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Thesis: **A Curse or A Blessing:**

The Impact of Immigrant Self-employment on the Labour Market of Europe

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A curse or a blessing: The impact of immigrant self-employment on the labour market of Europe

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Summary

"With almost 23 million people unemployed and another 91million inactive in the labor market of Europe within the second quarter of 2015, promoting entrepreneurship and self-employment has become very important on the agenda of European national and regional policymakers because it is believed to have a strong potential to create jobs, strengthen the EU's innovation capacity and give unemployed and disadvantaged people an opportunity to fully participate in society and the economy" (European Commission, 2016 pg 41). Policymakers and researchers therfore trust self-employment is an option to unemployment and a solution to poverty (Bogan and Darity, 2008). Self-employment has recently become an important topic in immigration studies. It has become an important avenue for the immigrant's social mobility as they face disadvantages in their host countries (Raijman, 2001). Hence, it performs an important role in the process of immigrant adjustment and integration in their host countries, making it worth studying (Le, 1999).

Whiles, there have been substantial studies conducted on the changing relationship between self-employment in general and unemployment in OECD countries, few studies have been done in the context of most European Union countries. Also, little or no studies exist specifically on immigrant self-employed and their possible influence on the unemployment rate of their host countries. This studies objective is to, therefore, explain the impact of self-employment on unemployment and explore the influence of immigrant self-employment on unemployment in EU 28 member countries.

The research is explanatory in nature and uses quantitative research approach and basis its secondary data from Eurostat, World Bank's World Development Indicators and UN Population Division and ILOSTAT. Two types of statistical analytical software tools, Stata and Excel were used for the analysis of existing data on self-employment (both immigrant and native) and unemployment within the period 2007-2015 for all EU 28 member countries. In the process of addressing the nature of the relationship between self-employment and unemployment and also explore the possibility of the immigrant self-employed reducing unemployment through their indirect job creation, a fixed effect regression model in Stata was estimated.

From the analysis, the study identifies a negative significant relationship between self-employment and unemployment in EU 28 member countries. However, the self-employed immigrants, unlike the natives, were less likely to reduce the unemployment rate in their EU 28 host countries considering their low representation in the sector. Nevertheless, it was also confirmed from the analysis that an increase in the immigrant and native employers (who hire others) unlike own account workers (in the self-employment sector) are likely to reduce the unemployment rate since they do not only create jobs for themselves but also create employment opportunities for other unemployed persons.

The study, therefore, concludes that indeed self-employment is a possible alternative to unemployment in EU 28 member countries of which the immigrant self-employed have a role to play as more of them dive into the sector due to the discriminations they go through in the labor market. Irrespective of this, self-employment can only be sustainable if governments of

the EU 28 member countries could implement policies that create opportunities for all regardless their immigration status to startup their own business and expose them to a conducive environment that enables them to operate smoothly and make the self-employment sector more attractive.

Keywords

Self-employment, Unemployment, Immigrant, Labour market, Entrepreneurial effect

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Abbreviations

EUROSTAT	European Statistics
EU	European Union
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GMM	Generalised Method of Moments
ILO	International Labour Organisation
ILOSTAT	International Labour Organisation Statistics
IOM	International Organisation for Migration
OECD	Organisation for Economic Co-operation and Development
UK	United Kingdom
UN	United Nations
US	United States
USA	The United States of America
VAR	Vector Auto Regression
VIF	Variance Inflation Factor

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CHAPTER 1: INTRODUCTION

1.1 Background Of The Study

Globalization over the years has not only promoted regional or global trade and investments but also mobility of labor through international migration of people. There have been rising trends of immigration in Europe and in other regions of the globe as well. The number of international immigrants worldwide continues to gradually increase rapidly from a hundred and seventy-three million (173000000) in the year 2000 to two-hundred and forty-four million (244000000) in 2015 (United Nations, Department of Economic and Social Affairs, Population Division, 2016). Records from International Organisation for Migration in 2015 shows that almost two-third of the world's migrants live in Europe (that is 76 million of them) (IOM Global Migration Data Analysis Centre, 2016).

Immigration is said to be fueled by a mixture of socioeconomic and political factors that exist either in the migrant's country of origin or in their host countries (Eurostat, 2016(a)). Hence, there has been an increased mobility of people from one country to another as a result of this push and pull factors. According to Massey (1988), there is a common assumption amongst people that immigration from developing countries stems from a lack of economic development and or opportunities. And hence, people emigrate from their country of origin (presumed to have an unstable economy, underdeveloped, and lacking economic opportunities) and immigrate into "wealthy" or more precisely developed countries in search of better employment opportunities (Massey, 1988). A common assumption of the pull effect of the European Union on immigrants is attributed to its relative economic success and stable political environment (Eurostat, 2016(a)).

However, migration which according to Nestorowicz (2012) is a strategy by individuals is also inevitably accompanied with high costs and uncertain outcomes. Most immigrants go through a lot of difficulties establishing themselves due to labor market rigidity of most European countries because of the low rate of employment and low average wages among groups of immigrants (Andersson and Wadensjo, 2004). Hence, they are left to rely on social transfer payments and assistance; in order to escape problems associated with searching for a job, one of their ways out is to resort to being self-employed. Contrary to the notion of labor market rigidity, some studies conclude that demographic characteristics are also related to immigrants choice of self-employment (Huang, 2015).

In Canada, self-employment make-up a significant portion of the labor market activities of immigrants (Schuetze, 2005). Whereas in the United States it is a vital facet of their economy as more immigrants have more self-employment rates than the natives (Bogan and Darity, 2008). This trend of self-employment among immigrants has become very important in political discussions and studies worldwide. Policymakers and researchers are said to stipulate that self-employment is an option unemployment and a solution to poverty (Bogan and Darity, 2008). This makes the study of self-employment among immigrants worth looking into as it is relevant for easy labor market mobility for immigrants who are mostly minorities in their host countries.

The study will, therefore, focus its attention on the labor market performance of immigrants in terms of self-employment within European region, specifically European Union (EU) 28 member countries.

1.1.1 Problem Statement

With almost 23 million people unemployed and another 91million inactive in the labor market of Europe within the second quarter of 2015, "promoting entrepreneurship and self-employment has become high on the agenda of European, national and regional policymakers because it is believed to have a strong potential to create jobs, strengthen the EU's innovation capacity and give unemployed and disadvantaged people an opportunity to fully participate in society and the economy" (European Commission, 2016 pg 41). Policymakers and researchers are said to stipulate that self-employment is an option to unemployment and a solution to poverty (Bogan and Darity, 2008). Self-employment has also become an important topic in immigration studies. It has become an important avenue for the immigrant's social mobility as they face disadvantages in their host countries (Raijman, 2001). Hence, it performs a very important role in the process of immigrant adjustment and integration in host countries, making it worth studying (Le, 1999).

Whiles, there have been substantial studies conducted on the changing relationship between self-employment in general and unemployment in OECD countries, few studies have been carried out within the context of most European Union countries (Thurik, Carree, et al., 2008). Also, whiles majority of studies conducted on immigrant self-employment evolve around the determinants of their choice of the sector, little or no studies exist specifically on the possibility of an impact of immigrant self-employment on the unemployment rate of their host countries (Sanders and Nee, 1996). This study will, therefore, fill the knowledge gap on the changing relationship between self-employment and unemployment; and also on the performance of self-employed immigrants in the European labor market context focusing on their impact on the unemployment rates.

1.1.2 Research Objective

This research seeks to explain the impact of self-employment on unemployment and explore the effect of immigrant self-employment on unemployment in EU 28 member countries.

1.1.3 Research Questions/Working Hypothesis

The main research question and sub-questions of this study are as follows:

Overall Research Question

- How does self-employment impact on unemployment within the EU28 member countries?

Specific Research Questions

- What is the nature of the relationship between self-employment and unemployment?
- Do self-employed immigrants reduce the rate of unemployment than the native-born self-employed?

1.1.3.1 Working Hypotheses

The research hypothesis for this study includes the following:

- H_0: An increase in self-employment activity reduces subsequent unemployment.

The hypothesis is based on the assumption that an increased self-employment activity helps in reducing the unemployment rate (Thurik and Verheul, 2003).

1.1.4 Significance of Studies

Europe is one of the regions in the world where immigration flows during the last decade have increased outstandingly. A lot of academic work has been carried out generally on the impact of immigration on the economy of host countries, specifically on their labor market. One of such studies is on the experiences and performance of self-employed immigrants on the labor market of host countries. However, much of these studies are conducted in the context of US with few of them conducted in the European context. This study, therefore, adds to empirical knowledge or studies on the performance of self-employed immigrants in the European labor market especially its impact on unemployment rates in the EU. This study also has policy significance as the findings of this study will help policy makers develop better integration policies and strategies that can aid self-employed immigrants to be fully recognized and integrated into the European labor markets; in an effort to contribute their part to the overall growth of the economy.

1.1.5 Scope and Limitations

Geographically, the study focuses on EU 28 member countries on the basis of their political and economic union, geographical location and the wide availability of data on the variables under study. This study is a time series country-level study of member states of the EU and it specifically focuses on the labor market performance of self-employed immigrants. Since the only data source for self-employment (with immigrants and native-born), Eurostat, had data for only nine year period (2007 to 2015), it was not enough to explore further estimates of the causal direction between the two variables using the Panel Vector Auto Regression model. System GMM estimator which is another relevant statistical model for dealing with endogeneity could not also be used since it was out of the scope of the study. Notwithstanding, the secondary data which was acquired was analysed with statistical methods that corrected for any irregularities in the data.

CHAPTER 2: LITERATURE REVIEW / THEORY

This chapter reviews relevant literature on the theoretical concept of immigration and self-employment amongst immigrants. This includes the causes of (push and pull) of migration based on migration theories and other factors, some determinants of immigrant self-employment and the possible influences that immigrant self-employment activities have on unemployment. These concepts are relevant in arriving at a conceptual framework for the study.

2.1 The concept of Immigration

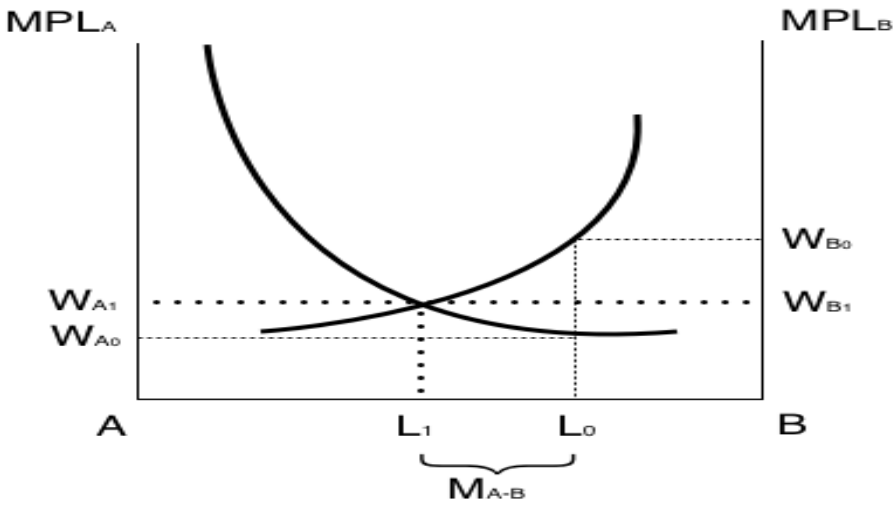
Studies on immigration as well as immigrants have been explored by many disciplines from economics, sociology, criminology, anthropology, political science, demography to psychology. Different scholars within these disciplines have explained immigration and immigrants in different ways. One of such explanations is that immigrants can be explained as "those people who come from another country to a certain host country" (Dalhammar, 2004, Sinnya and Parajuli, 2012). They can also be considered as persons who settle permanently in another country (Canadian Council for Refugees, 2010).

Before explaining the circumstances and consequences surrounding immigration it is of importance to understand the factors that influence individual's decisions to migrate from a "country of origin" to a "country of destination" (or host countries). One of the ways to, however, explain the origin of this phenomena is to reflect on some proposed theories of international migration. According to Massey, Arango et al., (1993a, pg. 432) and Bojars (1989, pg. 458) "there is no one simplified and unified theory of international migration but rather a different set of theories which may not be logically consistent and sometimes but not always segmented by disciplinary boundaries". These theories according to Nestorowicz (2013) only challenges some particular issues and fails to realize the consequence of the others. Researchers in the field of economic and social sociology have tested and used these theories their studies on migration phenomena's; these theories are but not limited to neoclassical, new economics and dual labor market theories of migration. They also can possibly explain the concept of "push" and "pull" factors that are characterized by unfavorable local conditions that push people out of their countries and favorable conditions in the targeted country of destination that pulls people in (Cajka, Jaroszewicz, et al., 2014). Similarly, any acceptable explanation of immigration according to Massey et al. (1998) must reflect four basic facts of international migration which include "the structural forces in developing societies that promote emigration; the structural forces in developed societies that attract immigrants; the motivations, goals, and aspirations of the actors who respond to these forces by migrating internationally; and the social and economic structures that arise to connect areas of out- and in-migration".

The Neoclassical theory propounded George Ravenstein is one of the most used theory by scholars in explaining the origin of migration. It claims that individuals migrate to boost their expected income and are pushed to migrate after weighing the cost and benefits involved; this cost and benefits could either be derived from financial and or psychological considerations

(Borjas, 1989, Nestorowicz, 2013, Cajka, Jaroszewicz, et al., 2014). Financial considerations include the assessment of wage and employment disparities between the origin and destination countries. Bhagwati, Panagariya, et al., (1998, Nestorowicz, 2013) based their arguments of the neoclassical theory of the trade theory by suggesting that labor migration must be considered in the same sense as capital mobility. Therefore, flows between markets will continue until there is equality in wages; this they depicted in figure 1 below.

Figure 1 International Trade Model of Labour Mobility



Source: Bhagwati, Panagariya, et al., *(1998)*

This figure 1 shows that a country B with relatively scarce labor but offers quiet higher wages (wB0 > wA0) has the tendency of attracting people to move from a country A with quiet higher labor but offers lower wages lower. That's as long as wages are higher in country B than in country A, people will continue to move out of country A into B. However, a continues movement of labor from country A to B results in the abundance of labor in country B, whiles there is a shortage in country A; hence, decreasing labor productivity in country B (MPLB) whiles increasing it in A (MPLA). According to them, as people continue to migrate from A to B (MA−B) an equilibrium in wages (equal wage) between countries occurs (wA = Wb) leaving no motivation for mobility of labor. The psychological consideration according to (Massey, Arango, et al., 1993a) involves the cost of losing family and friendship ties and building up new ones in the country of destination.

Another theory that emerged to challenge the shortcomings of neoclassical theory focuses more on the role that a person's household or family play in migration decisions. It originated to criticise the shortfalls of the neoclassical model; It theorize migration as a family's or household's effort to boost expected income as well as reduce the risks to their economic well-being associated with market failures by a migrated family or household member by benefiting from migrant returns such as remittances (Borjas, 1989, Massey, Arango, et al., 1993a, Nestorowicz, 2013). Dual labor market theory on the other hand highlights on the inherent labor demands of current industrial societies. Piore a proponent of this theory argued that

“international migration is caused by a permanent demand for immigrant labor that is inherent to the economic structure of developed nations “(pull factors); that is the need for foreign workers for the purpose of cheap labor cost (Massey, Arango, et al., 1993b, pg. 440). These theories have been the backdrop for shaping the perception and thoughts of the public as well as policy makers on immigration issues worldwide.

Nestorowicz, (2012) observed that all theories of migration however considered expected income differences as one of the determining factors of migration. However, there are other relevant factors that influence migration decisions which are not focused on economic motives alone but also cultural situations such as political instability as a result of ethnic rivalries which pushes people to emigrate as well as environmental factors (can either push or pull) such as attractive environments and serious physical conditions like famine or flood prone countries. Also education is one of the reasons why people migrate into another country, that is these immigrants who move to their destination countries for educational or training purposes and eventually stayed after completion; asylum seekers who assume refugee status; family reunification; first and children of immigrants born outside or within the host countries amongst other reasons (Lemaître, 2007). However, the composition of immigration in host countries, however, is dependent on their immigration policies which are either strict or open (flexible) to immigration and it varies with time; but for the purpose of this studies, the latter will not be covered.

2.1.1 Immigrants and Employment

Seeking employment opportunities is one of the popular reasons for migration out and inflows globally. Immigrants are likely to be successful in employment on the host’s labor market based on certain individual and contextual factors which can equally determine their failure as well. These factors are also formed by a specific social, institutional, cultural, and political environment. These factors include immigrant policy like the selection policy which paves way for more highly educated immigrants to gain better employment opportunities as it is evident that immigrants who belong to this category perform better on the labor market in terms of employment and wage (Reitz, 2007a). Contrary to these immigrant policies like family reunification which is open to any immigrant regardless of their educational background or level of skills creates labor mobility problems for immigrants in this category, hence hindering their employment success.

Another factor which is the characteristics and settlement patterns of the immigrant has to do with the location immigrants settle in and the caliber of persons dwelling in there when they arrive in the host countries. Locations like the major cities or urban areas are considered as places where employment opportunities abound, whereas settlements with immigrants of the same background or culture are preferred. Hence, immigrants who end up in such areas are likely to succeed in the job market. However, it is also argued that such urban areas are very competitive in terms of the required skills needed from job applicants by firms (Scott, Coomes, et al., 2005, Reitz, 2007a).

In addition to these factors are the “entry” effects and assimilation over time which also states that new entrants find it difficult the very instance they enter the labor market as they end up in low-skilled jobs since their credentials from their country of origin are not valid for working

in their host country's labor market. However, as they acquire experiences in the labor market, they begin to adjust and upward mobility follows which from evidence takes more time than expected (Husted, Skyt Nielsen, et al., 2001, Reitz, 2007a). The lower value of immigrant human capital even though it is presumed that immigrants with good education and work experience as well as knowledge of the host countries language make the immigrant viable for selection in employment is another factor that determines an immigrants employment success. If their human capital is not valued they become unemployed or underemployed despite their professional backgrounds (Reitz, 2001, Reitz, 2007a).

Other factors are "the specific labor market niches in which work is found, including occupations that become ethnic specialties, work in enclave neighborhoods, self-employment, and access to unionized employment, the impact of the social and cultural capital of immigrants on their employment success, though the evidence on this point is not as consistent. Many of these factors are shaped by the institutional context, including existing patterns of inter-ethnic relations in a society; labour markets and related institutions, such as educational systems; government policies, including immigration policy, and also other policies affecting immigrant integration and welfare; the changing positions of nations in the international system; and border regulation"(Reitz, 2007b, pg. 17).

Yet, in reality, most immigrant workers have higher unemployment rates and in most countries and when in employment, they tend to be dispersed in low-paid, unskilled or low-skilled jobs regardless their educational or professional background hence ending up being exposed to higher risks of over-qualification (Ambrosini and Barone, 2007). Findings in OECD countries shows that an average number of educated immigrants (35%) who are employed are over-qualified for their jobs as compared to one native-born in four during the period of 2012 and 2013; however, it was the opposite for tertiary educated immigrants who schooled in the host country (OECD, 2015). Likewise, they tend to be employed in labor-intensive jobs in order to cut down the production cost of these firms since the natives themselves are not prepared to work for a lower wage or salary as well as a work in a poor working environment (Artiles, 2008). They are also under-represented among the ranks of the employed on the labor market, hence a lot of them are entering the self-employment sector (Lemaître, 2007).

2.1.2 Immigrants and Self-employment

There have been continuous empirical studies being conducted on entrepreneurship, particularly on self-employment. Although these concepts have been used interchangeably in most studies, its meaning remains differently defined. For instance, the Global Entrepreneurship Monitoring (GEM) defines entrepreneurship as "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (Bosma, Wennekers, et al., 2012 pg. 9). GEM's definition of entrepreneurship does not only recognizes existing business activities but also intended new business activities to be. Since there is no one definition for entrepreneurship this study will consider entrepreneurship as an act of being self-employed as some studies define it (Hamilton, 2000). Self-employment also is defined as individuals who work to earn a profit for themselves or family gains either in cash or in kind. These individuals are considered as employers who are their own employees (normally known as own account workers) and are into the production of goods or provide

household consumption services (Le, 1999). This definition means that these individuals normally do not employ the help of anyone and are normally into small businesses or enterprise.

On the other hand, they can also include individuals who own businesses which employ others but are mostly dominated by individuals who work alone and do not need to hire anyone else (Storey, 1991). After noting down the main characteristics of self-employment stated by some authors, Startiene, Remeikienė et al. (2010) defines self-employment as "a simplified form of entrepreneurship, where a person, by combining financial resources and personal capacity offer market (consumer) goods/services in order to obtain both financial and (or) nonfinancial benefits and assuming the risk of self-employment". That means anyone who is self-employed made some financial decisions, made some self-check to know if they were capable enough to be self-employed as well as take on the risk that is associated with being self-employed. Another twist to the definition is that they could also be individuals who portray themselves as being independently self-employed and or working for both themselves and someone as well; that is they can either be employed somewhere else and at the same time have their own business running (Fairlie, 1999). Judging from all these definitions which argue that self-employers could employ the help of others, self-employment for the purpose of this studies consist of individuals who possess small or medium businesses or enterprises for profit or non-profit reasons and work alone or employ the help of others in running their business.

This sector offers individuals the opportunity to create and work base on their own itenary, work when they choose to, be accountable to no one and probably become a step towards riches; a simplified version is that it gives individuals the opportunity to become their own boss (Blanchflower, 2000). Numerous studies have revealed that self-employment continues to play an important part in the social mobility of immigrants as they face disadvantages in the host countries (Raijman, 2001). It may also play a relevant part in the process of immigrant adjustment in the host countries ((Le, 1999). Since immigrants are normally considered as minorities in the labor market of their host countries, self-employment is believed to be a labor market activity which encourages them to overcome any labor market challenges (Nestorowicz, 2013). Sinnya and Parajuli (2012) argues that self-employment has mostly become a tool used by immigrants to avoid labor market discrimination in host countries. Again, it has become a strategy used by immigrants to survive from a lack of job opportunities in a frequently hostile labor market (Artiles, 2008). It is, therefore, a significant aspect in immigrants economic progression on the labor market as it is an "important source of labor demand, and may play an important role in successful immigrants" (Yuengert, 1995 pg. 203).

2.1.3 Determining factors of immigrant self-employment

Individuals choose to engage in entrepreneurial activities base on various and different motivations. Most of them have been explained through different theories; and these theories are normally based on the economic, sociological and psychological motives behind an individual's decision on starting his or her own business. For economic theories, persons become self-employed based on financial reasons such as unemployment, whiles sociological and psychological theories base them on non-financial reasons such as discrimination. The most common of these theories is the "push" and "pull" theories and opportunity and necessity-driven entrepreneurship which will further be elaborated in the ensuing paragraphs.

Push factors are a result of individual or external factors such as marriage or not getting promotion at work as it is expected, and it is often associated with negative insinuations like discrimination or limit employment opportunities (Kirkwood, 2009). Contrary to this, the pull

factors are rather those factors that attract or motivate individuals to start their own firms; for instance, realizing an open opportunity and in the case of immigrants ethnic enclave economies, ethnic market niche and middleman minority (Kirkwood, 2009, Hakim, 1989). Again, push factor is also considered to be an individual's alternative to avoid unemployment and discrimination or unfavorable labor market conditions whiles pull factors dwell on an individual's desire to earn income base on his or her own business ideas (Startienė, Remeikienė, et al., 2010). Push factors also take into consideration "the conflict between one's current and one's desired state and it is often associated with some level of dissatisfaction" (Ulijn and Brown, 2004 pg. 167). It is however believed to follow the logic of the 'economy of scarcity', that is the 'economy of necessity'; and thus self-employment becomes an alternative when faced with employment difficulties; that is, people are more or less forced to enter into self-employment. Contrast to this is the pull factors are the factors that motivate individuals to enter into self-employment (Buchmann, Kriesi, et al., 2009)**;** and it is also argued to be "concerned with the expectation of being better off as an entrepreneur. That is, individuals are often attracted to self-employment with the expectation that it will provide greater material and/or non-material benefits" (Ulijn and Brown, 2004 pg. 167). Push factors, in general, are more prevalent than pull factors although it is believed that a successful entrepreneur is a person who is driven-into entrepreneurship as result of certain pull factors (Kirkwood, 2009).

Similar to the push and pull theories are the necessity and opportunity-driven entrepreneurship. Determinants of self-employment may also be driven by socioeconomic circumstances which are individual and contextual in nature and can be considered in two major contexts. That is situations that create opportunities to pursue self-employment (opportunity-driven) and that which pushes people into it as a last resort (Necessity-driven) (Nestorowicz, 2013). Opportunity and necessity-driven entrepreneurship are mainly used by GEM in their model since 2001 as two types of entrepreneurship, however, the differences in the two concepts are based on the motivation behind a person's decision to be self-employed or an entrepreneur. These motivations are said to be either driven by necessity factors and or opportunity factors. Opportunity entrepreneurship mostly reflects business start-up efforts that take advantage of business opportunities (pull factors) whiles necessity entrepreneurship is created when there are "no better choices for work" (Verheul, Thurik, et al., 2010). That is, opportunity-driven entrepreneurs are motivated by pull factors whereas necessity-driven entrepreneurs are driven by push factors. Notwithstanding, there is a general argument that opportunity-driven entrepreneurs stay longer in self-employment than necessity-driven entrepreneurs do; and there have been a number of empirical studies done to prove or refute this argument from all angles. This study, however, will not focus much on these aspects of the study.

2.1.4 Empirical findings on necessity-driven and opportunity-driven factors of immigrants

Studies on immigrant and ethnic entrepreneurship explain the growing self-employment rates of immigrants with various theories, three of such theories are the middleman minority theory, ethnic enclave economies, and ethnic market niche theory. The "middleman minority theory postulate that immigrant entrepreneurs are attracted to certain types of business sectors just to earn quick money. The ethnic market niche theory, on the other hand, argues that immigrants identify opportunities for self-employment in market niches created through the interactions between opportunities (discovered) in society and the characteristics of the immigrant group. Whiles ethnic enclave economies theory is shaped by the idea that immigrant entrepreneurs naturally discover self-employment opportunities within immigrant societies in a particular

geographical area as well as within neglected business sectors in the wider economy" (Halkias, Harkiolakis, et al., 2007 pg. 5).

The incidence of the growing observable rates of self-employed immigrants by researchers has therefore led to studies on the determinants of self-employment among immigrants. The empirical verification of these theoretical determinants of self-employment also varies from one geographical context to another. That is most research conducted to verify these claims have similar or different outcomes. These determining factors will be explored on the backdrop of the necessity and opportunity-driven entrepreneurship.

To Nestorowicz, (2013) there are three theoretical explainations for the choice of self-employment among immigrants. They are the "differences in potential earnings (which can both push or pull individuals into self-employment), some features of the host markets e.g. discrimination (push factors), and the presence of ethnic complementarity or enclave that could produce positive spillovers for immigrant business owners (pull factors)". The existence of other immigrants on a local market or the ethnic enclave effect is believed to contribute to the success of an immigrants venture by providing a larger pool of ready market and cheaper labor supply (Hammarstedt, 2001). Other factors that influence immigrants decision to enter into entrepreneurship or self-employment according to GEM (2012) is the formal and informal discrimination on the labor market of host countries, not meeting some employment requirements base on language and culture barriers, and inadequate information about the labor market. Similarly, immigrants who intend to start a business sometimes face problems when dealing with various institutions, investors, prospective customers, and other stakeholders which can eventually cause their failure in the sector.

Results from a single cross-section regression indicate that in Australia, the tendency for immigrants to be self-employed is encouraged by the presence of enclave markets. Ethnic enclaves which are created through a common language amongst immigrants is said to provide more probability for self- employment than the concentration of immigrants with same country of origin (Le, 2000). In addition. a study on "the persistence of self-employment across borders" revealed that an immigrant's past experiences in the self-employment sector of their country of origin is undoubtedly a relevant factor that determines their self-employment status in the US labor market, consequjently increasing their likelihood of being self-employed by 7% (Akee, Jaeger, et al., 2007). A study on "Mexican immigrants in Chicago, USA" also showed that "having close family members in business exposes individuals to role models and sources of financial and nonfinancial help that might put business ownership within reach of people with modest resources. Third, economic resources in the household, in the form of financial investments, also affect the wish to start a business because they furnish available capital for the start-up" (Raijman, 2001 pg. 393).

2.1.5 Linking Self-employment with Unemployment

The layman's definition of unemployment depicts persons without a job but however, this concept has more to it than just a single description of it. A single definition of the concept is said to be unsafe for use even when it is made with care (Long, 1942 pg. 2). The international world, therefore, provides a more detailed definition for the concept which is widely used in most international data sets and studies. Such definition is from the International Labour Organization (1982) which up till date is used widely by most scholars. They define the concept to include persons who are "without work" (that is he or her has no source of income whether

from paid job or self-employment), "currently available for work" (that is he or her is ever ready to be employed in a paid employment or become self-employed during the said period), "seeking for work" (that is the person is currently or in time passed have taken some steps to seek for work). This definition will preferably be used for the operationalization of the dependent variable in chapter three. Long (1942) however prefers the definition to include persons who wish to work but are discouraged to actively seek for work.

Governments over the world believe that self-employment and or entrepreneurship have the potential to reduce unemployment consequently increasing employment rates through job creation. As a result, questions are being raised whether policies should be made to promote the sector. Most policymakers, therefore, rely on most literature on the subject to find answers to their questions and discover possible ideas that can be turned into policies to generate employment and economic growth. However, the result from these studies has shown an ambiguous interrelationship between self-employment and unemployment (Thurik, Carree, et al., 2008).

Theoretically, there are two main means in which self-employment could be linked to unemployment. The first channel is the perception that increased unemployment rates lead to an increase in self-employment activities. This perception is known as the "refugee effect" or "unemployment push". According to this theory, self-employment increases with growing unemployment levels, resulting in unemployment stimulating self-employment or entrepreneurship (Bögenhold and Staber, 1991). In other words, high and increasing levels of unemployment means that there is a lack of employment opportunities, and few offers from waged employment which hence pushes people into self-employment, hence avoiding being inactive and spending more time searching for a job (Taylor, 1996). Studies conducted based on this perception also states that with reduced employment opportunities in larger organizations and even the government sector, people turn to the self-employment sector which is seen as a source for creating new jobs (Arzeni, 1997). Unemployment in this case, therefore, explains why there is a sudden increase in self-employment activities (Meager, 1992). There is, however, a critique of this theory which states that high unemployment rates do not necessarily drive a person to be self-employed as most unemployed persons lack the required skills, information, and capital for starting up new firms (Thurik, Carree, et al., 2008, Oxenfeldt, 1943).

The second channel is how self-employment or entrepreneurship reduces unemployment rates; this perception in most literature on the subject is theoretically known as the "entrepreneurial effect" or the "prosperity pull hypothesis". This theory argues that "self-employment or entrepreneurship does not only occur due to increasing unemployment rates but it also occurs because of a thriving economy and past entrepreneurial activities in that specific geographical location" (Thurik, Carree, et al., 2008 pg. 3). This argument, therefore, concludes that there is an indirect job creation effect by successful entrepreneurs and or self-employed persons for other persons who are also unemployed (Congregado, Golpe, et al., 2010). These start-up firms, therefore, hire employees which subsequently result in reduced unemployment rates (Thurik, Carree, et al., 2008).

The link between self-employment and unemployment has been extensively examined empirically by researchers worldwide but there have been ambiguous results. The question on

whether they have a reversed causal link to each other has been explored in most literature. In determining their relationship, some researchers use the two variables interchangeably as either their independent and or dependent variables. Their relationship examined by most scholars supposedly reveals either negative (self-employment on unemployment) or positive (unemployment on self-employment) relationship between the two variables (Thurik, Carree, et al., 2008). The result of a study conducted by Blanchflower (2000) for instance, in OECD countries using panel data and time series showed that there is few reliable evidence that self-employment is correlated with unemployment constantly across countries. There was however more evidence to confirm a negative relationship between self-employment rate and unemployment rate in most of the countries depending on the definition of self-employment rate used in the study but there was also evidence of a positive relationship for Iceland and Italy based on the use of a time series regression and comparing unemployment to the number of vacancies (that is, U/V ratio). Ozerkek and Dogruel (2015) research on Turkey in the period 1970-2013 using self-employment rate and unemployment rate data (annual data) from OECD also confirmed an entrepreneurial effect over the given period. Hence, there was a long-term negative effect between self-employment and unemployment in that period. With the help of the stata model vector auto-regression, for a panel data of 23 OECD countries within the period 1974-2002, Thurik, Carree, et al. (2008) were able to evaluate the changes in both unemployment and self-employment. The result revealed that the existing relationship between the two interchangeably, were both negative and positive. Self-employment hence is a possible solution to unemployment and an escape from poverty (Bogan and Darity, 2008).

In relation to this, self-employed immigrants with increasing lengthy years of business experience employ additional persons to their firms (Neuman, 2016a). Similarly, the self-employed sector can, however, be an avenue for creating employment opportunities for both immigrants who own their business and any other new immigrants who most often end up being their employees; and can be sustainable with regards to the duration an immigrant stays in it and the policies that supports or complements its survival (Yuengert, 1995). This could, however, be opposite depending on the motive for entering into the sector and the type of business. There are scarce studies conducted on the possibility of self-employed immigrants creating jobs or employment opportunities. One of this study as researched by Neuman (2016b) found out that immigrant firms' turnovers and employees were higher and larger than natives making them more likely to create jobs especially when they have been in business for long. This study will also look further into the possibility of self-employed immigrants creating job opportunities for the unemployed. The perception of self-employment reducing unemployment rate is nevertheless limited or low (Thurik, Carree, et al., 2008).

2.1.6 Other Factors/Variables that Equally Links to Unemployment (Control Variables)

There are however other factors or variables that may relate to unemployment as self-employment does. The study will also control for these factors as they can equally influence the unemployment rates amongst immigrants and native-born labor forces on the labor market in the EU 28 member countries. These factors include GDP, educational attainment, inflation and minimum wages of a country.

2.1.6.1 GDP

Studies on the relationship between GDP and unemployment started with the famous Okun's Law during the 1960's. the law stated that there was a negative relationship between the changes in GDP growth and unemployment. That is if the GDP growth rate falls below that of the growth of the labor force the number of employed person will drop as there are not enough jobs to employ the surpluses in the labor force; therefore increasing unemployment (Farsio and Quade, 2003, Levine, 2012). However, when the opposite occurs, unemployment reduces; that is in a theoretical sense, GDP growth is reported to have either a positive or negative influence on unemployment rate depending on the real output growth.

2.1.6.2 Educational Attainment

Educational level is also relevant in determining a person's employment status. A higher educational level leads to lower risk of being unemployed; hence, making those individuals less inclined to unemployment (Mincer, 1991). On the other hand, less educated people are highly prone to unemployment than well-educated ones. For instance, in a competitive job recruitment process, employers might prefer highly educated applicants than those with less education for jobs that were previously performed by lower educated employees (Maarten, 2000).

2.1.6.3 Inflation

Inflation has either a positive or negative effect on unemployment; that is the higher the rate of inflation the lower the unemployment rates as there is a great increase in employment. Contrary to this, when inflation is low, it decreases firm's returns from employing or creating employment opportunities for the unemployed, therefore deterring any means of doing so thereby increasing unemployment (Fisher, 1973, Liu, 2010).

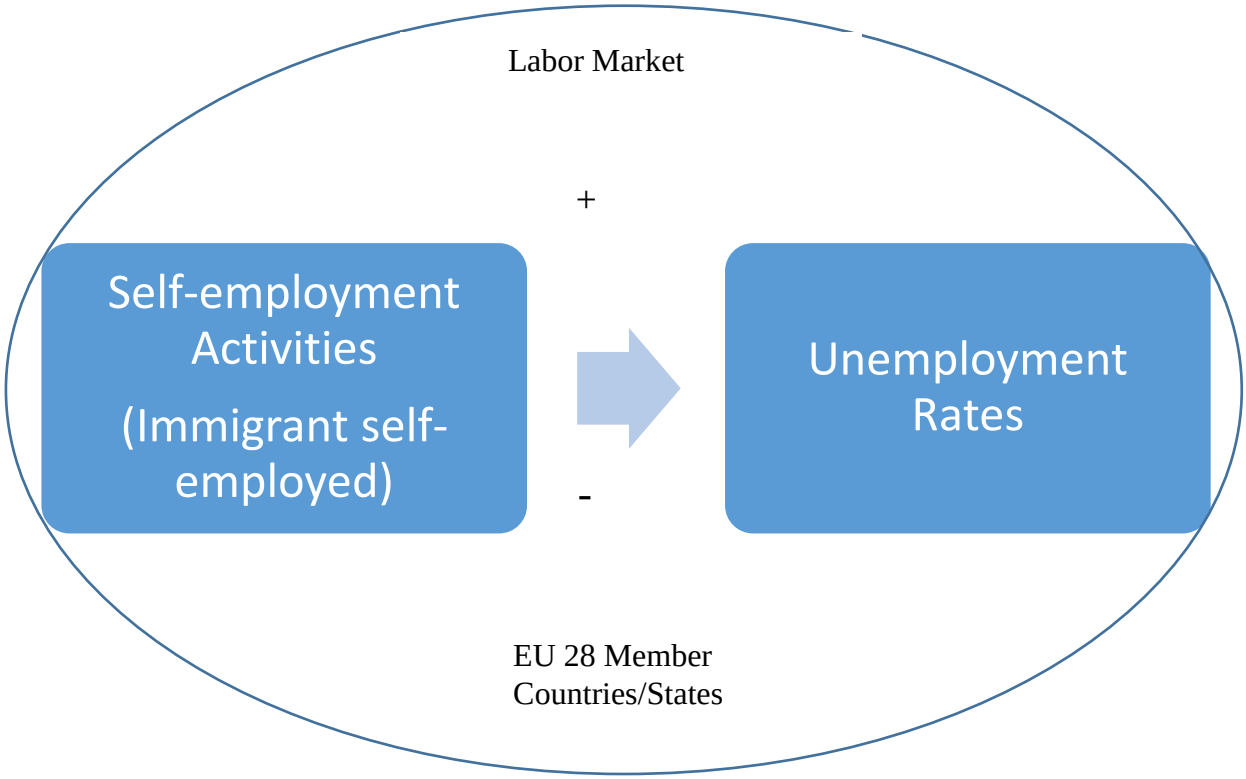
2.1.6.4 Minimum Wage

A rise in the minimum wage, have been emperically proven to have significant effect on the possibility of being unemployed but decreases with a rising wage distribution (Heckman and Pages, 2004). That is, the rise in the minimum wage reduces employment, therefore, increasing unemployment as employers cut down opportunities for people to be employed especially for the low-skilled labor population (Card and Krueger, 1993, Neumark and Wascher, 2007)

2.2 Conceptual Framework: Summary of Literature Reviewed

From the literature, a growing number of immigrants are entering into the self-employment sector in the labor market of their host countries as they are argued to have higher self-employment rates than the natives. However, as they participate in the labor market through self-employment, one of the impacts they create is influencing the unemployment rate of the labor force. Their self-employment activities either influence the unemployment rate in a positive or negative way, either amongst the immigrant or the native-born labor force; this serves as the basis of the study. The relationship will, therefore, be tested for on the labor market of the EU 28 member countries.

Figure 2 Conceptual Frame work of the Study



Source: Author, 2017

Chapter 3: Research Design and Methods

This chapter introduces the stages that the researcher undertakes towards reaching the aim of the study. It entails the research strategy (base on the research objective), methods and techniques that will be employed in the collection and analysis of the required data on the impact of immigrant self-employment on unemployment based on indicators identified in the previous chapter.

3.1 Revised Research Question(s)

After the theoretical review of the concepts in chapter two (2) and a look into the available datasets, the provisional research questions were revised and changed. The broad meaning of labor market drives the researcher to be more specific and hence, chose unemployment as a subset of the labor market, making the research question more realistic and measurable.

Overall Research Question

- How does self-employment impact on unemployment within the EU28 member countries?

Specific Research Questions

- What is the nature of the relationship between self-employment and unemployment?
- Do self-employed immigrants reduce the rate of unemployment than the native-born self-employed?

3.1.1 Research Objective, Strategy, and Methodology

3.1.1.1 Research Objective

The research objective is explanatory as it seeks to explain the impact of self-employment on unemployment and explores the effect of immigrant self-employment on unemployment in EU 28 member countries.

3.1.1.2 Research strategy

This study is a quantitative research which seeks to explain and test the influence that immigrant self-employment activities has on unemployment in the EU 28 member countries. Therefore this study requires the use of a desk research strategy as it seeks to use and analyze existing secondary data on relatively small variables (self-employment and unemployment) with a large number of units (EU 28 member state) over a nine (9) year period (2007-2015).

3.1.1.2 Research Methodology

With regards to the research methodology, this study involves a secondary analysis of existing quantitative data collected on the subject of study.

3.1.2 Sample Size and Selection

This study is a country-level study which analyses the self-employed labor force and the unemployment rates of the twenty-eight (28) European countries also known as the EU 28 member states. The sample size was chosen because of the availability of wide range of data sources like Eurostat and UN data with up-to-date data on unemployment and self-employment (amongst groups of immigrants and native-born) and other variables controlled for.

3.1.3 Data Collection Methods

Two types of data were required for reaching the purpose of the study. These data include data on immigrants and native-born self-employment and data on unemployment for EU 28 member countries. The data for this study was collected from professional, renowned sources such Eurostat, ILOSTAT, World Development Indicators (World Bank) and UN population division; they have existing statistical database with the required information for the study. Data for each variable were combined in one database and analyzed to meet the required needs of the study. Indicators for the operationalization session was acquired from Eurostat and World Development Indicators of the World Bank.

Eurostat has country-level panel data on all EU countries concerning socioeconomic variables like population, migration, labor market and poverty which are annually generated through surveys. With regards to the labor market, data on self-employment for both foreign and native-born and unemployment was available for different time periods (2007 - 2016). It was, however, the only database that could provide up to date data on foreign-born self-employment that could be used in finding out the influence that self-employed immigrants and natives has on the unemployment rate over the period 2007-2015 in EU 28 countries. Data on unemployment rates and the control variables were provided for by World Development Indicators, ILOSTAT, and UN population division.

3.1.4 Operationalisation: Variables, Indicators

The variables defined below are based on the main concepts identified from the research question, theory and the conceptual framework of the study. The indicators are however selected on the basis of the variables used in the conceptual framework. In operationalizing these variables, the variables have been classified as the independent and dependent variables; also represented as the dependent Y-variable and the independent X-variable with their associated level of measurement.

3.1.4.1 Description of the Variables

Immigrant self-employment is the X-variable or the independent variable which is needed for explaining the dependent variable Y, which is the unemployment rate. The X variable consists of two variables, immigrant, and self-employment. For the purpose of operationalization, these variables were treated differently together with the Y-variable, unemployment.

3.1.4.2 Independent variable

Immigrant: An immigrant is (are) a person(s) who settles permanently in another country which is not his or her own country of origin (Canadian Council for Refugees, 2010, Dalhammar, 2004). However, the datasets of Eurostat defines immigrant as persons who

established their usual residence in another country than the one they were born in, within an expected maximum period of 12 months. They are further categorized as first and second generation immigrant; the first generation is mostly immigrants who are foreign-born whiles the second generation are either native-born with mixed background (one native-born parent and one foreign-born parent) or native-born with foreign background (born in the host country but all parents are foreign-born). Unfortunately, data on the various categories of immigrants were not available as panel data, however, data on the immigrant's background specifically their stock and educational levels were available and collected from Eurostat and the United Nations population division.

Self-employment activities: Self-employment activities here has been operationalised as the number individuals who have their own businesses that either employ the help of others (employers) or work for themselves alone (own-account workers) without requiring the help of others (Le, 1999, Storey, 1991). It is measured as the number of self-employed persons as a proportion of the employed and or the labor force. Like Thurik, Carree, et al. (2008) the number of self-employed is an appropriate representation or proxy of self-employment activities and its data is available for most countries which make it easy to compare across countries and over different time periods. The self-employed data includes the self-employed from the category of employers and own account workers. Its sample size consists of both foreign and native born self-employed in the EU 28 member countries; the data was collected from the official site of Eurostat.

3.1.4.3 Dependent variable

Unemployment (ILO definition): this study will use the definition of unemployment by the International Labour Organisation (ILO) which defines it as individuals who are not working, are presently available for work, and enthusiastically looking for work (International Labour Organization, 1982). This variable is measured by the unemployment rate in the 28 European Union member countries, that is the number of unemployed persons as a percentage of the labor force. Data on the unemployment rate of the study sample was solicited from the World Development Indicators for the period 2007 to 2015. Other variables controlled for was GDP, Inflation, minimum wage and educational attainment all measured at a country level.

Table 1 Operationalisation for Independent Variable

No.	Concept	Variables	Indicators	Scale of Measurement	Source
1.	Immigration	Immigrant	- Population foreign-born, total gender	Ratio	UN population
			- Population foreign-born, male	"	
			- Population foreign-born, female	"	
			- Foreign-born educational level, less	"	

			than primary and lower secondary 15-64years - Foreign-born educational level, upper secondary, post-secondary, non-tertiary 15-64years - Foreign-born educational level, tertiary 15-64years	 “ “	EUROSTAT

	Concept	Variables	Indicators	Scale of Measurement	Source
2.	Self-employment	Self-employed	- Number of total self-employed persons	Continuous	EUROSTAT
			- Number of female self-employed female	Continuous	
			- Number of male self-employed	Continuous	
			- Number of self-employed foreign-born	“	
			- Number of self-employed native-born	“	
			- Number of self-employed with employees	“	
			- Number of self-employed without employees	“	

Source: Author, 2017

Table 2 Operationalisation for dependent variable

No.	Concept	Variables	Indicators	Scale of Measurement	Source
3.	Unemployment	Unemployment rate	- Unemployment, total (% of total labor force)	Ratio	EUROSTAT

Source: Author, 2017

Table 3 Operationalisation for control variables

No.	Variables	Indicators	Scale of Measurement	Source
4.	GDP	Growth rate (annual %)	Ratio	ILOSTAT
5.	Educational attainment	- Population educational level, less than primary and lower secondary 15-64years - Population educational level, upper secondary, post-secondary, non-tertiary 15-64years - Population educational level, tertiary 15-64years	Ratio Ratio Ratio	EUROSTAT
6.	Minimum wage	Minimum monthly gross earnings	Ratio	ILOSTAT
7.	Inflation	Consumer price index	Ratio	World Development Indicators

Source: Author, 2017

3.1.5 Data Analysis and Techniques

This study is a quantitative research and therefore requires an analysis of a quantitative data. The data collected for the study was processed, cleaned and tested for any errors. Errors identified were corrected as such with the help of the computer programs Excel and Stata (Van Thiel, 2014). These computer programs were also used in analysing the raw data in order to arrive at the needed results for the study. This study also took advantage of two main research techniques namely, the descriptive and inferential statistical techniques in analyzing the quantitative data on self-employment (immigrant and native-born) and unemployment. It further aided in addressing the two specific research questions.

3.1.5.1 Descriptive Analysis

The technique at this stage presented a description of the characteristics of the sample used for the analysis. Descriptive statistics was the technique used to perform this task as it organized, summarized, and presented the raw data in a more suitable and visually informative manner; through the use of tables and graphical presentations (bar charts) of the mean, standard deviation, and the minimum and maximum data values of the variables in the model with the help of software programmes Excel and Stata.

3.1.5.2 Inferential Analysis

The purpose of this technique is to explain the relationship between the dependent (y) variable (unemployment rate) and the independent (x) variable (self-employment activities). It also estimated for the causal relationship of the dependent variable unemployment rate on the independent variable self-employment. In this way the hypothesis which states that an increase in self-employment activities reduces subsequent unemployment rate was answered. Here, the outcome of the relationship was estimated between the predicted variable unemployment rate and the predictor self-employment activities (includes the immigrant and native self-employed). The statistical software used in this stage was Stata; this software estimated the relationship between the variables whiles checking for possible errors. Besides that, it allowed for comparison of various models in order to settle on the most appropriate one needed for the estimations. These models are the Fixed and Random Effect Models, Hausman test, VIF, Dickey-Fuller Unit Root Test, Panel Vector Autoregression Model and the Granger Causality test.

This section also addressed the following specific research questions and hypothesis:

a) What is the nature of the relationship between self-employment and unemployment rate?

b) Do self-employed immigrants reduce the rate of unemployment than the native-born self-employed?

c) H_1: An increase in self-employment activity reduces subsequent unemployment.

i. The fixed-effect model

The fixed effects model explored the relationship between the explanatory variable (self-employment activities (general self-employment, and immigrant and native self-employment) and an outcome variable (unemployment rate) within EU 28 countries. Each country is assumed to have distinct time-invariant features that could influence the explanatory variable and outcome variable, therefore causing a bias in their estimated relationship. The model, therefore, removes the effects of the unobserved time-invariant features so that the remaining effect of the explanatory variable self-employment can be evaluated. It is explained by the following equation:

$$\boldsymbol{Yit = \beta 1Xit + \alpha i + uit}$$

- Where Y is the dependent variable (unemployment rate), Xit is the independent or explanatory variable (self-employment), for country i at time t, β denotes the coefficient for the explanatory variable, αi ($i=1…n$) signifies the unidentified intercept for each country whiles uit, is the error term.

ii. Random Effect Model

Contrary to the fixed effect model, the random-effects model allows for the true effect sizes to vary as it assumes that there is a possibility that all variables included in the study share a mutual effect size, but these effect size could differ from one study to the other due to the characteristics of the population under study. The effect size of the study is random and

uncorrelated with other variables in the model. Hence, its goal is to estimate the mean effects of all the effects distributed in the studies.

The equation for random effect analysis is:

$$Yit = \beta Xit + \alpha + uit + \varepsilon it$$

- Where εit depicts within-country error and uit, between country error

iii. Hausman test

In an effort to arrive at a suitable model for estimating the relationships, a Hausman test was performed to help choose between the two models by testing their assumptions (comparing both estimators). The null hypothesis of the Hausman test assumes that the preferred model is the random effect if the differences in their coefficient are not systematic, whiles the alternative hypothesis (Ha) preferred the fixed effect model (the differences in the coefficient is consistent). However, after running the test, the result suggested the fixed effect as the right model for the regression analysis; since the p-value had a significant result of 0.0000 which is less than 0.05, there leading to the rejection of the null hypothesis (Ho) (see table 4).

Table 4 Hausman Test for Fixed and Random Effect Model

	(b) Fixed	(B) Random	(b-B) Difference	Sqrt (diag(V_b-V_B))
Total self-employment	-.015247	-.0010807	-.0141663	.0025189
GDP growth rate	-.1700974	.0236145	. 0236145	
Consumer price index	.1028835	-.0345775	-.0345775	.026367
Minimum monthly gross earnings	-.0001163	-.0000692	-.0000692	.0000496
Population < primary/lower secondary	-.3110013	-.2611423	-.2611423	.1363585
Population with tertiary education	.0365562	-.0956399	-.0956399	.1630621

b = consistent under Ho and Ha; obtained from xtreg; B = inconsistent under Ha, efficient under Ho; obtained from xtreg; Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 55.49

Prob>chi2 = 0.0000 (V_b-V_B is not positive definite)

Source: Author, 2017 based on Hausmant Test

iv. Variance Inflation Factor (VIF)

After the Hausman test was performed, an assumption test was conducted in order to correct for any multicollinearity among the explanatory variables in the regression analysis using the Variance Inflation Factor (VIF). When the VIF is more than ten (10), there is a case of multicollinearity of variables in the model which has inflated the variance of the coefficient of the regression. In other words, there might be a correlation among the independent and control variables which can affect the results of the regression. The results of the test (see table 5 below) showed that there was no case of multicollinearity on the model chosen.

Table 5 VIF Test for Multicollinearity

Variable	VIF	1/VIF
Population with tertiary education	1.21	0.828120
Consumer price index	1.13	0.885077
Population < primary/lower secondary	1.08	0.927250
Minimum monthly gross earnings	1.07	0.935188
Total self-employed	1.04	0.965076
GDP growth rate	1.01	0.988106
Mean VIF	1.09	

Source: Author, 2017

vi. Panel Vector Auto-Regression Model

In order to treat for endogeneity and explain the relationship and causal direction between the two variables, the option of estimating a Panel Vector Autoregression (VAR) model was also employed since it is one of the most appropriate models in econometrics for dealing with endogenous variables. Panel VAR treats all variables in the model as endogenous and interdependent, in this case, unemployment rate and the number of self-employed.

A Vector Auto-Regression system comprises of a set of *m* variables (endogenous), each expressing itself as a linear function of *p* lags of itself and of all of the other $m - 1$ or endogenous variables, and an error term. This depicts that a vector of the dependent unemployment rate is described by one or more lags of itself and of the independent self-employment (general and categories (foreign and native-born).

The equation is as follows:

$$Y_t = \beta_{y0} + \beta_{yy1}\, Y_{t-1} + \ldots + \beta_{yyp}\, Y_{t-p} + \beta_{yx1}\, X_{t-1} + \ldots + \beta_{yxp}\, X_{t-p} + V^y\, t$$

$$X_t = \beta_{x0} + \beta_{xy1}\, Y_{t-1} + \ldots + \beta_{xyp}\, Y_{t-p} + \beta_{xx1}\, X_{t-1} + \ldots + \beta_{xxp}\, X_{t-p} + V^x\, t$$

- Where β_{xyp} is the coefficient of *y* in the equation of *x* at *lag p*
- *V* is the error term or innovation term which represent the parts of *yt* and *xt* that are not associated with the past values of the (two) variables; hence cannot be predicted.

For the initial stage in panel VAR analysis, we verify whether both series (unemployment rate and the number of self-employed) are stationary using the ***Augmented Dickey-Fuller test.*** This approach test whether there are unit roots existing in the time series of the model. The null hypothesis assumes that there is a unit root (no stationarity) whiles the alternative hypothesis believe there is stationarity. In checking for unit roots, five (5) lagged differences of each series were included in the test to remove any serial correlation in the error term of the DF regression. In each of the cases, the null hypothesis was rejected because the results revealed that the statistical tests had more negatives than the critical values even at 1% (critical value) and the p-values in both cases are significant at 0.0012 for self-employment and 0.0000 for unemployment rate respectively (refer to table 6 and 7). It can, therefore, be concluded that a VAR analysis can be made on the two series without testing for stationarity of their first differences.

Table 6 Dickey Fuller Unit Root Test for self-employment at lag(5)

Augmented Dickey-Fuller test for unit root			Number of observations = **246**	
	Test Statistic	**1% Critical Value**	**5% Critical Value**	**10% Critical Value**
Z(t)	-4.054	-3.461	-2.880	2.570
MacKinnon approximate p-value for Z(t) = 0.0012				

Source: Author, 2017

Table 7 Dickey Fuller Unit Root Test for Unemployment Rate at lag(5)

Augmented Dickey-Fuller test for unit root			Number of observations = **246**	
	Test Statistic	**1% Critical Value**	**5% Critical Value**	**10% Critical Value**
Z(t)	**-5.254**	-3.461	-2.880	2.570
MacKinnon approximate **p-value for Z(t) = 0.0000**				

Source: Author, 2017, base on Panel VAR Analysis

However, to estimate vector auto-regression, an assessment of the optimal lag length would be required using lags of four (4) for both the dependent and independent variable. All regressions resulting in the numbers in the table were run for a sample beginning in 2008, which is the earliest year or date for which 4 lags are available. From the table below, the optimal lag length (indicated by asterisks in table 8 below) is two (2) as the criteria Akaike Information Criterion (AIC) and Schwartz-Bayesian Information Criterion (SBIC) and Hannan Quinn Criterion (HQIC) are in agreement (shown by the asterisk on lag 2) of the lag length.

Table 8 Selection Order Criteria

Sample: **5 - 252** Number of observations = **248**

Lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-2872.41				4.0e+07	23.1807	23.1921	23.2091
1	-2532.12	680.58	4	0.000	2.7e+06	20.4687	20.5029	20.5537
2	-2513.28	37.675*	4	0.000	2.4e+06*	20.3491*	20.4061*	20.4907*
3	-2511.85	2.8588	4	0.582	2.4e+06	20.3698	20.4496	20.5681
4	-2510.15	3.4076	4	0.492	2.5e+06	20.3883	20.491	20.6433

Source: Author, 2017 base on Panel VAR Analysis

vii. Granger causality

The technique Granger causality analysis estimated the directions of causality between x-variable, self-employment and y-variable, unemployment rate. It tested whether past values of self-employment (*x*) aided in predicting the current value of the unemployment rate (*yt*), conditional on having already considered the effects on the current value of the unemployment rate (*yt*) with past values of itself. If they do meet all conditions then, self-employment is said to Granger cause *y* ($x \Rightarrow y$); that is, a change in *xt* causes a change in *yt*.

Table 9 Overview of Data Analysis Methods

Specific Research Question(s)/Hypotheses	Data Source	Analysis Type	Method	Tool/ Software	Expected Result(s)
- What is the nature of the relationship between self-employment and unemployment rate? • Do self-employed immigrants reduce the rate of unemployment than the native-born self-employed?	**Eurostat** **WDI** **ILOSTAT**	Descriptive & Inferential Statistics	Fixed and Random Effect Analysis (univariant) Panel Vector Auto-regression model Granger Causality Test	Excel & STATA	Estimate the relationship (and direction of causality) between self-employment (immigrant and native-born) and unemployment

Source: Author, 2015

3.1.6 Reflection on Validity and Reliability

The quantitative data used for the analysis was obtained from reliable sources from official and professional sites and therefore guaranteeing the reliability of the data. Variables, indicators (used based on that of international organisations and Eurostat) and the methodology used in this research are consistent with scientific research.

Chapter 4: Research Findings

With almost 23 million people unemployed and another 91million inactive in the labor market of Europe within the second quarter of 2015, "promoting entrepreneurship and self-employment has become high on the agenda of European, national and regional policymakers because it is believed to have a strong potential to create jobs, strengthen the EU's innovation capacity and give unemployed and disadvantaged people an opportunity to fully participate in society and the economy" (European Commission, 2016 pg 41). Self-employment is also considered to play a very important role in the social mobility of immigrants as they face disadvantages in their host countries (Raijman, 2001). This chapter, therefore, aims to confirm or contradict the beliefs that self-employment could potentially create jobs thereby reducing the unemployment rates; as well as explore the likelihood that immigrants who participate in the self-employment sector could also contribute to decreasing unemployment rates in their EU 28 host countries.

4.1 Descriptive Statistics

This section describes the sample in the model that was used for the data analysis. The data, as shown in Table 10 consist of sample data on the unemployment rate and the total number of self-employed between the ages of 15 to 64 years - which is further categorized into the foreign and native-born self-employed, self-employed with and without employees- in the twenty-eight (28) European Union member countries. Other variables controlled for in the model are consumer price index (inflation), minimum monthly gross earnings and educational levels (population with less than primary and lower secondary and tertiary education). Data in the model span from the year 2007 to 2015 (9yrs). A total number of two hundred and fifty-two (252) observations were made, however, in some instances, there were lesser observations due to missing the values of some variables on the part of the data sources. The most relevant variables for the analysis are the unemployment rate which is the dependent variable in the study and the independent variable, self-employment (including that of the immigrant and native as well). Summary data on the maximum and minimum values of these variables are represented in bar charts ten (1) to eight (8).

Table 10 Description of Data

Variable	Obs	Mean	Std. Dev.	Min	Max
Unemployment rate	252	9.351587	4.541868	3.4	27.5
Total self-employed (15-64 yrs)	252	1098.989	1379.625	12.4	5275.5
Foreign-born Self-employed (15-64yrs)	210	74.40191	118.2156	.6	477
Foreign-born Self-employed with employees (15-64 yrs)	178	22.48427	34.92067	.4	167.4
Foreign-born Self-employed without employees (15-64 yrs)	196	58.93265	92.03103	.5	411.4
Native-born Self-employed (15-64 yrs)	252	1036.397	1285.941	7.6	5064.4

Native-born Self-employed with employees (15-64 yrs)	252	309.3306	421.0992	3.4	1603.1
Native-born Self-employed without employees (15-64 yrs)	252	727.0663	910.4701	4	3581.5
GDP annual growth rate	252	.980105	3.814049	-14.81416	11.08695
Consumer price index	252	102.1904	5.883684	82.77167	114.8862
Minimum monthly gross earnings	196	5094.262	17684.4	172.34	105000
Population<primary and lower secondary education	252	28.58016	12.31128	12.4	71.4
Population with tertiary education	252	23.88492	7.240436	9.9	39.6

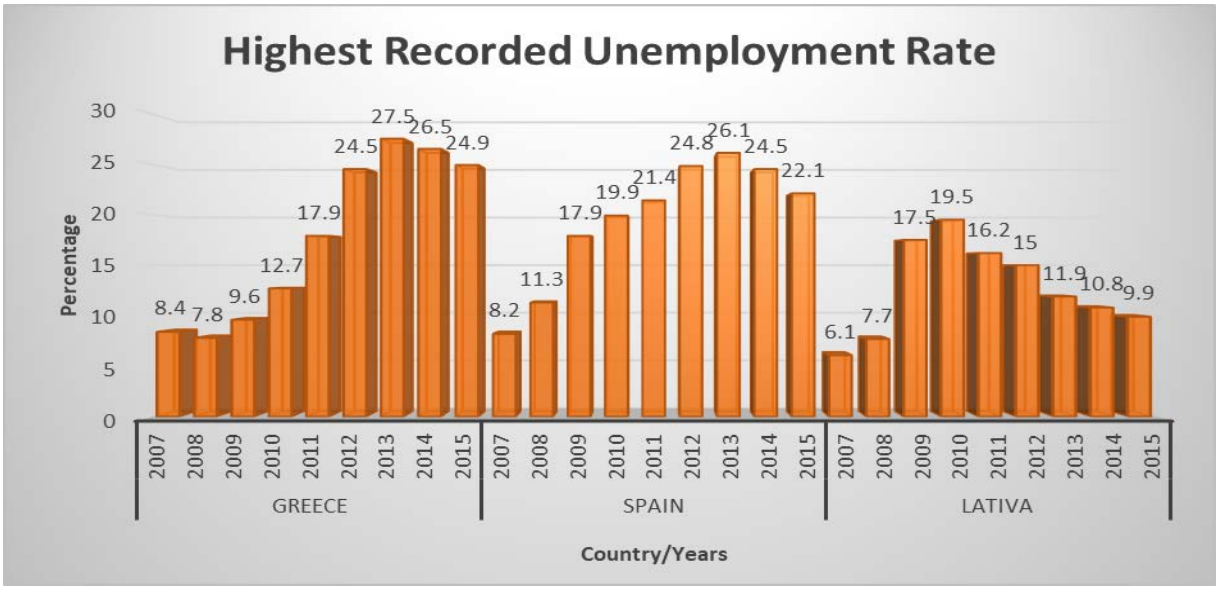
Source: Author, 2017

4.1.1 Minimum and Maximum Values Recorded on Unemployment Rate and Self-employment in EU 28 Member States

Unemployment

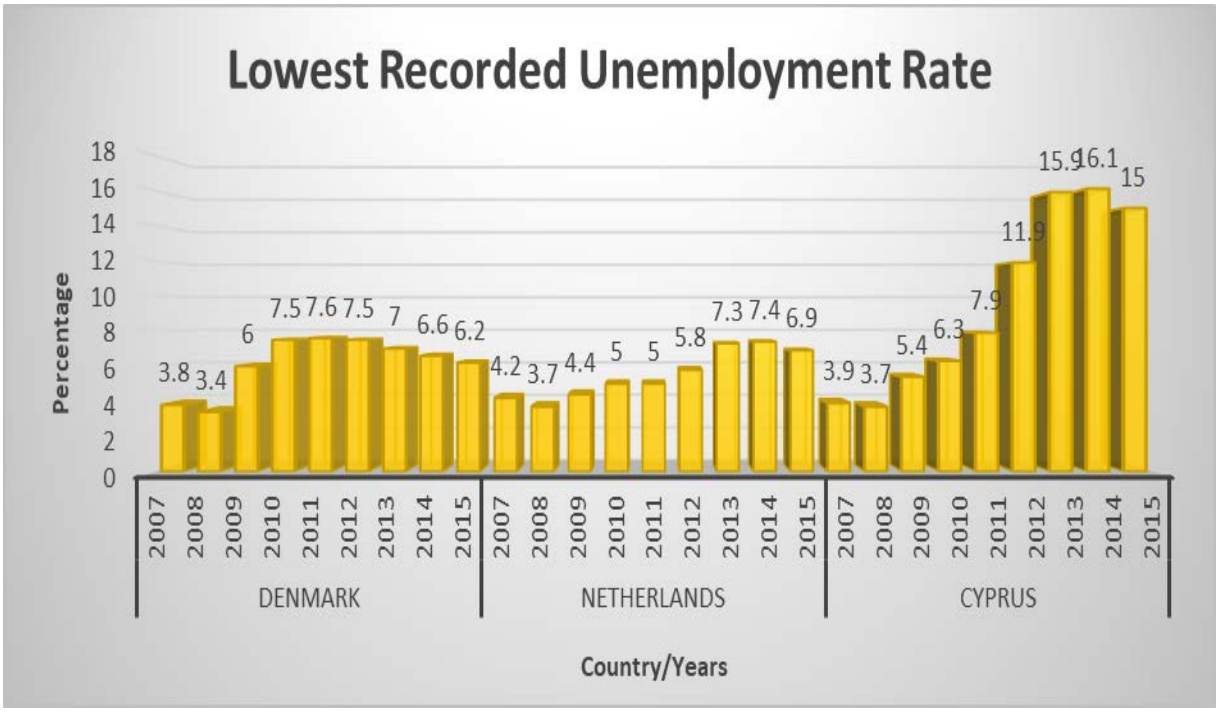
From the observations in table 10 and on charts 1 and 2, **Greece** recorded the **highest unemployment rate at 27.5%** in 2013. Greece unemployment rate has been increasing significantly since 2009 (*with a rate as low as 9.6% in 2009 to 27.5% in 2013*), however in 2014 and 2015 the rate reduced to 26.5% and 24.9% respectively. The second highest unemployment rate in EU 28 was also recorded in 2013 in Spain with a percentage of 26.1% whiles Lativa followed with a 19.5% rate in 2010. Like Greece, Spain's unemployment rate has been rising drastically from 8.2% in 2007 to 26.1% in 2013 but declined in the subsequent years under study. Lativa on the other hand experienced a growing unemployment rate from as low as 6.1% in 2007 to 19.5% in 2010, but the rate enormously dropped to 9.9% by the end of 2015. On the contrary, **Denmark** had the **lowest reported unemployment rate at 3.4%** in 2008 for EU 28 countries, but the rate kept fluctuating in the subsequent years. Netherlands came second as the country with the lowest unemployment rate at 3.7% recorded in 2008 but the rate suddenly increased to 7.4% by 2010 yet reduced to 6.9% in 2015. The third country with the lowest recorded unemployment rate is Cyprus which had the same rate as the Netherlands, which is 3.7% also in 2008. Cyprus unemployment rate was unstable as it gradually rose to 16.1% in 2014 (*see chart 2 below*).

Chart 1 Highest Recorded Unemployment Rates in EU 28 Member States



Source: Author, 2017 Based on Eurostat

Chart 2 Lowest Recorded Unemployment Rates in EU 28 Member States



Source: Author, 2017 Based on Eurostat

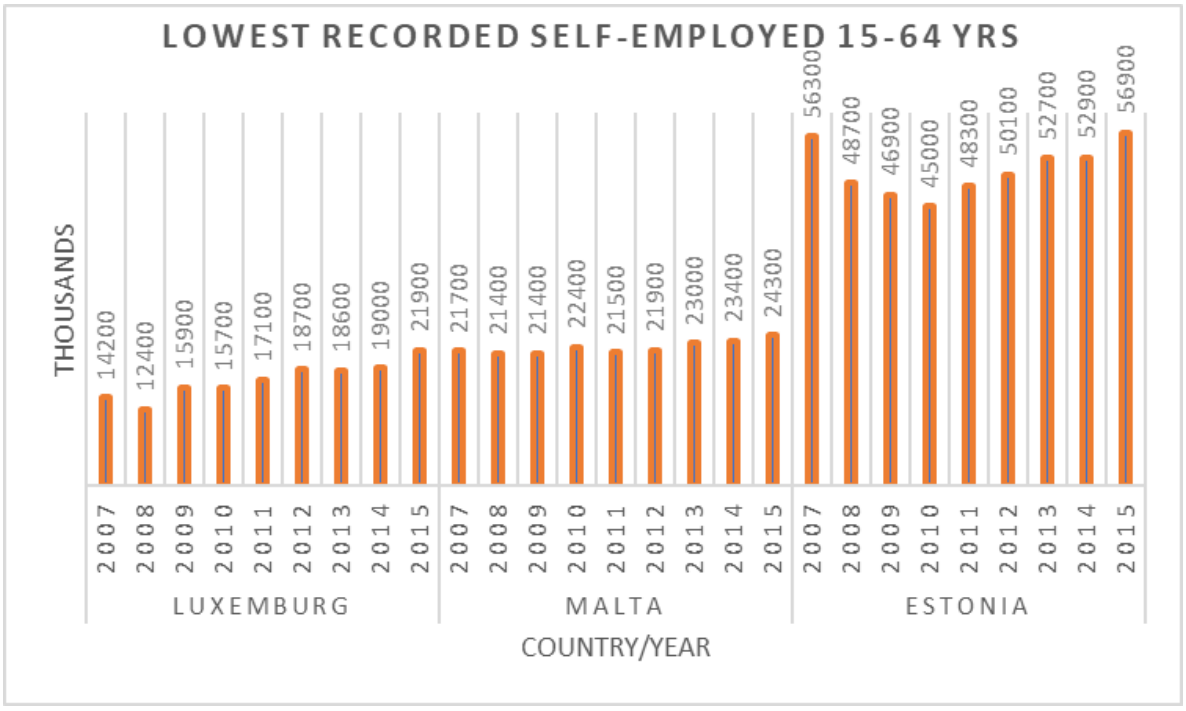
Self-employment

For reports on self-employment, **Italy** performed well with **five million, two hundred and seventy-five thousand, five hundred (5275500)** as the country with the **highest reported number of self-employed** persons in EU 28 in the period 2007 (*refer to table 4.1 and chart 3*). These numbers slightly reduced to four million, eight hundred and thirty-five thousand, six hundred (4835600) at the end of the year 2015 (*refer to chart 3*). The United Kingdom and Germany had the second and third highest reported number of self-employment with four million, one hundred and thirty thousand, eight hundred (4130800) and four million, three thousand and seven hundred (4003700) respectively, in the same year (2010). **Luxemburg**, on the other hand, had the **least number of self-employed in EU 28** at **twelve thousand, four hundred (12400)** in 2008 (*also refer to table 4.1 and chart 4*). Nevertheless, these numbers kept rising from fifteen thousand, nine hundred (15900) in 2009 to twenty-one thousand, nine hundred (21900) in 2015. Malta was the second country with the least number of self-employed persons which is twenty-one thousand, four hundred (21400) both in the periods 2008 and 2009 (*refer to chart 4*).

Chart 3 Highest Recorded Self-employment Rates in EU 28 Member States

Source: Author, 2017 Based on Eurostat

Chart 4 Lowest Self-employment Rates in EU 28 Member States

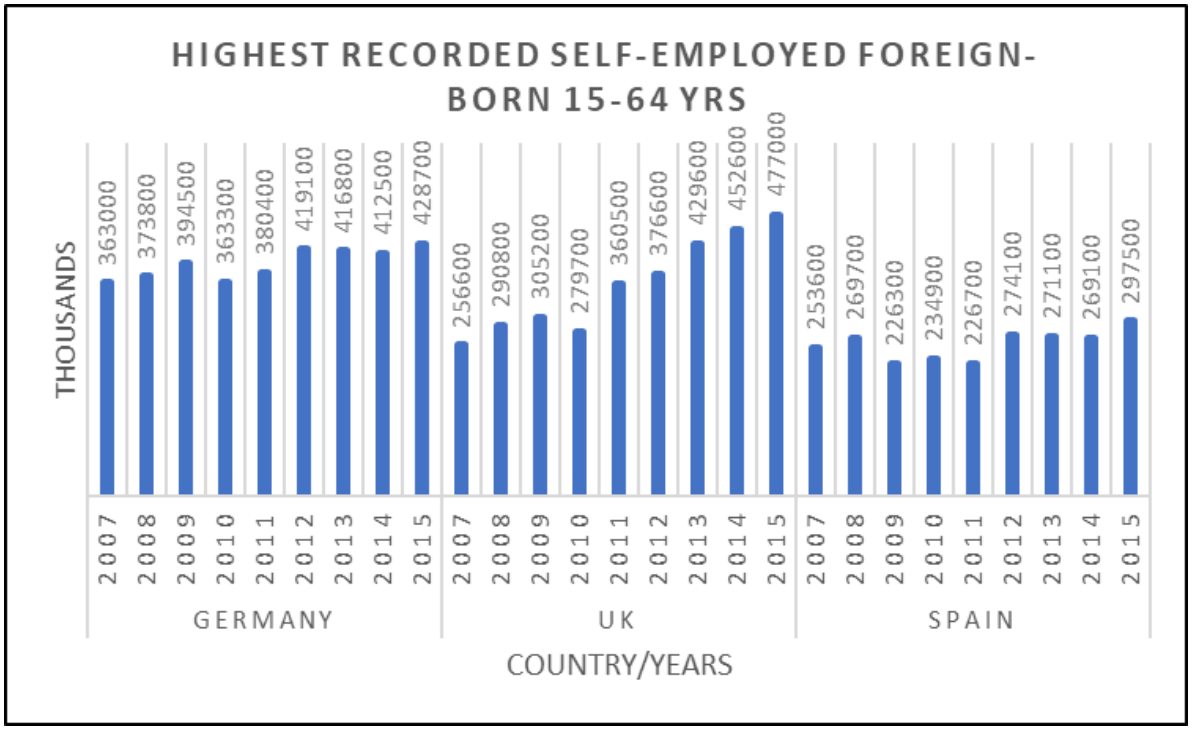


Source: Author, 2017 Based on Eurostat

Immigrants and Natives Self-employed

Self-employed immigrants in the **UK** only recorded **four hundred and seventy-seven thousand (477000)** as the **highest number of self-employed** in EU28 within the year 2015. Before then, UK had as low as two hundred and fifty-six thousand, six hundred shares of the foreign-born self-employed till it gradually improved in 2015 (*refer to table 4.1 and chart 5*). Germany being the country with the second highest number of foreign-born self-employed began with three hundred and forty-six thousand, one hundred (346100) foreign-born self-employed in 2007 but had a significant growth of four hundred and two thousand, seven hundred (402700) in 2015. Spain, following third, also had a very unstable growth in the share of the foreign-born self-employed in all years, however by 2015, it had rose from two hundred and forty-three thousand, four hundred (243400) in 2007 to two hundred and eighty thousand, two hundred (280200) in 2015.

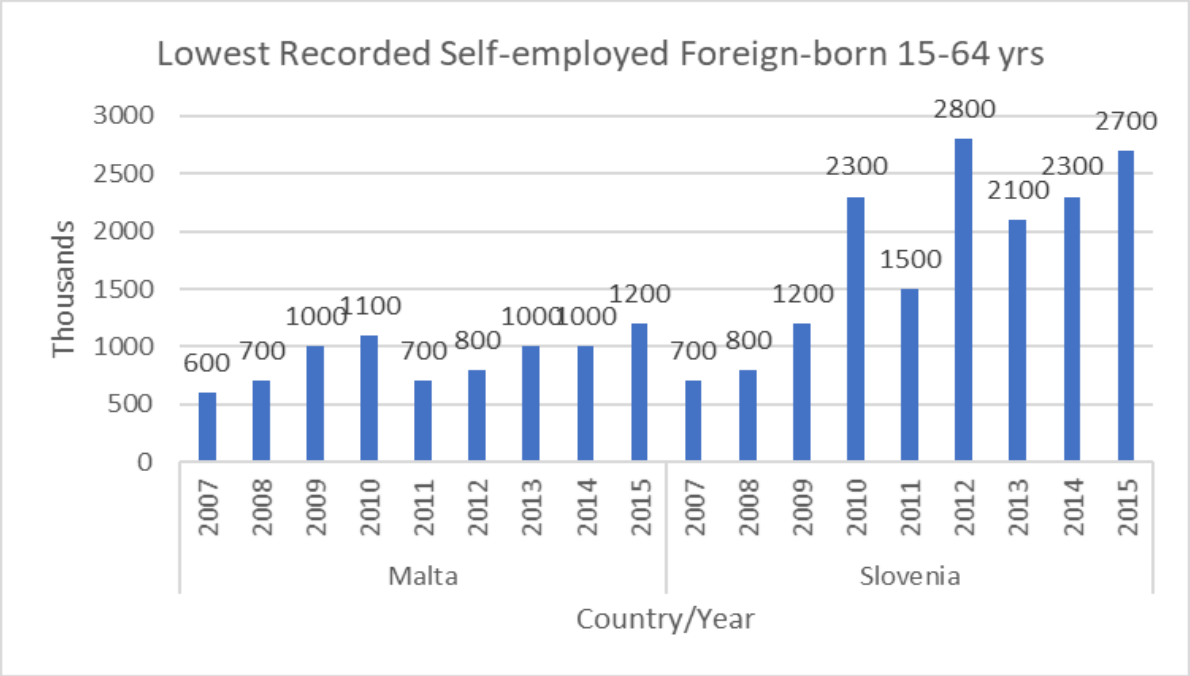
Chart 5 Highest Recorded Foreign-Born Self-employment in EU 28 Member States



Source: Author, 2017 Based on Eurostat

According to Table 4.1 and chart 6, **Malta** had the **least share of the foreign-born self-employed** in EU 28 as they reported a total number of **six hundred (600)** in 2007. However, the number which gradually improved in the ensuing years finally recorded a slow increase of one thousand and two hundred (1200) after eight years (2015). None the less, Slovenia had seven hundred (700) foreign-born in the self-employment sector in 2007 but progressively made an increase of two thousand, seven hundred (2700) in 2015.

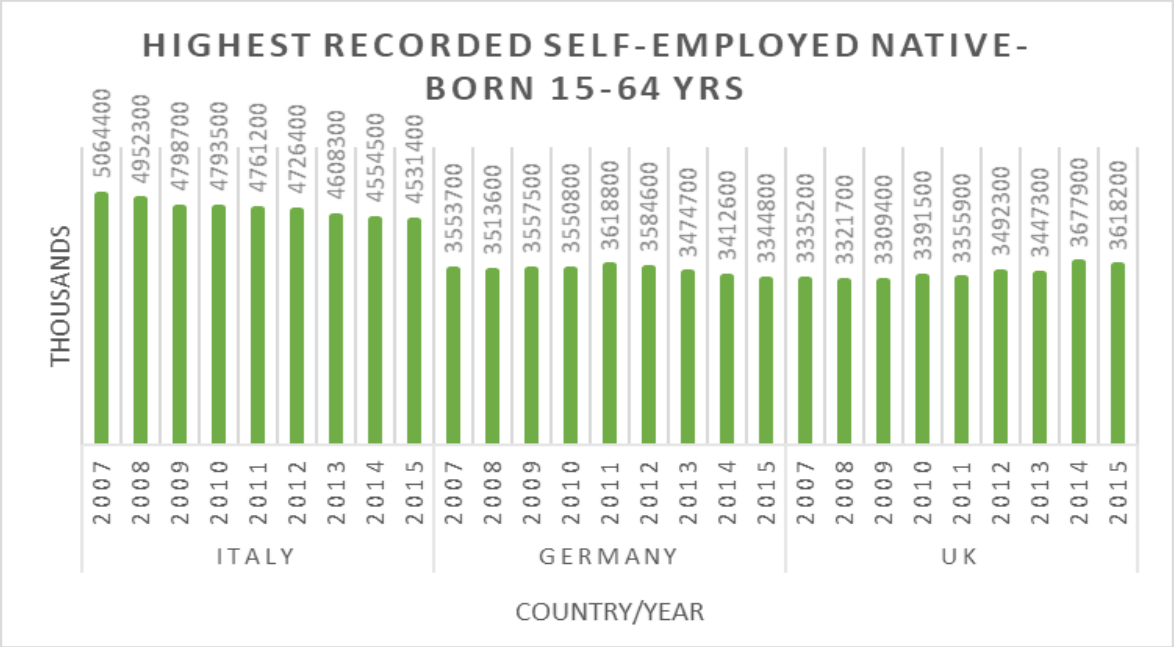
Chart 6 Lowest Recorded Foreign -Born Self-employment in EU 28 Member States



Source: Author, 2017 Based on Eurostat

Again, Italy, Germany, and the UK undoubtedly marked the **highest number of native self-employed** amongst all the EU 28 member countries. **Italy** which is the first highest, reported **five million, sixty-four thousand, four hundred (5064400)** native-born self-employed. The number of native-born however kept decreasing over the years. By 2015, the number had reduced significantly to four million, five hundred and thirty-one thousand, four hundred (4531400). Italy also reported a total number of three million, six hundred and seventy-seven thousand, nine hundred (3677900) as the second highest number of native-born self-employed in EU 28 member states in 2014 after gradually increasing from three million, three hundred and thirty-five thousand, two hundred (3335200) in 2007. Germany also followed up with three million, six hundred and eighteen thousand, eight hundred (3618800) as the third highest number of native-born self-employed in EU 28 member states in 2011; the number, however, fluctuated in the following years. Although Germany recorded one of the highest numbers of native-born self-employed it also recorded the highest for the foreign-born as previously mentioned.

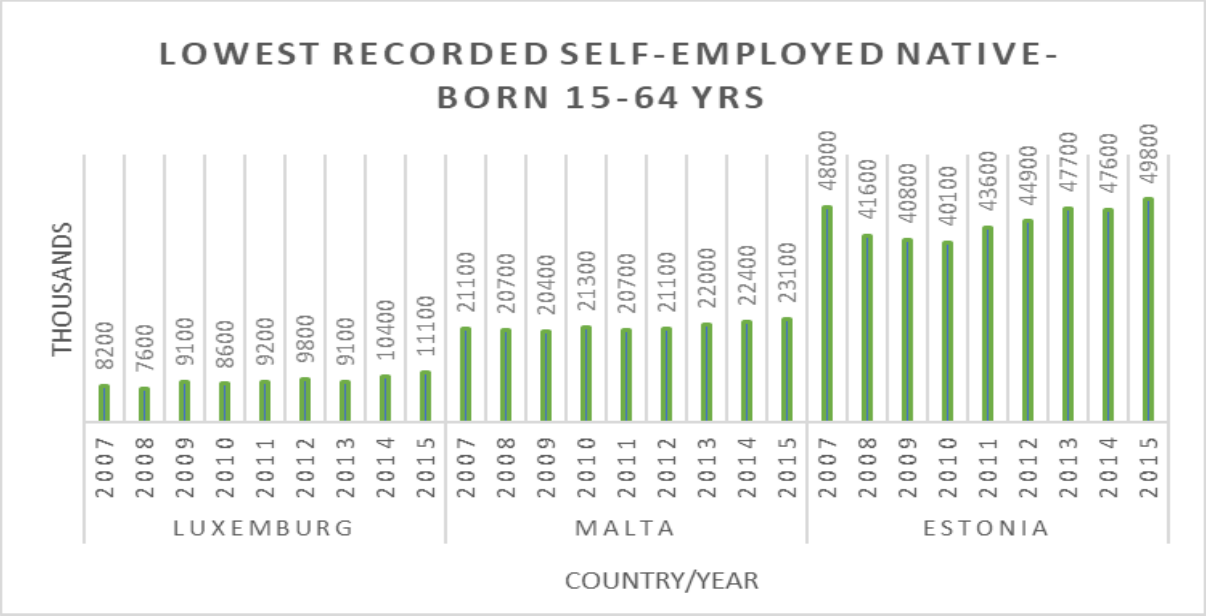
Chart 7 Highest Recorded Native-Born Self-employment in EU 28 Member States



Source: Author, 2017 Based on Eurostat

The **lowest number of the native-born self-employed** was however identified in Luxemburg, Malta, and Estonia. **Luxemburg** had its lowest number at **seven thousand, six hundred (7600) native-born self-employed in 2008** (*refer to table 4.1 and chart 8*). The pattern, however, kept growing at a slower pace, recording eleven thousand, one hundred (11100) in 2015. For Malta, a total number of twenty thousand, four hundred (20400) was reported as the second lowest number of native-born self-employed in 2009 whiles Estonia had its lowest number at forty thousand, one hundred in 2010.

Chart 8 Lowest Recorded Native-Born Self-employment in EU 28 Member States



Source: Author, 2017 Based on Eurostat

4.2 Inferential statistics

- What is the nature of the relationship between self-employment and unemployment?
- Hypothesis: An increase in self-employment activity reduces subsequent unemployment

In order to estimate the relationship between self-employment activities and the unemployment rate in EU 28 as well as test the working hypotheses of the study, a fixed effect regression was performed[1]. The model consists of the dependent and independent variables unemployment rate and the number of self-employed within the above-mentioned context. Other variables controlled for and included in the model are the GDP growth rate, consumer price index, minimum monthly earnings, population with less than primary and lower secondary education and the population with tertiary education attained.

4.2.1 Results of the Fixed Effect Regression Analysis

In order of importance, the findings of the analysis conducted (*as shown in table 11*) using the fixed effect regression model revealed a negative relationship between unemployment rate and the number of self-employed in EU 28 member states. This statistically means that, for every one unit rise in the number of self-employed persons, the unemployment rate is expected to fall by 1.52% whiles holding all other variables constant. **Hence, confirming the working hypothesis**.

[1] Panel VAR was also estimated for the hypothesis (*see Annex 2 for the results*)

Findings from the regression on the control variables also showed a negative relationship between unemployment rate and the GDP growth rate of EU 28 member countries. It is rational to say that a fast growing economy leads to better employment situations than a failed economy. Going back to the results, having attained less than lower primary and upper secondary education surprisingly turned out having a negative relationship with the unemployment rate. This depicts that when the population with less than primary and lower secondary education increases by one unit, unemployment rate reduces by 31.1% which is normally not the case. In addition, the unemployment rate had a relatively positive relationship with consumer price index (in other words the inflation); depicting that a growth in the consumer price index or the living expenses of consumers will also increase unemployment rates. Finally, unemployment also had a negative significant relationship with the minimum monthly gross earnings representing that when minimum monthly gross earnings increases, the unemployment rate is likely to reduce.

Table 11 Results of the Fixed Effect Analysis on the Relationship between Self-employment Activities and Unemployment Rate

VARIABLES	(1) Unemployment rate
Total self-employment	-0.0152***
	(0.00261)
GDP growth rate annual	-0.170***
	(0.0516)
Consumer price index	0.103*
	(0.0556)
Minimum monthly gross earnings	-0.000116*
	(6.46e-05)
Population< primary/lower secondary Edu.	-0.311**
	(0.149)
Population with tertiary education	0.0366
	(0.192)
Constant	22.93***
	(8.013)
Observations	196
Number of newid	23
R-squared	0.410

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Author, 2017 based on Eurostat, WDI and UN data

4.3 Results of the Relationship Between Foreign and Native-Born Self-employed and the Unemployment Rate

A. Do self-employed immigrants influence the rate of unemployment than the native-born self-employed?

The immigrant self-employed are of great interest just as much as the reasons why the native-born self-employed are. The self-employment sector is seen as a source of employment for immigrants who have their own businesses and new immigrants who just arrived in the host country. Hence, a fixed effect analysis was also used to explore the relationship between foreign and native-born self-employment (aged 15-64 years) and the unemployment rate. With some missing values from some countries (maximum eight countries) the outcome of the fixed effect analysis (*as shown in table 12*) showed that **unemployment rate had no significant relationship with foreign-born self-employment**. Therefore, an increase in the number of foreign-born self-employment activities in EU 28 member countries is not likely to reduce the unemployment rate. However, an increase in the **native-born self-employment activities is more likely to cause a fall in the unemployment rate by 2.29%**; as the unemployment rate had a very significant negative relationship with the native-born self-employed whiles holding other variables constant.

Table 12 Results of the Relationship Between Foreign and Native-Born Self-employed and the Unemployment Rate

VARIABLES	(1) Unemployment rate
Self-employed Foreign-born (15-64yrs)	0.0190
	(0.0134)
Self-employed Native-born (15-64yrs)	-0.0229***
	(0.00364)
GDP growth rate	-0.188***
	(0.0634)
Consumer price index	0.120
	(0.0787)
Minimum monthly gross earnings	-0.000117*
	(7.01e-05)
Population < primary and lower secondary Edu.	-0.129
	(0.167)
Population with tertiary education (15-64yrs)	0.103
	(0.223)
Constant	21.71**
	(10.31)
Observations	154
Number of newid	20
R-squared	0.448

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Author, 2017 based on Eurostat, WDI and UN data

4.4 Fixed Effect Regression on the Relationship Between Foreign and Native-Born Self-employed Employers, Own Account Workers and Unemployment Rate

Fixed effect regression was also conducted to estimate the relationship between unemployment rate and foreign and native-born self-employed employers. The results from the regression **estimated a negative relationship between both the foreign and native-born self-employed employers**. This means that an increase in both the foreign-born and native-born self-employed employers will reduce the unemployment rates by 23.5% and 5.42% respectively in EU 28 member countries (*refer to table 13*). That is, foreign-born self-employed who hire the help of others can significantly influence the unemployment rate at a higher percentage than native-born self-employed employers.

Table 13 Results of Fixed Effect Regression on the Relationship Between Foreign and Native-Born Self-employed Employers and the Unemployment Rate

VARIABLES	(1) Unemployment rate
Foreign-born employers (15-64yrs)	-0.235***
	(0.0733)
Native-born employers (15-64yrs)	-0.0542***
	(0.00757)
GDP growth rate annual	-0.194***
	(0.0649)
Consumer price index	-0.0102
	(0.0847)
Minimum monthly gross earnings	4.58e-05
	(9.65e-05)
Population < primary and lower secondary Edu.	-0.377
	(0.234)
Population with tertiary Edu. (15-64yrs)	-0.0133
	(0.258)
Constant	42.84***
	(12.79)
Observations	127
Number of newid	18
R-squared	0.561

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author, 2017 Based on Fixed Effect Analysis

4.4.1 Fixed Effect Regression on the Relationship Between Foreign and Native-Born Own Account workers and the Unemployment Rate

From the results of the fixed effect regression in table 14 below, there no significant relationship between foreign-born own account workers and the unemployment rate. Hence, it is evident that **foreign-born own account workers are not expected to reduce the unemployment rate in EU 28 member countries**. The native-born own account workers, on the contrary, had a positive significant relationship with the unemployment rate, therefore there is a probability that a rise in the number of the native-born own account workers will decrease the unemployment rate by 1.5%.

Table 14 Results for Relationship Between Foreign and Native-Born Own Account workers and the Unemployment Rate

VARIABLES	(1) Unemployment rate
Foreign-born own account (15-64yrs)	0.0110
	(0.0205)
Native-born own account (15-64yrs)	-0.0155***
	(0.00560)
GDP growth rate annual	-0.214***
	(0.0740)
Consumer price index	0.181*
	(0.0967)
Minimum monthly gross earnings	-0.00787***
	(0.00245)
Population < primary and lower secondary Edu.	-0.138
	(0.209)
Population with tertiary Edu. (15-64yrs)	0.348
	(0.286)
Constant	13.23
	(12.50)
Observations	140
Number of newid	20
R-squared	0.362

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author, 2017 Based on Fixed Effect Analysis

Chapter 5: Conclusions and recommendations

5.1 Introduction

With almost 23 million people unemployed and another 91million inactive in the labor market of Europe within the second quarter of 2015, "promoting entrepreneurship and self-employment has become high on the agenda of European, national and regional policymakers because it is believed to have a strong potential to create jobs, strengthen the EU's innovation capacity and give unemployed and disadvantaged people an opportunity to fully participate in society and the economy" (European Commission, 2016 pg 41). Policymakers and researchers, therefore, trust that self-employment is a solution to unemployment and poverty (Bogan and Darity, 2008). Self-employment has also become an important topic in immigration studies. It is an important avenue for the immigrant's social mobility as they face disadvantages in their host countries (Raijman, 2001). Hence, it has a very important role to play in the immigrant's adjustment and integration process in the host countries, making it worth studying (Le, 1999).

5.2 Review of Research Objective

The objective of this study is to to explain the impact of self-employment on unemployment and explores the effect of immigrant self-employment on unemployment in EU 28 member countries. This is to create a picture of why and how immigrants are increasingly choosing the self-employment sector and also explore the possibility of them influencing the labor market of EU 28 countries by creating possible employment opportunities for the unemployed; thereby causing a positive impact on the unemployment rate (reducing the unemployment rate) of their host countries. For this reason, the study seeks to first find out the nature of the relationship between self-employment and unemployment rate in EU 28 countries and; explore whether self-employed immigrants also influence the rate of unemployment than the native-born self-employed. The study also tests the entrepreneurial effect hypothesis which states that "an increase in self-employment activity reduces subsequent unemployment rates".

5.3 Conclusions and Discussions

Research Question 1 and Hypotheses

- What is the nature of the relationship between self-employment and unemployment rate in EU 28 member countries
- Hypotheses: An increase in self-employment activity reduces subsequent unemployment rates.

As mentioned earlier in chapter three in order to estimate the relationship between self-employment and unemployment rate, three main research statistical analytical tools namely the Fixed Effect Model and the Panel Vector Autoregression Model and or Granger causality test was employed for the analysis. However, the main findings from the analysis in chapter four was based on the fixed effect model. The result of the analysis showed self-employment had a strong negative significant relationship with unemployment; meaning, every time the number of self-employment activities increases in any EU 28 member country, their unemployment rate reduces. This perception is theoretically known as the "entrepreneurial effect" or

"prosperity pull" hypothesis. Generally, it is expected that an indirect job is created by successful entrepreneurs and or self-employed persons for other persons who are also unemployed (Congregado, Golpe, et al., 2010). These start-up firms, most likely hire employees which might consequently reduce the unemployment rates in subsequent years (Thurik, Carree, et al., 2008).

These findings confirms that of Blanchflower (2000) in OECD countries who used a panel data which showed more evidence that supports a negative relationship between self-employment rate and the unemployment rate in most countries depending on the definitions used to describe self-employment in the study. Ozerkek and Dogruel (2015) research on Turkey in the period 1970-2013 using self-employment rate and unemployment rate data (annual data) from OECD also confirmed an entrepreneurial effect over the given period. With the help of the stata model vector auto-regression, for a panel data of 23 OECD countries within the period 1974-2002, Thurik, Carree, et al. (2008) were able to evaluate the changes in both unemployment and self-employment. The result revealed that the existing relationship between the two variables interchangeably, were both negative and positive. Self-employment hence is a possible solution to unemployment and an escape from poverty (Bogan and Darity, 2008).

Research Question 2

- Do self-employed immigrants influence the rate of unemployment than the native-born self-employed?

There are fewer literature on the potentiality of self-employed immigrants creating job opportunities in their host countries. However, this study explored the odds to this phenomena by posing the question above. From the results of the analysis in chapter four, it was realised that immigrant self-employed had a negative but insignificant relationship on unemployment in EU 28 countries compared to the natives who had a negative significant relationship with the unemployment rate. That is, the native-born self-employed has more chance in reducing the unemployment rates than immigrants in EU 28 countries. This confirms the notion of immigrants being the minority in the labor markets of their host countries. Immigrants might not have a significant number of businesses that could hire other unemployed persons as they go through more difficulties when starting up their own businesses than natives do. These problems include attaining startup capital and understanding the laws and regulations associated with starting up a new business (Blanchflower, Levine, et al., 2003). Their inability to speak the host country's language might also deter and restrict their self-employment (Bates, 1999).

Again, self-employed immigrants normally enter the sector out of necessity due to the discriminations in the labor market of their host countries. Necessity entrepreneurs mostly do not last in self-employment unlike opportunity entrepreneurs (Block and Sandner, 2009). Hence it will not be surprising if immigrants firms are less successful and grow slowly at the start-up stage (Neuman, 2016b). It is when the length of business increases that immigrants consider employing the help of others, therefore, firm life cycles are relevant when studying its impact on unemployment (Neuman, 2016b).

Contrary to this findings, immigrant employers (self-employed) are more likely to reduce the unemployment rate in their EU 28 host countries than immigrant own account workers. That is, self-employed immigrants who employ one or two persons in running their firms or businesses create employment opportunities for themselves and other unemployed immigrants or persons; in their effort to do this, they contribute to reducing the unemployment rate (Yuengert, 1995). Mostly, self-employed immigrants with increasing lengthy years of business experience are likely to employ additional persons to their firms (Neuman, 2016b). Regardless of this, native-born self-employed employers and own account workers, were found to be more likely to reduce the unemployment mainly because, in this case they possess majority of numbers in the self-employed sector than immigrants in EU 28.

To conclude, self-employment evidently from the findings of this study is a way out of poverty as it is a substitute or alternative to unemployment in EU 28 member countries; since the result confirms that changes in self-employment activities could possibly reduce the unemployment situations in these countries. Self-employment has also become a refuge for some immigrants because of the discrimination they continue to face on the labor markets of their host countries. Notwithstanding this, it is believed that immigrant self-employed or entrepreneurs could make better impacts on the employment situations in their host countries although it was found out that they were not likely to do so in the context of EU 28. Notwithstanding this results, immigrant employers (self-employed) were found to be more than likely to reduce the unemployment rate than the own account workers.

5.4 Further Knowledge Preposition

Further researchers on the possibility of self-employed immigrants creating jobs must be looked into. Due to the constraint of data, certain variables and indicators such as the characteristics of the self-employed immigrants which includes their race and immigrant type (first and second generation immigrants), and their business cycle could not be added. Researchers who intend building on this study could, therefore, include these variables in their future studies. They can again consider using ratio as their level of measurement for the self-employed instead of continuous values in order to give a more accurate estimation on the panel VAR regression of their analysis. In addition, there is a possibility for a significant long-run causal effect between the variables if the lag years were more than the one used for the panel VAR analysis. This is because new start-ups mostly require more time to grow for their impact to be felt. Unfortunately for this study, the existing database had a nine (9) year period of up-to-date data on the variables from the period 2007 to 2015. Finally, the relationship between self-employment and unemployment can also be well estimated with the system GMM estimator.

5.4 Recommendation

Self-employment is viewed as an engine for socio-economic growth of countries. It can be a solution to the unemployment situations in most countries only if better incentives and opportunities are made available for the self-employed and all other persons interested starting up their own businesses. Like the native-born self-employed, self-employed immigrants are also capable of contributing to the reduction of the unemployment rates in their host countries (especially those who are employers) only if the governments in the various countries could expose them to a conducive environment that enables them to operate smoothly and make the self-employment sector more attractive and sustainable.

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Annex 1: List of EU 28 Member States/Countries

No	Country	No	Country
1	Austria	**15**	Italy
2	Belgium	**16**	Latvia
3	Bulgaria	**17**	Lithuania
4	Croatia	**18**	Luxembourg
5	Republic of Cyprus	**19**	Malta
6	Czech Republic	**20**	Netherlands
7	Denmark	**21**	Poland
8	Estonia	**22**	Portugal
9	Finland	**23**	Romania
10	France	**24**	Slovakia
11	Germany	**25**	Slovenia
12	Greece	**26**	Spain
13	Hungary	**27**	Sweden
14	Ireland	**28**	UK

Annex 2: Results from Panel VAR

Results from Vector Auto-Regression Analysis of the Causal Relationship Between Self employment and Unemployment Rate

The VAR regressions was run on all twenty-eight (28) countries using the two variables (unemployment and Self-employment) starting at the earliest possible date with two lags (as confirmed by the three model selection criteria AIC, HQIC and SBIC in table 3.8) , which is 2009 since the first available observation was 2007. From the results of the regression, self-employment had a negative but no significant relationship with unemployment rate as its p-value was 0.217 which was more than 0.05. Table 5.1 and 5.2 shows the p-value and level of significance as indicated in yellow and red in that order; as mentioned earlier none of the variables had a significant causal relationship with each other.

Vector autoregression

Sample: 3 - 252 Number of obs =250
Log likelihood = -2724.746 AIC = 21.84596
FPE = 1.05e+07 HQIC = 21.87998
Det(Sigma_ml) = 1.00e+07 SBIC = 21.93048

Equation	Parms	RMSE	R-sq	chi2	P>chi2
unemploymentrate	3	3.79349	0.3071	110.8126	0
totalse_1564eu~t	3	845.505	0.6297	425.1237	0

	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
Unemployment rate						
Unemployment rate L2.	.55031	.052596	10.46	0.0000	.447226	.6533966
Self-employment L2.	.00012	.000176	0.67	0.500	-.0002264	0.0004639
_cons	4.1004	.572325	7.16	0.0000	2.978662	5.222136
Self-employment						
Unemployment rate L2.	-14.4616	11.72264	-1.23	0.217	8.514401	-37.43752
Self-employment L2.	0.80921	0.039251	20.62	0.0000	0.8861378	0.7322788
_cons	370.211	127.5616	2.9	0.004	120.1944	620.2268

Source: Author, 2017 Based on a Panel Vector Auto Regression

Results from Panel VAR on Causal Linkage Between Self-employment and Unemployment

VARIABLES	(1) Self-employment	(2) Unemployment rate
L2.Self-employment	0.809***	0.000119
	(0.0393)	(0.000176)
L2.Unemployment rate	-14.46	0.550***
	(11.72)	(0.0526)
Constant	370.2***	4.100***
	(127.6)	(0.572)
Observations	250	250

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Author, 2017 Based on a Panel Vector Auto Regression

VAR Granger Causality Wald Test Results

Equation	Excluded	Chi2	df	Prob > Chi2
self-employment	Unemployment rate	1.5219	1	0.217
Total self-employment	All	1.5219	1	0.217
Unemployment rate	self-employment	.4547	1	0.500
Unemployment rate	All	.4547	1	0.500

Source: Author, 2017 Based on Granger Causality Test

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