	-,257	,347	,611	-,286	1,000	,603
Index of economic freedom, 2014	,638	-,248	-,390	,347	,286	-,243	,603	1,000

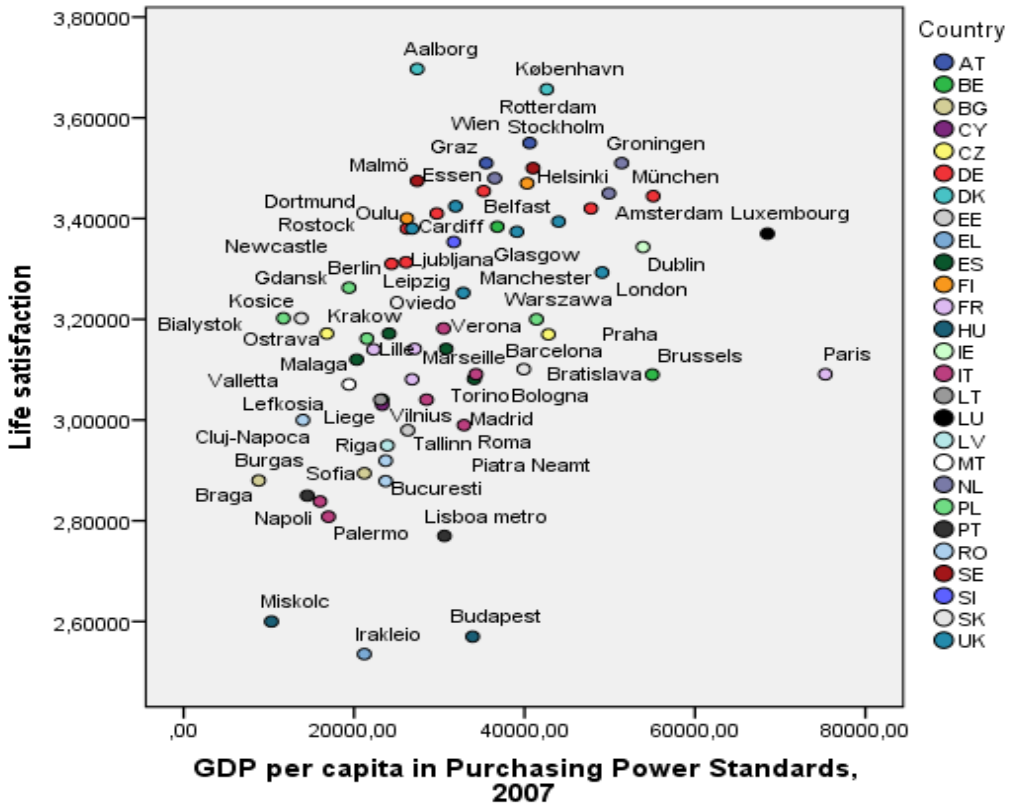
Sources: Author's calculations, list of Sources can be found under Table1.

Graph 1: Scatterplot, New businesses registered & GDP per Capita



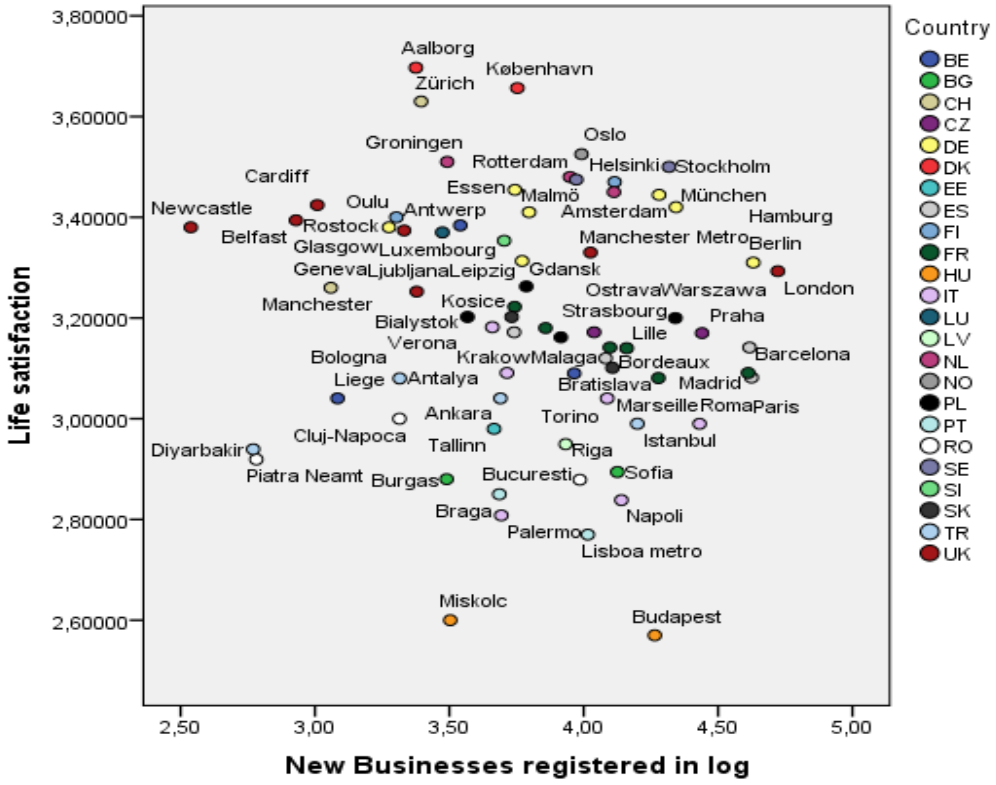
Sources: Author's calculations, list of Sources can be found under Table1.

Graph 2: Scatterplot, Life Satisfaction & GDP per Capita[17]



Sources: Author's calculations, list of Sources can be found under Table1.

Graph 3: Scatterplot, Life satisfaction & new businesses registered



Sources: Author's calculations, list of Sources can be found under Table1.

[17] Outliers have been excluded in all subsequent plots. The excluded cases include Greek cities and Paris & Luxembourg on occasion