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INTERNATIONALLY ORIENTATED HIGHER EDUCATION INSTITUTIONS & GRADUATE EMPLOYABILITY

BACHELOR THESIS

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Rosario Martín Sanchis

1st supervisor: Prof. Dr. Hans Vossensteyn

2nd supervisor: Prof. Dr. Ariana Need

3rd supervisor: Renze Kolster, M.Phil

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Abstract

This thesis explores the effect that international universities have on graduate employability. Specifically, the study aim to answer the research question: *To what extent do higher education institutions with a high degree of internationalisation have higher graduate employability as compared to higher education institutions with a lower degree of internationalisation?* In order to accomplish this objective, secondary sources are used. The data needed for this can be found in the global higher education institutions rankings 'U-multirank', 'QS top universities' and 'THE' as well as OECD statistics. These data are used to perform several multiple regression analyses to test the hypothesis "the higher the degree of internationalisation of universities, the higher graduate employability will be". The results provide evidence that international higher education institutions indeed have higher graduate employability than those universities with a lower degree of internationalisation. Yet, the findings also show that having international students is the only factor – out of the four used to conceptualise the degree of internationalisation of universities – which has a statistically significant relationship with graduate employability.

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List of Abbreviations

BIS	Business, Innovation and Skills
ECTS	European Credit Transfer System
EU	European Union
GCED	Global Citizenship Education
GDP	Gross Domestic Product
HE	Higher Education
HEIs	Higher Education Institutions
IMHE	Institutional Management in Higher Education
OECD	Organisation for Economic Co-operation and Development
QS	Quacquarelli Symonds
SMCPC	Social Mobility and Child Poverty Commission
THE	Times Higher Education
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States

Chapter 1: Introduction

This study explores the impact that the internationalisation of higher education has on graduate employability. This is mainly inspired by the increasing influence that globalisation and internationalisation have over organisations since the last thirty years (Harvey, 2001). Within this context, employers have accepted the need for recruiting personnel who are able to engage in international relationships and work effectively with people from a different cultural background (Harvey, 2001; Ledwith, 2001). Similarly, the OECD's Institutional Management in Higher Education, in its '*Approaches to Internationalisation and Their Implications for Strategic Management and Institutional Practice*' report, stated the need of internationalising HE. This was postulated based on five main reasons, namely to: "improve student preparedness; internationalise the curriculum; enhance the international profile of the institution; strengthen research and knowledge production; diversify its faculty and staff" (OECD, 2012, p. 8). The report further provided governmental strategies, in order to promote internationalisation, around four main areas: "steering internationalisation policy; making higher education attractive and internationally competitive; promoting internationalisation within higher education institutions; optimising internationalisation strategies" (OECD, 2012, p. 37). Likewise, the European policy '*European higher education in the world*', has encouraged member states of the European Union to develop internationalisation strategies for higher education in order to contribute to economic growth by ensuring that students are able to meet labour market demands (European Commission, 2013). Specifically, higher education institutions should adopt an international perspective and "actively promote international mobility of students and staff; provide world-class innovative curricula as well as excellence in teaching and research opportunities; and enter into cooperation and strategic partnerships with other HEIs, government institutions, the private sector and civil society around the world" (European Commission, 2013, p. 4). In this regard, several member states have implemented national steering documents which, in general terms, encourage the facilitation of student and academic staff mobility, as well as the engagement in joint degrees-programmes (European Commission, 2015). For instance, the Federal Government and the Länder in Germany have established a common internationalisation strategy, with nine fields of action, in order to promote the internationalisation of HEIs. Likewise, the Spanish Government has developed a strategy consisting of four action plans for that same purpose. Whereas the current national strategy of Belgium (Flemish Community) focuses exclusively on mobility issues. In addition, at the institutional level, nowadays universities have adopted an international orientation by incorporating global and international elements in their curricula and expected graduate outcomes statements (Barrie, 2004; Crossman and Clarke, 2010).

1.1. Statement of the problem

Even though HE is considered as one of the main mechanisms in order to enhance graduate employability, this subject has been addressed only within recent literature. In this concern, Teichler

(2007) reaffirmed the consensus developed at the beginning of the 21st century that "information on the relationships between higher education and the world of work is far from satisfactory", regardless the public interest surrounding the matter (p. 12). Those studies which have explored this topic have tended to focus on the economic role of graduates and the capacity of HEIs to equip them with the necessary competences in order to succeed in the labour market (Scott, 2005; Tomlinson, 2012). In this regard, several policy-makers and researchers have recognised the importance of ensuring that HE programmes include a component of practical work experience within its curricula (Andrews and Higson, 2008; European Commission, 2016; Harvey, 2001). Whereas employers' involvement in degree structures design, to ensure that the skills developed in HEIs actually meet the expectations in the world of work, is also a common recommended strategy in order to boost graduate employability (BIS, 2011; European Commission, 2015; Mason et al., 2009). Likewise, offering specialisation tracks as well as the inclusion of more academic and vocational competences, in consideration to the national and institutional contexts, are also current institutional strategies to enhance graduate employability (Kolster and Westerheijden, 2014).

Despite recognition of the need for an international orientation, it is surprising to realise the scarcity of available scientific research in regard to the connection between internationalisation and graduate employability (Hudzik and Stohl, 2012; Jones, 2013). Rather, previous studies have mainly focussed on the promising impact that student mobility has on employability as the main form for internationalisation of higher education. In this concern, there seems to be an agreement that international students gain, or develop, skills which are valuable for employers (Di Pietro, 2008; Norris and Gillespie, 2009). Likewise, several studies concluded that mobile students more frequently have jobs with international work assignments (Di Pietro, 2015; Wiers-Jenssen, 2013).

1.2. Purpose of the study and research question

This thesis attempts to explore the role of internationally orientated universities in enhancing graduate employability. Hence, this research does not only contributes to the existing literature in terms of determining the relationship between higher education and employability outcomes, but it also investigates whether an international perspective among those institutions actually has the expected favourable outcomes that, *inter alia*, the European Commission (2013) expects. As a result, to accomplish such objective, this study seeks to answer the research question: To what extent do higher education institutions with a high degree of internationalisation have higher graduate employability as compared to higher education institutions with a lower degree of internationalisation? In order to answer this question, this thesis makes use of the following sub-questions:

1) What constitutes an internationally orientated higher education institution?

2) What is graduate employability?

3) Which factors, excluding international universities, can have an effect on graduate employability?

1.3. Scientific and societal relevance

The relevance of this study can be defined in terms of scientific as well as social importance. The scientific significance of this thesis resides in the shortage of literature attempting to investigate the aggregated effects of the internationalisation of universities, beyond student mobility, on graduate employability outcomes. The importance of this topic is even greater if one considers the long trajectory in attempting to internationalise HEIs from the EU. Indeed, over the last 30 years the provision of an international dimension in HE has become central in the European and national agenda (De Wit, 2010). However, the relevance of this topic goes beyond this scientific perspective. Nowadays, not only organisations are highly influenced by the effects of globalisation and internationalisation, but also the society as a whole. As Israel (2012), co-founder of '*The Global Citizens' Initiative*' stated, today there are more and more people who consider themselves as global citizens with a sense of belonging to a global community and hence with its implied responsibility. Even UNESCO, in its '*Global Citizenship Education*' approach, encourages the promotion of developing global citizens, capable of taking an active role to solve and face global challenges while adopting a proactive role in creating a more tolerant and inclusive world (UNESCO, n.d., para. 2). Thus, the promotion of internationally orientated universities transcends employability outcomes. Indeed, there is a need to develop certain skills among students which will equip them with the necessary skills to become '*global citizens*' and effective members of current modern society (Barrie, 2004, p. 262). It is likely that those graduates which have studied in international HEIs, and hence are more prepared to work in an international environment, have also developed the required skills in order to become global citizens. As a result, it seems plausible that global citizenship emanates from being more employable in an international setting.

1.4. Outline of the study

This thesis proceeds as follows: First, the theoretical framework provides a conceptualisation of the term graduate employability, as well as of the internationalisation of HE, followed by a literature review of all the factors which contribute to the relationship between international HEIs and graduate employability. As a result, the next chapter deals with the rise and impact of internationalisation, which encouraged the promotion of international universities. Next, the effects of HE on graduate employability are analysed from a conceptual point of view in order to give way to the role of internationalisation of HE on that same matter. Yet, there are much more factors which are associated with (graduate) employability. Hence, Chapter 2 concludes with the importance of the economic, social and institutional context in determining the possibilities of graduates on the job market. Second, Chapter 3 addresses the methodology used in this thesis. It begins with the research design of this study, followed by the units of analysis, operationalisation of the main variables involved and data analyses methods. Additionally, the strengths and limitations of this thesis are identified. Third, the results obtained by the analyses of data are outlined in Chapter 4. Finally, conclusions are drawn based on those results, which

culminate with the provision of recommendations and a further discussion on the implications, in Chapter 5.

Chapter 2: Theoretical framework

This chapter provides theoretical arguments and empirical evidence from previous studies on internationalisation and graduate employability. This theoretical background is further divided into different sections in an attempt to provide a clear structure to relate this topics. As a result, this chapter first deals with the rise and impact of globalisation and internationalisation, followed by the subsequent promotion of internationally orientated HEIs. Furthermore, the theoretical effects of this type of universities on graduate employability will be discussed, after considering the impact that HE itself has on graduate employability. Moreover, this chapter also deals with the national and institutional contexts and its theoretical effects on employability. Yet, in order to understand why internationalisation of HE is contributing to graduate employability, from a theoretical point of view, it seems essential to first define the latter notion.

2.1. Employability: An intricate concept

The term '*employability*' can be defined in many different ways (Hillage and Pollard 1998; Rothwell and Arnold 2007). In this regard, Dearing (1997) attempted to link this concept with the acquisition of skills which are "key to the future success of graduates whatever they intend to do in later life" (p. 133). Whereas Bowden et al (2000) emphasised that graduates should obtain skills which do not only make them succeed in the labour market, but also contribute in society as responsible citizens. However, this research focusses on employability as "the ability to gain and retain fulfilling work. More comprehensively employability is the capability to move self-sufficiently within the labour market to realise potential through sustainable employment" (Hillage and Pollard, 1998, p. 2). This notion can be seen as a function of the labour market context, with labour supply and demand determining the possibilities of individuals in obtaining an employment at a given time (Forrier and Sels, 2003).

Current literature seems to agree in using graduate employability as a benchmark in assessing HEIs performance (Crossman and Clarke, 2010). However, Harvey (2001) criticised the tendency of viewing graduate employability as an "institutional achievement" rather than individual's likelihood of attaining a job (p. 97). He further argued that yet, several stakeholders benefit from the interest surrounding graduate employability, ranging from the graduates themselves, employers, governments to universities. From the point of view of academics, and especially of the learners, employability is defined as the propensity of students to achieve employment (Harvey and Morey, 2003). Concerning governments' and employers' perspectives, employability means that graduates are prepared to contribute to an economically competitive context (Crossman and Clarke, 2010) through the acquisition of the required skills, knowledge and attitudes (Nikhil Chandra and Pramanik, 2012). As a result, currently most of the degree programmes tend to focus on the attainment of two types of skills: subject specific knowledge skills and transferrable skills, such as the ability to cope with uncertainty and work under pressure (Cassidy 2006; Dacre Pool and Sewell, 2007). Yet, the possession of such skills is not enough in order to obtain a job. The way graduates deploy and signal those skills to employers as well

as the current context – such as personal circumstances or labour market environment – also play a significant role in determining graduate employability (Hillage and Pollard, 1998; Nikhil Chandra and Pramanik, 2012).

2.2. The impact of internationalisation

Even though internationalisation in the context of higher education is not a new term, there has been much debate surrounding its definition for more than twenty years (Knight, 2004). For the purposes of this study, internationalisation "at the national, sector, and institutional levels is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education." (Knight, 2015, p. 2). Linked to this concept is the term globalisation which, in this research, is defined as the flow of technology, values, knowledge, etc., across borders (Marginson, 2000) which affects each country in a different way, depending on its individual traditions, cultures or history (Knight, 2004).

Nowadays, most organisations need to operate in a highly inter-connected world (Harvey, 2001; Stohl 2001). Indeed, there has been a boost of cross-border trade, investments, communications or migration since the end of the Cold War which in turn has fostered the need of engaging in strategic partnerships with investors, customers, suppliers and entrepreneurs with different nationalities (Gupta and House, 2004). In this regard, culture plays an important factor in determining the entrance, administration and expansion of organisations in a particular country and hence, in order to succeed, having an in-depth knowledge of the societal culture seems indispensable nowadays. Likewise, firms must also evaluate whether a strategy that was successful in a country with a particular culture will also work in a different cultural context. As a result, many large organisations expect their employees to set aside their particular culture and be able to accomplish shared goals in an international team (Ledwith and Seymour, 2001; Mir et al. 2006; Mockaitis, 2016), or be willing to travel in the trajectory of their work (Hermans 2007). Yet, working in an international environment can be a challenge, especially if there are great cultural differences among colleagues which might suppose an obstacle for an effective team work (Schneider, 1995; Zimmermann and Sparrow, 2007). Furthermore, many researchers have expressed doubts in terms of how HE students are prepared in order to succeed in the labour market (Gupta and House, 2004; Hoessler et al., 2015; Pudelko et al., 2015). For instance, Mintzberg (2004) emphasised the need of applying significant changes in the curricula of business administration programmes and hence ensure that students are capable of working in a global environment. While other critics have argued that even if the provision of case studies help in the simulation of business environments, it still remains difficult to provide an explanation in terms of culture's influence on such organisational processes (Berrell et al., 2005).

Several scholars have used the term '*cultural intelligence*' in order to provide insights into how international relationships can be most effectively managed (Crossman and Clarke, 2010; Earley et al.,

2006). This concept has been described as the ability to adapt to new and different cultural contexts. In this regard, Thomas and Inkson (2004) have suggested that international experience is "the most important means of increasing cultural intelligence" (p. 71). Therefore, one may assume that universities with a high degree of internationalisation are the optimal context in which students can develop such *'cultural intelligence*' which will enable them to successfully perform in international teams in their future jobs, thus making them more employable.

2.3. The promotion of internationally orientated higher education institutions

Modern universities have a long trajectory in terms of internationalisation (Webb, 2005). They were always considered as playing a fundamental role in providing worthy skills to students to be able to successfully operate in constantly changing contexts. Yet, since the middle of last century, there has been a need to internationalise HEIs in order to react to economic and cultural globalisation factors (Crossman & Clarke, 2010). This was pursued in two different areas. First, universities have embraced mobility and/or exchange programmes among their students (Wiers-Jenssen, 2013). In this regard, Munk (2009) used the notion of '*informational capital*' to explain that when students go abroad, they gain knowledge and intercultural skills which distinguishes them from non-mobile students. Likewise, Papatsiba (2006) stated that (credit) student mobility supports the transfer of skills and technology as well as a more internationally oriented society. Second, in terms of the curricula, there has been a rise in providing international examples and perspectives in the study programmes (Marginson 2000; Stohl 2001). Zimitat (2008), when discussing the importance of the internationalisation of curricula, argued that even if students decide to never leave their home countries, upon graduation they will be forced to compete in an international labour environment. Webb (2005) took this notion even further and stated that "opening the curriculum to internationalisation is about […] finding innovative ways of changing and adapting, to contextualizing local engagement within a wider frame of reference and to understanding the local implications of global phenomena" (p. 110). Hence, it seems essential that all students have the opportunity to know the impact of their studies in a broader global context. Whereas the kind of employability skills that mobile students seem to develop should also be available to other students through the internationalisation of curricula (Jones, 2013).

The development of an international perspective among European universities has been pursued in many different ways. Important in this respect is the Bologna process. The Bologna Declaration was signed in 1999 with the initial objective of reinforcing a "stable, peaceful and democratic society", with an additional emphasis on proving students with the necessary skills in order to deal with the challenges emanating from a knowledge-driven economy (Declaration, 1999, p. 3). A harmonisation of quality assurance systems, as well as a common system of transferrable credits (ECTS) and a common degree structure, were pursued in order to achieve such goals. At the same time, these mechanisms facilitated student mobility, which was considered as one of the most significant strategies for the internationalisation of HE during the 1990s (Wiers-Jenssen, 2013). However, later on, the European

Commission (2013) saw the need of expanding the concept of internationalisation beyond student mobility. Specifically, the European report '*European higher education in the world*' promoted internationalisation of HEIs in three different ways: mobility of students and academic staff; international curricula and learning processes; and strengthening of strategic cooperation between organisations.

There seems to be a debate regarding the actual definition of high international orientation among HEIs and what does it entails (Knight, 2013). Even though there are several universities world rankings available, they follow a different criteria in determining the qualities of a highly international university (Buela-Casal et al., 2007). However, for the purposes of this study, the strategy developed by the European Commission (2013) is taken into account when conceptualising this term. Therefore, HEIs with a high degree of internationalisation are those which facilitate student mobility, attract international students, recruit foreign staff and adapt international curricula.

2.4. The effects of higher education on graduate employability

Before providing a conceptual framework on the effects of internationally orientated HEIs on graduates' opportunities in the labour market, it seems indispensable to first clarify how HE can actually enhance employability. In this regard, there are divergent theories which attempts to provide an explanation. Yet, the majority of studies tend to be based either on the '*human capital theory*' or the '*credentialist theory'*. Indeed, both theories suggest a positive relationship between educational investment and employability, although they are based on different reasons. Proponents of the '*human capital theory*' assert that HE procures students with knowledge, skills and aptitudes for self-direction which are necessary in order to successfully function in their future job (Hunter, 1988). Such skills and competences make them more productive and this is reflected on their salaries. As a result, those with an inferior level of education are fated to remain in the lower labour positions whereas graduates from HEIs will have higher salaries and better working conditions. Indeed, several studies have concluded that the variation in earnings can be partially explained by the distribution of skills and productivity of employees (Green and Riddell, 2003; Nickell, 2004). On the other side, according to the '*credentialist theory*' there is a weak association between formal education credentials and the actual cognitive skills required by employers. As a result, the value of HE depends less on the acquisition of a particular content and more on attaining such educational level with its implied formal credential (Walters, 2004). In this concern, Collins (1979) argued that employers will allocate (better) jobs to highly educated people, not necessarily because they are more skilled or productive, but rather because of their educational credential. For that reason, students are expected to attain such "artificial good" in order to acquire a job position (Collins, 1979, p. 183). Yet, proponents of '*credentialism*' do not assert that education and productivity are unrelated or that HE does not provide graduates with valuable skills. Rather, this theory argues that the association between education and productivity is simply smaller than the correlation between education and compensation (Johnson, 2005). Indeed, the credentialist

theory argues that signals are especially more relevant for those individuals which possess productivity-improving skills which are difficult to be determined by employers (Kjelland, 2008). Under this circumstances, education signals the existence of inherent human capital which reduces the information asymmetries regarding such skills. This is turn diminishes turnover rates while preventing employers from incurring additional training costs. As a result, credentials are used to signal competence towards employers.

This study works under the '*human capital theory*' in order to attempt to provide an explanation on how internationally orientated HEIs can enhance graduates' possibilities on the world of work. This is due to the effects that internationalisation – and globalisation – has on the current labour market by which employees are expected to be able to function in multicultural and international teams. Whereas an international HE provides students with "language skills, cultural skills, and professional skills" (Wiers-Jenssen 2011, p. 31) which enables them to work on such multicultural and international environment (Cai, 2012). Yet, the (possible) credentials effects, rather than been totally discarded, are partially considered in this thesis. The following section deals with the effects of an international experience during HE on graduate employability extensively.

2.5. The effects of an international higher education experience on graduate employability

An international experience during higher education studies is considered as one of the most effective mechanisms in order to enhance graduate employability. This is – from a human capital perspective – due to the promotion of knowledge transfer and the development of graduate skills, required by organisations nowadays, which can be perceived on this type of universities (Crossman and Clarke, 2010; Teichler 2004). The remaining section attempts to provide a theoretical explanation, as well as evidence, on this topic.

The internationalisation of curricula can be pursued in many different ways. Such methods include: foreign language instructions, study abroad programmes or the provision of international examples in programmes' structures. Regardless of the used technique, international curricula should prepare graduates to think globally (Elkin et al., 2008), develop international communication skills (Stier, 2009) and be aware of, as well as respect, cultural diversity (Bennett & Kane, 2011). In this regard, much of the recent literature emphasises the significance of '*intercultural adaptability*', which comprises characteristics such as flexibility, tolerance or openness (Bird 2008). Hermans (2007) stated that organisations search for *'top talents*' who are able to work in international teams. In her view, such talents can be achieved by proving international curricula in higher education. Likewise, Avila (2007) argued that the inclusion of international and cross-cultural subjects in business bachelor's and master's programmes is indispensable in order to obtain "professional success" (p. 408). Whereas Hayward (2000) claimed that most senior universities' administrators in the United States declared that knowledge and understanding of international matters is highly important for undergraduates' future

labour opportunities. In this concern, several researchers argued that internationalisation of curricula is fundamental even for domestic students who are not planning to search a job abroad (Killick, 2008; Zimitat, 2008). This is due to the effects of globalisation on the world of work, at a national and international level (Bennet and Kane, 2011). Furthermore, Di Pietro (2015) suggested that there is evidence which confirms that studying in a foreign language is rewarded in the labour market. Indeed, he concluded that in the US, employees who are bilingual enjoy a 2 to 3 percent premium earning as compared to those workers who are exclusively fluent in their native language. Likewise, Brooks et al. (2012) claimed that those students who participate in joint degree programmes can differentiate themselves from others students in a highly competitive market. Hence, an international curricula in HE studies has a recognised impact on personal and professional development as well as on employability (Cowen 2007; Norris and Gillespie, 2009).

Academic mobility may be viewed as a further educational investment which provides students with additional skills and improves graduates' attractiveness in the labour market. This can be explained in different ways. First, student mobility may give access to better HEIs, in terms of equipment or staff, by which graduates can increase their specific knowledge skills. Second, international mobility also enhances graduates' dominance of a foreign language, which is essential in many professions nowadays. Third, academic mobility may also add to soft skills, such as independence, communication skills or openness to new experiences (Gajderowicz et al., 2012), which are highly valuable in order to succeed in the current labour market conditions. Indeed, there are several studies which have documented the positive effects of academic mobility on graduate employability. For instance, Rodrigues (2012) stated that whereas student mobility does not contribute in finding a job or not, it does has an effect on the nature of the labour position – in terms of internationalisation. Furthermore, Freeman et al. (2009) defined the term '*intercultural competence*' as "a dynamic and interactive self-reflective learning process that transforms attitudes, skills and knowledge for effective and appropriate communication and across cultures" (p. 1). Due to the interest surrounding the promotion of student mobility, nowadays it is possible to find multicultural classrooms. This in turn provides students with an exposure to diverse people and cultures, with different ideas and attitudes. With such exposure students acquire intercultural competences which equip them with the necessary aptitudes to solve problems in different locations, with its respective cultures (Jones, 2013). In this way, graduate employability can be enhanced, especially on those companies which operate across the world.

In general, the literature review seems to coincide that HEIs with a high degree of internationalisation enhances graduate employability. This is due to the acquisition of an international experience, which is highly valuable by employees, from students of these type of universities (Archer and Davison, 2008; Fielden et al., 2007). Such an experience is mainly accomplished either through the internationalisation of curricula – including the promotion of programmes in foreign languages –, highly diverse classrooms or the promulgation of joint degree programmes.

2.6. The importance of the national and institutional context

So far the concept of graduate employability has been viewed in terms of demand and supply in the labour market by which (international) HEIs train students in accordance with the skills required by employers. However, employability cannot be reduced to individuals' predisposition of finding a job due to their skills and competences. On the contrary, the social, economic and institutional contexts also play a role in establishing the likelihood of graduates finding a job.

The economic context, connected with the capitalist forms of production and organisational modes, acts as a facilitator or constrainer of graduate employability (Tomlinson and Holmes, 2016). Indeed, the labour market in each country is subject to different national conditions (Mirowski, 1989) which in turn affects labour demands (Fields, 2004). Even though the '*neoclassical economic view*' considers labour market as any other market for goods, and hence that it readjust itself when there is a disequilibrium (Mirowski, 1989), the reality regarding the persistent high unemployment rates in some countries proves otherwise (Fields, 2004). As a result, there are several conditions for labour shortage, such as national wealth, which have to be taken into account as the national context of HEIs. Moreover, such national variations do not only shape labour opportunities, but also "the specific ways in which HE regulate future job allocation" (Tomlinson and Holmes, 2016, p. 7). For instance, in '*regulated*' labour markets there are more possibilities for '*occupational-specificity*' between what graduates have studied and their labour tasks as compared to more flexible and competitive labour markets. The latter type has an effect on graduates' understanding of their employability as well as how can they exchange and enhance their (knowledge and transferrable) skills.

Graduate employability is also conditioned by the social context, linked to class, ethnicity and, to a smaller extent, gender. Many policies have attempted to shape graduate employability in terms of '*meritocracy*' and the notion that future labour opportunities are based on personal achievements, skills and knowledge, regardless of their socio-economic background. However, even though sociological literature has argued that there is a change regarding the constitutions of social class as well as the differences between and within social groups (Savage, 2015), one can still perceive that HE continues to emphasise social class distinctions. Indeed, especially in liberal economies, social class shapes educational level and its outcomes, "mediating to a large extent the relationship between social origin and economic destinations" (Tomlinson and Holmes, 2016, p. 8). In this regard, the OECD report '*Education at a glance'* claimed that there are still several inequalities in accessing HE and its subsequent labour positions based on individuals' socio-economic background. Likewise, reports written by the '*Social Mobility and Child Poverty Commission*', appointed by the government of the United Kingdom, concluded that access to prestigious universities is linked to higher socio-economic status and ethnicity, complicating such access to lower social classes and hence also to elite professions (SMCPC, 2013). Regarding gender, while there is higher female participation in HE, wage differences still exist between male and female graduates (Stevenson and Clegg, 2012; Tomlinson and Holmes,

2016), even though OECD countries have passed equal pay and equal opportunities laws since the mid-1980's (OECD, 1988). Such gender pay gap can be due to human capital differences as well as specific policies and basic-wage setting institutions, or a combination of all (Blau and Kahn, 2003). For instance, due to the segregation of women by job position, industry and firm, equal pay laws probably have smaller effects on reducing gender salary differences as compared to laws promoting equal opportunities. As a result, those countries which require the latter type of law, such as Australia, have smaller gender pay gap (Gregory and Daly, 1990).

Another key element in determining graduate employability is the institutional context. In this regard, since the last decades there has been a massification of HE which has provided more and diverse graduates while also reshaping the social meaning attached to being a graduate from a HEI. Indeed, while in the past being a university graduate meant an almost immediate acquisition of a job with favourable conditions and a high salary, nowadays due to the massification of HE this is not necessarily the case anymore. Moreover, another effect of having more graduates within a country is what Beck and Beck-Germsheim (2002) called *'individualisation among equals'*. In their view, in order to have higher possibilities of obtaining a job upon graduation, students have to find ways in which they can differentiate from the competition – and one of the possible mechanisms, as this thesis assumes, is enrolling in an international university. Moreover, one may expect that since the percentage of students enrolling in HEIs has increased, these same students will attempt to distinguish themselves by attending more selective universities, with an established '*numerus fixus*' per study programme, in order to become more employable (Dale and Krueger, 2002). For all these reasons the size of HEIs also has to be taken into account when determining graduate employability in order to check for the (possible) effects of the massification of HE.

2.7. Conceptual model and hypotheses

The previous sections have provided the theoretical framework in which this study is based as well as a review of literature. In order to conclude this section, a visual representation of all the theoretical constructs which has been discussed is now displayed as a form of summary in Figure 2.1.

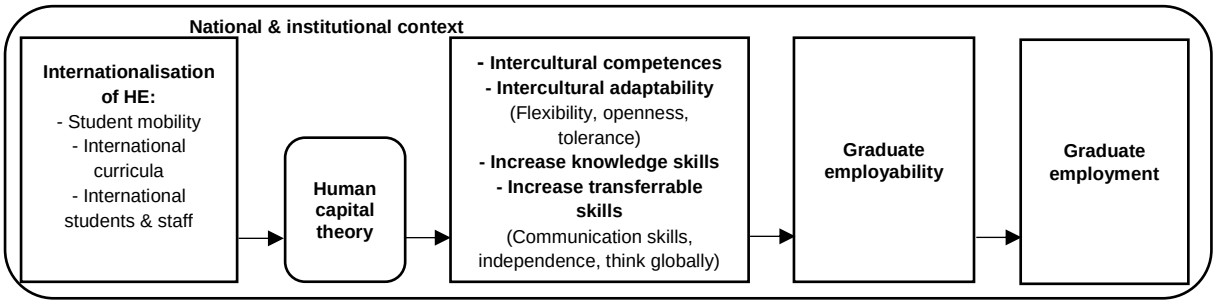

Figure 2.1: Conceptual model

As it can be derived from the conceptual model, this thesis attempts to test the following hypothesis:

H1: The higher the degree of internationalisation of universities, the higher graduate employability will be.

Chapter 3: Methodology

In this chapter the methodology of this thesis is outlined. First, the research design in which this study is based is clarified. This is followed by a description of the units of analysis which are used, the operationalisation of the relevant variables and the data analyses methods in which this study is based. Finally, the strengths and limitations of this thesis are discussed.

3.1. Research design

In this thesis, the hypothesis are tested through a cross-sectional study by which data is collected at a particular moment in time. Specifically, this study applies a secondary data collection methods and hence several datasets are used regarding, on the one side, the international orientation of HEIs and, on the other side, graduate employability among OECD countries. The internal validity of this type of study can be threaten due to the effects of '*omitted variable(s)*' and the '*time order*' of the variables. As a result, in order to control such threats, this study first makes use of datasets in order to collect information in terms of the international orientation of HEIs among those chosen countries. These datasets start on the year 2012 and cover the time span up to the year 2015. There are several reasons which fostered the decision of using a duration of three years. In the first place, this study explores graduate employability outcomes of bachelors' and masters' programmes and hence the time span of internationalisation of universities has to be long enough in order to enable the reach of both types of HE studies. In the second place, at the national level, there are variations concerning the duration of bachelors' and masters' programmes. For instance, while in most European countries bachelor degrees last a media of three years, in the US the average duration of these study programmes is four years. In the third place, there are also differences regarding the duration of HE programmes at the institutional level. Indeed, within a same HEI it is possible to find a variation of the duration of bachelors' and masters' programmes. For example, the duration of a bachelor degree in business studies tend to be shorter than a bachelor degree in engineering. Likewise, one can find masters' programmes with a duration of one or two years within the same university. Hence, all these considerations require a time span of internationalisation of HEIs long enough to cover all the different scenarios. Moreover, this study uses datasets to collect information regarding graduate employability of these HEIs. In order to ensure that these graduates correspond to the set of students that received (or not) a particular set of international and intercultural skills, graduate employability is based on the year 2016. In this way, the independent variable – internationalisation of HEIs – precedes the dependent variable – graduate employability – and hence there is no longer a threat to the '*time order*' assumption. Yet, the spuriousness threat, under this research design, still remains. For that reason the context is also taken into account. Specifically, several datasets provided by OECD reports are used in order to control for the economic and institutional contexts. Such data are based on the year 2016 to ensure that the specific context which might have an immediate effect on graduate employability is taken into account. This

way, the non-spuriousness condition for causal relationships will be controlled to a certain extent, giving to this study higher internal validity.

3.2. Units of analysis

The units of analysis of this thesis are 174 universities within OECD countries. These countries were chosen based on several reasons. First, the OECD's Institutional Management in Higher Education programme has stipulated the need of internationalising HE in many of its reports. Indeed, it has also stated the expected benefits of '*internationalisation at home*', on a national and institutional level, while it has also provided strategies in order to succeed in such internationalisation process. Likewise, the European Commission[1], which participates in the discussion of the OECD's programmes, has also promoted internationalisation of HE, beyond student (credit) mobility, while suggesting internationalisation strategies for its member states. As a result, this study examines, on the one side, the degree of internationalisation of HEIs among OECD countries and, on the other side, the effects of such internationalisation on graduate employability – in other words whether universities have followed the OECD's recommendations regarding their internationalisation and, in such case, the expected (positive) influence on graduate employability. Second, the OECD is currently made up of 35 countries (OECD, n.d.). This enables the possibility of having a considerable number of HEIs as units of analysis in this study, which in turn contributes in the provision of the statistically significance of its results. Third, the OECD has enacted an "Accession Roadmap" which provides a detailed explanation on the terms, conditions and process for each accession discussion (OECD, n.d.). Hence, there are certain requirements in order to become an OECD member which ensures certain uniformity among its membership. As a result, by having the OECD countries as units of analysis it is possible to check the extent of internationalisation of HE among those countries, as well as the expected positive outcomes of international universities on graduate employability, while safeguarding a significance sample size with certain resemblance.

3.3. Operationalisation

The elements which ensure an international orientation of HEIs, the characteristics of graduate employability as well as the national and institutional contexts are operationalised into indicators in order to examine the relationship between these variables.

[1] "In the Supplementary Protocol No. 1 to the Convention on the OECD of 14 December 1960, the signatories to the Convention agreed that the European Commission shall take part in the work of the OECD. European Commission representatives participate alongside Members in discussions on the OECD's work programme, and are involved in the work of the entire Organisation and its different bodies. While the European Commission's participation goes well beyond that of an observer, it does not have the right to vote and does not officially take part in the adoption of legal instruments submitted to the Council for adoption." (OECD, n.d., para. 4).

3.3.1. Operationalisation of graduate employability

This study makes use of secondary data to obtain indicators for graduate employability. Specifically, three different datasets are combined to provide an accurate and detailed operationalisation of the dependent variable of this thesis. These datasets are retrieved from "QS top universities", "U-Multirank" and "THE". The following paragraphs provide a detailed explanation of each database.

The annual world-wide ranking of universities "QS Graduate Employability Rankings 2016" is used in this study. Currently this ranking is made up of 300 HEIs which are classified based on their total score in five different indicators. Yet, this thesis only makes use of four of them. Indeed, the indicator '*Graduate Employment Rate*' is excluded from this study since it already considers the employment rate among each country and, as it has been stated before (see Section 2.5), this study takes into account the national and institutional context when establishing graduate employability among universities. As a result, the first indicator used from this ranking is '*Employer reputation*' which is based on over 37 000 employers' opinion regarding which universities are developing the most skilled and employable graduates. Whereas the second indicator is '*Partnership with Employers & Faculty/Staff*' and it only includes universities which have fulfilled at least three collaborative research papers with distinct global companies as well as those universities which have established an employment-related partnership regarding purposes other than research. Such scores are then adjusted in regard to the number of faculty in each HEIs. '*Alumni outcomes*' is the third indicator used and it considers, based on "21 000 of the most world's most innovative, creative, wealthy, entrepreneurial, and/or philanthropic individuals" (QS, 2016, p. 6), which universities are developing the most successful individuals. The fourth indicator, '*Employer/Student Connections*', involves adding the number of active employers in universities. Such active participation can be accomplished on careers fairs or performing company presentations.

The "Global University Graduate Employability Ranking 2016", published by THE, considers graduate employability from employers' point of view. Specifically, this ranking based graduate employability on several indicators from which multiple questions were formulated and asked to recruiters from top global companies. These indicators are: the definition of graduate employability; predictors of employability and the importance of employability skills; company/university links and countries producing the most employable graduates. As a result, this dataset completes the first indicator of "QS Graduate Employability Rankings 2016" in two different ways. First, employers' point of view is expanded beyond their opinion concerning which universities are producing the most skilled and hence employable graduates. Indeed, the "Global University Graduate Employability Ranking 2016" also asked which graduate skills are the most fundamental or which type of university/company partnership is the most significance in their opinion. Second, one of the disadvantages regarding secondary data collection method is the non-guarantee of the authenticity of the research (Sorensen et al., 1996). For instance, since these datasets were collected through a survey, and hence in an obtrusive way,

respondents could have answered the questions based on their personal interest rather than their actual opinion. For that reason, even though there is a possibility of bias on both datasets, this condition can be partly controlled by using two different sources.

The international ranking "U-multirank" is used in order to provide another indicator of graduate employability. Indeed, '*Graduate unemployment*' is retrieved from this ranking and it is measured as the "percentage of bachelor graduates unemployed 18 months after graduation" as well as the "percentage of master graduates unemployed 18 months after graduation" (U-multirank, n.d.). However, in this thesis both measurements are combined by calculating their mean.

In general, in this study graduate employability is operationalised by using the abovementioned rankings, specifically their indicators. Yet, there are several differences among these rankings regarding their indicators in terms of what do they entail and their importance in assessing graduate employability. For instance, there are four indicators used from QS ranking which are so divergent from each other that, in combination, they contribute to the nurturing of the operationalisation of graduate employability. However, one can also perceive differences in these indicators in concern to their importance in computing graduate employability. For example, while the indicator '*Employer reputation*' involves employers' perceptions on the HEIs producing the most valuable graduates in terms of relevant skills and in regard to a specific field, the indicator '*Alumni outcomes*' focusses in successful people emanating from specific universities. This last indicator can be explained by many different factors, such as individual characteristics, and perhaps it does not have a connection with the skills that they had developed during their higher education studies. Likewise, the remaining indicators of the QS ranking –'*Employer partnership*' and '*Employer/Student connections*'– measure, from a different perspective, the activities organised by universities in order to enhance their graduates employability outcomes. For that reason both are equally weighted. In regard to the THE ranking, even though graduate employability is based exclusively on employers' opinions, this indicator is quite complete since it evolves around the most significant graduate skills or which universities are providing the most valuable graduates, among other things. Hence, it can be compared, in terms of significance in determining graduate employability, to the previous ranking. Moreover, since the indicators of both rankings are based on rather subjective measurements, it seems trustworthy to do not put one ranking ahead of the other and hence provide certain internal validity to the operationalisation of the dependent variable. On the other side, U-multirank is used in order to obtain the indicator '*Graduates unemployment rate'*. Even though this is an objective and essential indicator for understanding how successful HEIs are in enhancing employability, it does not measure employability itself, but rather its outcomes. Thus under this study it has an inferior weight in computing graduate employability. As a result, the three rankings have a different weight in forming the dependent variable graduate employability. The following Figure 3.1 provides a visual representation of all those indicators as well as their weight.

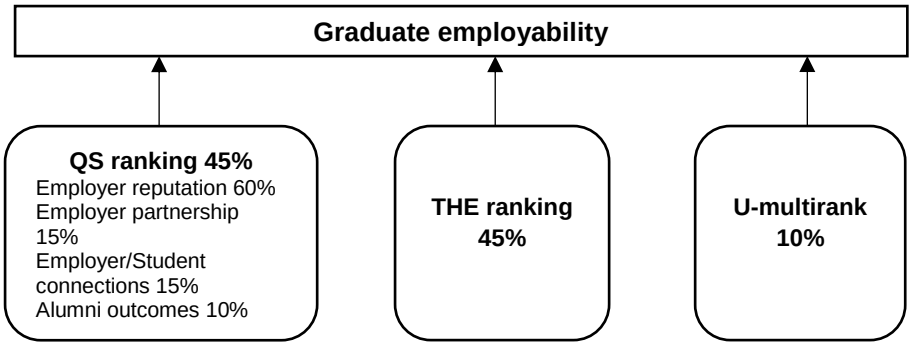

Figure 3.1: Operationalisation of graduate employability

3.3.2. Operationalisation of internationally orientated HEIs

The degree of internationalisation among HEIs is based on the database provided by "U-multirank" as well as "THE" rankings. Regarding the first HEIs ranking, the indicator '*Student mobility*' is used in order to check the number of incoming international students and the number of outgoing international students from exchange programmes, as well as the number of students participating in joint-degree programmes. Furthermore, the indicator '*International academic staff*' is also used to examine the percentage of academic staff with a foreign citizenship. Finally, international curricula is measured through the indicators '*number of bachelor's programmes offered in a foreign language*' and '*number of master's programmes offered in a foreign language*'. However, in this study both indicators are combined in the indicator '*number of programmes offered in a foreign language*', which is obtained by calculating the mean of both previous measurements. The THEs ranking is used in order to obtain information regarding the promotion of international students among universities. Specifically, the indicator '*International students'*, based on the percentage of students coming from outside the country of the university, is applied. It is assumed that all indicators are equally important for deriving the degree of internationalisation among universities. For that reason none of them have an additional weight. A summary of all the indicators used to operationalise the independent variable is displayed in Figure 3.2.

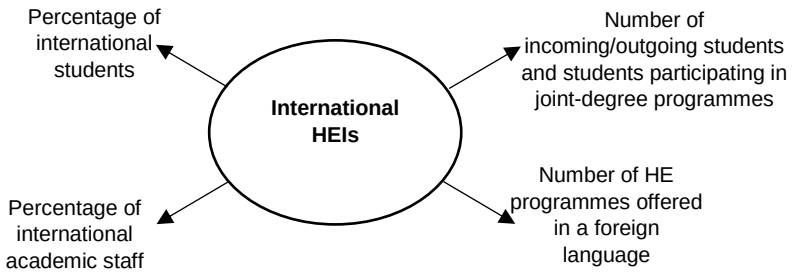

Figure 3.2: Operationalisation of international HEIs

3.3.3 Operationalisation of the control variables

In this thesis, several datasets are used in order to control the (possible) effects that the national and institutional contexts may have on graduate employability. Regarding the control variable "national context", the '*GDP per capita*' is used. This is calculated as the GDP divided by the midyear population

of the particular country and it is further defined as "the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products" (OECD, n.d., para. 1). These data derive from the dataset on the GDP per capita in the year 2016, provided by OECD statistics. Likewise, the unemployment rate is also a factor that has to be taken into account regarding the national context. Such data have been retrieved from "OECD labour market statistics" in which unemployment rate is defined as "the number of unemployed people[2] as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment." (OECD, n.d., para. 1). In regard to the institutional context, the indicator '*size of the HEIs'*, defined as the number of students enrolled, is used. These data derive from the international ranking of HEIs, "U-multirank". Likewise, in order to control for the possible effects of credentialism, this study also makes use of the "position of universities in world rankings" as an indicator for the control variable '*institutional context*'. In this case, the dataset is retrieved from the ShanghaiRanking Consultancy. The selection of this ranking, among the multiple which are currently available, is due to the application of other rankings as measurements of the dependent and independent variables under this study. Indeed, retrieving data from AWRU in order to measure the control variable – institutional context –, instead of THE or QS, ensures that the same data is not used several times under different variables, hence reducing the chances of data redundancy. Table 3.1 provides a summary of all the different control variables applied in this study.

National context	GDP per capita
	Unemployment rate
Institutional context	Size of HEIS
	Position of universities in HEIs rankings

Table 3.1: Operationalisation of the control variables

3.4. Data analyses

In this thesis, the hypothesis are tested through statistical analyses. Statistical analysis provides a method of assessing the relative effects of several independent variables on each dependent variable, while it also allows for verifying the joint effects of the multiple independent variables on the dependent variable (Peters, 1998). Specifically, in order to investigate the (non-) causal relationship between international orientation of HEIs and graduate employability, multiple regression analyses are held. This method is chosen due to compliance of the assumption that the dependent variable is measured either by interval or ratio level. Whereas, for instance, Chi-square test requires two categorical – dependent and independent – variables. In addition, multiple regression analysis is preferred over a one-way analysis of variance since, rather than focussing in differences of the mean of the dependent variable broken down by the levels of the independent variable, it states whether each independent variable has a statistically significant relationship with the dependent variable while providing a

[2] Unemployed people are defined as those who report that they are without work, that they are available for work and that they have taken active steps to find work in the last four weeks" (OECD, n.d., para. 1).

direction to such impact. As a result, by performing multiple regression analyses, it is possible to verify whether universities with a high degree of internationalisation have a statistically significant relationship with graduate employability but also whether they have a positive or negative impact on the dependent variable as compared to universities with a lower degree of internationalisation. However, as it was stated in the operationalisation of graduate employability (see Section 3.3.1), several indicators are used for the dependent variable. For that reason, before performing the analyses, these indicators first have to be merged, in regard to their weight, into a single variable '*graduate employability*'. Yet, since these indicators use different metrics, they first have to be converted into z-scores. Once this has been accomplished, it is possible to move on and carry out multiple regression analyses. Such analyses are divided into two stages. First, a multiple regression analysis is carried out between the independent variable '*Degree of internationalisation*', the control variables and the dependent variable. Before executing this analysis, the indicators '*number of programmes offered in a foreign language*', '*International academic staff*', '*International students*' and '*Student mobility*' have to be merged into a single variable '*Degree of internationalisation*', again after being converted into z-scores. Such new variable is based on the median of the indicators and HEIs are further categorised into the mutually exclusive groups: 48 ≤ low, 48.01 ≥ high[3]. Moreover, this independent variable is recoded into a dichotomous or so-called dummy variable, taking the value of 1 (high) or 0 (low).

Table 3.2: HEIs with a high degree of internationalisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	85	48,9	48,9	48,9
	High	89	51,1	51,1	100,0
	Total	174	100,0	100,0	

As it can be seen from table 3.2, this procedure ensures the most equal distribution of the samples across both groups. Thus, it increases the chances that a statistically significant result actually reflects the true effect (Button et al., 2013) that international universities have on graduate employability. Second, several multiple regression analyses are carried out with each indicator of the internationalisation of higher education – international students, student mobility, international staff and HE programmes offered in a foreign language – as the independent variable, the control variables and the dependent variable '*graduate employability*'. Since most of the scores of the universities are near the mean for each of the previously stated independent variables (see Appendix A), these are left as continuous variables –rather recoded into dummy variables. This procedure enables the verification of the whole

[3] When recoding into an ordinal categorical variable with three levels – low, medium, high –, the samples are spread across each category in an unequal manner, which could in turn lead to a misrepresentation of the results (see Appendix A).

specified model, based on the theoretical framework. Indeed, it allows to test whether (some of) the independent variables can explain the variance in the dependent variable. In other words, it is possible to assess how much variance in graduate employability is explained by each element of the strategies concerning the internationalisation of HE – student mobility, international students and staff as well as foreign language HE programmes – which are under study in this thesis.

3.5. Limitations of the study

The design of this study entails certain limitations. This is mainly due to the lack of differentiation of fields of studies. This does not suppose an important limitation regarding the international orientation of HEIs since, for instance, there are several projects which enables student mobility across certain countries in all fields of study. But, this lack of distinction may suppose a problem in regard to the dependent variable. This is due to the different employment outcomes of each master or bachelor degree, which depends not only on the national economy but also on employers' demands. For instance, in 2016 the most demanded degrees included accounting, computer science, business administration or electrical engineering (Forbes, 2016). As a result, there are certain masters' and bachelors' programmes that, due to the labour market demands, already entail higher graduate employability outcomes, regardless of their degree of internationalisation.

As it was stated before (see Section 3.1.), this study makes use of a secondary data collection methods. This type of data collection brings about certain disadvantages, being the most relevant the lack of control over data quality (Saunders et al., 2009). Indeed, since data for the independent and dependent variables are retrieved form global HE rankings, there is no assurance that such data are not biased and do not favour certain HEIs in expense of others. Likewise, another limitation deriving from secondary data resides in the possibility of not all samples being equally represented. For instance, under the rankings used in this study, there are several instances in which there are no data available regarding some indicators of particular universities. These missing data can in turn suppose a threat to the internal validity of this study.

Causality threats of this study may derive from confounding variables. Even though the national and institutional contexts are taken into consideration in terms of GDP per capita, unemployment rate, size of HEIs and position of universities in HE rankings, there are much more omitted variables which may explain the (possible) causal relationship between the variables used under this study. For instance, regarding the institutional context, this study focusses exclusively on research universities as well as on colleges – or universities of applied sciences –, even though most global rankings use '*research activity'* as an indicator and hence mainly centres around the former type of HEIs. Yet, there are certain differences among both types of universities which may have an effect on their graduates' employability. For example, universities of applied sciences offer more profession-orientated programmes whereas research universities offer "more academically rigorous education" (Maastricht

university, n.d., para. 1). Hence, graduates from the former type of institutions may have higher employment opportunities than those from research universities (study in Holland, n.d.), independently on whether they have a higher degree of internationalisation or not.

3.6. Strengths of the study

By selecting OECD countries as the setting of this thesis, a major strength of this study comes forth. Indeed, it is evident that this setting allows for a sample size of HEIs which is large enough in order to come up with statistically significant conclusions as well as provide reliability to the study (Ruben and Babbie, 2013). However, the advantages go beyond a large sample size, since this setting also allows for certain homogeneity regarding the national context. Such advantage is further improved by taking into consideration the GDP per capita and unemployment rate to control for the possible effects that the national context may have on graduate employability.

Using several indicators for graduate employability also provides several advantages. First, rather than focusing on one aspect, it offers a comprehensive operationalisation of the concept. This is further improved by weighting each indicator according to its importance in determining graduate employability. Second, using several indicators implies using several data sources. This in turn minimises to a certain extent the possible bias derived by using datasets based on employers' personal opinions or interests towards certain HEIs.

Chapter 4: Empirical results

In the preceding chapter the operationalisation of the variables as well as a description of the methodology used in this study have been held. In this chapter, the methodology is followed in order to answer the question: To what extent do higher education institutions with a high degree of internationalisation have higher graduate employability as compared to higher education institutions with a lower degree of internationalisation?

4.1. The effects of HEIs with a high degree of internationalisation on graduate employability

As explained in Chapter 3, multiple regression analyses can be used in order to test the combined effects of the independent variables. The main outcomes from the multiple regression analysis within regard to the degree of internationalisation of HEIs and graduate employability are presented in Table 4.1 and Table 4.2.

Table 4.1: Model Summary of multiple regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,455[a]	,207	,180	9,47589

a. Predictors: (Constant), HEIs with a high degree of internationalisation, Unemployment rate, Position in HEIs ranking, Number of full-time students, GDP per capita

b. Dependent Variable: Graduate employability

The general result from the regression analysis presented in Table 4.1 is that the value of R square is relatively low. The R square value indicates that 20.7% of the variation in graduate employability is explained by the combined variations in all of the specific model's independent variables.

Table 4.2: Results of a multiple regression analysis

		Unstandardised Coefficients		Standardised Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	89,492	10,651		8,402	,000
	Position in HEIs ranking	-,351	,087	-,335	-4,032	,000
	GDP per capita	-,206	,093	-,190	-2,216	,028
	Unemployment rate	,011	,097	,009	,118	,906
	Number of full-time students	-,274	,083	-,264	-3,308	,001
	HEIs with a high degree of internationalisation	4,218	1,608	,202	2,623	,010

a. Dependent Variable: Graduate employability

Not all of the independent variables have a statistically significant relationship with graduate employability. In this respect, Table 4.2 shows how unemployment rate does not seem to have a statistically significant relationship with the dependent variable (p-value ≤0,906). Furthermore, regarding the independent variable '*HEIs with a high degree of internationalisation*', the data provide evidence of a relationship between this variable and graduate employability (p-value ≤0,01). In addition, a high degree of internationalisation has a positive impact on graduate employability, even though it is relatively low (Beta= 0,202). In other words, the data show how a high degree of internationalisation among HEIs has an increase of 0,202 units on graduate employability as compared to universities with a lower degree of internationalisation, while controlling for the remaining independent variables in the model. Yet, it seems interesting that the control variables which have a statistically significant relationship with graduate employability, especially GDP per capita, actually have a negative impact on the dependent variable under this model. For that reason, simple regression analyses are carried out in order to check the relationship and direct effect of each control variable on the dependent variable.

Table 4.3: Simple regression analysis between GDP per capita and Graduate employability

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	45,383	4,059		11,181	,000
	GDP per capita	9,597E-5	,000	,088	1,158	,249

a. Dependent Variable: Graduate employability

As it can be seen from Table 4.3, the data show no evidence of a statistically relationship between GDP per capita and graduate employability (p-value ≤ 0,249) after fulfilling a simple linear analysis.

Table 4.4: Simple regression analysis between Unemployment rate and Graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	55,934	3,860		14,490	,000
	Unemployment rate	-,119	,076	-,119	-1,568	,119

a. Dependent Variable: Graduate employability

When performing a simple regression analysis, Table 4.4 shows how the data prove once again that there is no evidence of a statistically significant relationship between the unemployment rate and graduate employability (p-value ≤ 0,119).

Table 4.5: Simple regression analysis between Number of full-time students and Graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	62,947	3,755		16,764	,000
	Number of full-time students	-,259	,074	-,259	-3,516	,001

a. Dependent Variable: Graduate employability

Regarding the variables used to control the institutional context, the '*Number of full-time students*' has a statistically significant relationship with the dependent variable under a simple regression analysis (p-value ≤ 0,001), as represented in Table 4.5. In addition, as expected from the theoretical framework, larger HEIs have lower graduate employability (Beta= -0,259).

Table 4.6: Simple regression analysis between HEIs position in global rankings and Graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	63,593	4,151		15,318	,000
	Position in HEIs ranking	-,266	,081	-,255	-3,269	,001

a. Dependent Variable: Graduate employability

Finally, as showed in Table 4.6, a simple regression analysis shows that HEIs' position in global rankings has a statistically significant relationship with graduate employability (p-value ≤ 0,001).

However, contrary to what it was expected from the theoretical framework, the data provide evidence that the HEIs position in global rankings actually has a negative impact on graduate employability (Beta= -0,225).

Table 4.7: Results of a multiple regression analysis 2

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	72,936	6,262		11,647	,000
	Position in HEIs ranking	-,264	,079	-,252	-3,351	,001
	Number of full-time students	-,226	,080	-,218	-2,836	,005
	HEIs with a high degree of internationalisation	4,004	1,622	,192	2,468	,015

a. Dependent Variable: Graduate employability

Table 4.7 provides the results of a multiple regression analysis which exclusively uses the control variables which have a statistically significant relationship with the dependent variable under a simple analysis. Once again, the data show that a high degree of internationalisation of HEIs has an increase of 0,192 units on graduate employability, as compared to a HEIs with a lower degree of internationalisation and while holding the other independent variables constant. Hence, even though the increase of the dependent variable is not really high, there is evidence to believe that an international orientation among universities has higher graduate employability outcomes as compared to HEIs with a lower degree of internationalisation.

Table 4.8: Model summary of multiple regression analysis 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,430[a]	,185	,168	9,49985

a. Predictors: (Constant), HEIs with a high degree of internationalisation, Position in HEIs ranking, Number of full-time students

In addition, from Table 4.8 it can be derived that this new model accounts for 18.5% of the variation in graduate employability. The remaining sections analyse the effects that each element used to operationalise the '*Degree of internationalisation among HEIs*' – number of international students, number of foreign language bachelor and master degrees, percentage of international academic staff and number of incoming/outgoing students as well as number of students participating in joint-degrees programmes – has on graduate employability separately. As it has been stated in Chapter 3, each

contextual indicator is left as a continuous variable. In addition, since the data show that GDP per capita and the unemployment rate do not seem to have a statistically significant relationship with graduate employability, both variables are removed from the following analyses. Likewise, since the credentialism effect has already been tested, the position of HEIs in global rankings is also excluded from the remaining regression analyses, leaving the number of full-time students as the solely control variable.

4.2. The effects of international academic staff on graduate employability

Once the effect of a high degree of internationalisation on graduate employability has been analysed, this sections deals with the effects that an international academic staff has on the dependent variable.

Table 4.9: MRA between international academic staff and graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	63,588	8,979		7,082	,000
	Number of full-time students	-,288	,116	-,255	-2,488	,015
	International academic staff	,016	,108	,015	,151	,881

a. Dependent Variable: Graduate employability

Table 4.9 shows the results of a multiple regression analysis between the number of full-time students, international academic staff and graduate employability. As it can be seen, contrary to what it was expected from the theoretical analysis in Chapter 2, the data do not prove a statistically significant relationship between international academic staff and graduate employability (p-value $\leq$ 0,881).

4.3. The effects student mobility on graduate employability

This section deals with the effects that student mobility has on graduate employability. After performing a multiple regression analysis, Table 4.10 shows, with a p-value of 0,101, how the data do not prove evidence of a statistically significant relationship between student mobility and graduate employability. That is, contrary to what it was expected from the theoretical framework (see Section 2.5), there is no evidence which suggests that universities with mobility among its students have higher employability outcomes.

Table 4 10 MRA between student mobility and graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	68,526	9,632		7,115	,000
	Number of full-time students	-,196	,120	-,207	-1,637	,106
	Student mobility	-,185	,112	-,210	-1,660	,101

a. Dependent Variable: Graduate employability

4.4. The effects of international students on graduate employability

Under this section, the effect of international students in universities on graduate employability is analysed. As it can be seen from Table 4.11, the data show that there is a statistically significant relationship between universities with international students and graduate employability (p-value ≤ 0,000). Moreover, an additional international student has an increase of 0,274 points on HEIs' graduate employability score, while keeping the number of full-time students constant.

Table 4.11: MRA between international students and graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	43,554	6,338		6,872	,000
	Number of full-time students	-,148	,077	-,146	-1,906	,058
	International students	,279	,078	,274	3,577	,000

a. Dependent Variable: Graduate employability

4.5. The effects of foreign language bachelor and master degrees on graduate employability

This section copes with the relationship between universities which offer foreign bachelor and master degrees and their graduates' employability. As it can be seen from Table 4.12, contrary to what it was expected from the theoretical framework, the data show no evidence of a statistically significant relationship between foreign language bachelor and master programmes and graduate employability with a p-value of 0,107.

Table 4.12: MRA between foreign language Ba/Ma degrees and graduate employability

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	68,000	9,068		7,499	,000
	Number of full-time students	-,218	,111	-,268	-1,971	,054
	Foreign bachelor and master programmes	-,181	,110	-,223	-1,638	,107

a. Dependent Variable: Graduate employability

4.6. Summary of the results of the empirical analyses

When performing a multivariate regression analyses between the dummy variable HEIs with a high degree of internationalisation, GDP per capita, unemployment rate, position of HEIs in global rankings, number of full-time students and the dependent variable, graduate employability, several key findings arise. The results from the bivariate and multiple regression analyses seem to coincide, showing a similar relationship between the independent variables and the dependent variable.

- A multivariate analysis shows a (slightly) positive statistically significant relationship between universities with a high degree of internationalisation and graduate employability, with an alpha level of 5%. Specifically, compared to HEIs with a low degree of internationalisation, universities with a higher degree of internationalisation have an increase of 0,192 units on graduate employability while holding the other independent variables constant.
- The results from a bivariate regression analysis between the position of HEIs in global rankings and graduate employability show a statistically significant relationship between both variables at the 5% alpha level. However, contrary to what it was expected, the position of a HEIs in global rankings actually has a negative impact on graduate employability (Beta= -0,255).
- Furthermore, the results of a multiple regression analysis between international academic staff, the number of full-time students and graduate employability do not show a statistically significant relationship between the former and the latter variables, with an alpha level of 5%.
- Similarly, after performing a regression analysis between mobile students, number of full-time students and graduate employability, the data show no evidence of a statistically significant relationship, at 5% alpha level.
- In regard to international students, the data suggest, after performing a multiple regression analysis, that this variable has a statistically significant relationship with graduate employability, with a 5% alpha level, while holding the number of full-time students constant.

- In addition, the results of a multivariate analysis between foreign language bachelor's and master's programmes, number of full-time students and graduate employability, show no statistically significant relationship between the variables, at a 5% alpha level.

In sum, the data show that a high degree of internationalisation among HEIs has a positive impact on graduate employability. However, this is exclusively due to a high degree of international students among those universities.

Chapter 5: Conclusion

This final chapter concludes the study by providing a summary, reflection and recommendations upon the findings.

5.1 Summary of the findings

The purpose of this thesis is to examine the effects that international HEIs have on graduate employability. Specifically, the research question addressed in the study is '*To what extent do higher education institutions with a high degree of internationalisation have higher graduate employability as compared to higher education institutions with a lower degree of internationalisation?* In order to answer this research question, this study makes use of three different sub-questions: What constitutes an internationally orientated higher education institution? What is graduate employability? Which factors, excluding international universities, can have an effect on graduate employability? Based on the theoretical framework, and on the strategies given by the European Commission, internationally orientated universities are defined as those HEIs which facilitate student mobility, attract international students, recruit academic staff with a foreign citizenship and adapt an international curricula. In addition, the explanation given by Hillage and Pollard (1998) is used to define graduate employability as the "ability to gain and retain fulfilling work" (p. 2) based on the labour market conditions. Moreover, as it has been explained in the theoretical framework (see Section 2.6), this thesis considers that the national and institutional context can have an effect on graduate employability. Specifically, it has been argued that the GDP per capita, the unemployment rate, the institutional size and the HEIs position in global rankings are likely to have an impact on graduate employability. Yet, the results of simple regression analyses show that actually only the variables used in consideration to the institutional context have a statistically significant relationship with graduate employability. Hence, it can be concluded that the institutional size and HEIs position in the global rankings have an (negative) impact on graduate employability. Regarding the effects of international universities on graduate employability, the theoretical framework predicts that students from universities with a high degree of internationalisation obtain certain intercultural competences while enhancing their knowledge and transferrable skills that make them more appealing for employers. As a result, the hypothesis tested under the multiple regression analyses is "the higher the degree of internationalisation of universities, the higher the graduate employability will be". The data provide evidence that highly international universities have slightly higher graduate employability outcomes than those HEIs with a lower international orientation. Indeed, a high degree of internationalisation of HEIs has an increase of 0,192 units on graduate employability as compared to those universities with a lower degree of internationalisation, while keeping the number of full-time students constant. Yet, not all of the indicators used to operationalise the international orientation of universities have the same influence on graduate employability. In this regard, the data only provide evidence that international students have a statistically significant relationship as well as a positive impact on HEIs' graduate employability. More

specifically, the data show that universities' graduate employability increases 0,274 units per additional international student enrolled, while keeping the number of full-time students constant. Regarding international academic staff, student mobility or foreign language bachelor and master degrees, there is no evidence of a statistically significant relationship of those contextual indicators with graduate employability, at the alpha level of 5%.

5.2. Reflection

The main findings of this study are reflected upon in the following way. First, the appropriateness of the theoretical framework is discussed. Second, some issues and the possible biases concerning the methodology are reviewed based on the empirical results.

5.2.1 Reflection on the theoretical framework

The OECD and the European Commission have promulgated the internationalisation of HE. This is grounded on the effects that globalisation and internationalisation have upon organisations, fostering the need of recruiting personnel who are able to work on multi-cultural teams or globally operating companies (see Section 2.2). Thus, there is a normative assertion that, considering the current environment, the internationalisation of HEIs enhances graduate employability (European Commission, 2013). The results of the multiple regression analyses carried out under this study have confirmed this claim. Yet, the data also show that such positive impact is not as high as one would have expected, in regard to the theoretical framework. In this concern, this study uses the human capital theory to explain how international universities nurture graduate employability. It is argued that students from internationally orientated HEIs gain or develop intercultural competences, as well as knowledge and transferrable skills, which make them more productive and thus more employable. However, it might be the case that graduate employability, rather than being conditioned to the development of this type of skills and competences, is based on educational credentials and their use to signal competence towards employers, as the credentialist theory argues.

When performing multiple regression analyses with each contextual indicator of internationally orientated HEIs as the independent variable, only the percentage of international students seems to have a statistically significant relationship with, and a positive impact on, graduate employability. The theoretical framework suggests that international students develop an intercultural adaptability while improving their dominance of a foreign language which prepare them to work in international teams, thus enhancing their employability. Yet, it could be the case that internationally orientated universities attract the more open minded students from different countries. Hence, the findings from the multiple regression analysis carried out under this study might be explained by the personal characteristics of these international students, rather than by the experience that international universities offer. Indeed, it is possible that these international students possess certain qualities or attributes which in turn directly

enhances their employability. Furthermore, it seems plausible that if the theoretical framework is right and international students actually develop certain skills which are valuable for employers, this also has a repercussion on student mobility. It might be the case that it takes time to develop such skills, at least more than the six to twelve months that exchange programmes last. Hence, student mobility does not have a statistically significant relationship with graduate employability simply because it takes longer than the duration of exchange programmes to develop those intercultural competences which enhance graduate employability.

The theoretical framework predicts that offering bachelor and master programmes in a foreign language improve HEIs' graduate employability. However, English language is the most used foreign language for HE programmes. Hence, it is possible that those universities with higher graduate employability are located in English speaking countries in which the degree of bachelor's and master's programmes offered in a foreign language is low because English language degrees are already offered in a standard way. As a result, the findings of this study might have been different if rather than basing the theoretical framework on this contextual indicator, the dominance of the English language for foreign language programmes was taken into account.

5.2.2. Reflection on the methodology

In the previous section it was stated that perhaps the statistically significant relationship between international universities and graduate employability is explained by the credentialist theory, rather than by the human capital theory. This study partially checks for the credentialist effects by including the position of HEIs on global rankings in the model. The results of regression analyses show that this variable indeed has a statistically significant relationship with graduate employability, even though it actually has a negative impact on the dependent variable. In this regard, it is possible that the credentialist effects in terms of graduate employability is not operationalised in a good way. Indeed, it might be the case that employers do not recruit graduates based on the position on global rankings of the university where they have fulfilled their HE studies but rather their decisions are based on other factors. In this concern, as it was stated in the theoretical framework (see Section 2.6), due to the higher enrolment levels on HEIs, students nowadays have to engage in the *'individualisation among equals*' in order to have more possibilities in finding a job. Thus, employers might focus on the signalling competences that fulfilling a master's programme or a particular course show when deciding to hire a graduate.

The theoretical framework seems to be partly supported by the results of the multiple regression analyses. However, the methodology used in this study needs consideration in certain aspects. Indeed, the empirical results did not fully support the theory of this thesis – regarding the effects of student mobility, international staff, foreign language bachelor and master degrees, GDP per capita and unemployment rate on graduate employability – which brings forth the possibility that the weight of

each variable in the model is not the most appropriate. It seems plausible that giving preference to one contextual indicator – employers' reputation – over another – for instance, alumni outcomes –, increase the chances of making Type II error and hence conclude that there is no evidence of a statistically significant relationship between student mobility, international academic staff or foreign language bachelor and master degrees with graduate employability when actually there is. Likewise, additional power of the model could be achieved by providing different weights to each contextual indicator of '*degree of internationalisation among HEIs*'. Indeed, as the empirical results show, international students and to a lower extent student mobility and foreign language HE programmes should have more emphasis than international academic staff when operationalising the degree of internationalisation among HEIs.

5.3. Recommendations

This last section provides recommendations for future research as well as at an institutional level, based on the findings of this study.

5.3.1 Recommendations for future research

The results of the multiple regression analyses provide evidence of a (slightly) positive impact of the internationalisation of HE on graduate employability. Yet, this impact is not as high as one would have expected, in regard to the theoretical framework. It might be the case that international universities have a higher impact on other aspects. For instance, it seems plausible that an international experience during HE has additional effects on graduates, beyond the acquisition of '*cultural intelligence*'. In this concern, Murphy-Lejeune (2003) used the notion of '*mobility capital*', defined as a subcomponent of the '*human capital theory*', to describe the impact that an international experience can have on people. He argued that people with an international exposure, such as studying in a foreign language or in an international environment, develop a taste for living abroad. This in turn influences their futures decisions, such as their working places. As a result, HEIs with a high degree of internationalisation, rather than slightly enhancing graduate employability, might also promote working abroad among its students. In this regard, Oosterbeek & Webbink (2011), after collecting data from Dutch university students, concluded that studying in a foreign language increases the chance of working abroad up to 50 percentage points. While Parey & Waldinger (2011) showed that educational exchange programmes play a role in future labour market mobility decisions. Yet, the connection between internationally orientated HEIs and graduates' decision to work in a foreign country has barely been under study to date and thus, future research should further investigate this topic. Furthermore, as it was stated in Chapter 1 (see Section 1.3), the promotion of international HE might go beyond graduate employability and hence it also assists graduates in their duty of acting as global citizens. National and international organisations have interceded for the promulgation of global citizenship among HEIs. For instance, the '*Association of American Colleges and Universities*' promotes several programmes concerned with civic learning, such as global learning and diversity, developing globally responsible citizens and enhancing social

responsibility. Similarly, the '*Salzburg Seminar's International Study Programme*' organises workshops for faculty in order to reflect upon the concept of global citizenship and integrate it into the educational programmes, while providing activities to students in regard to global issues. In addition, HEIs' policies have been reshaped towards an inclusion of the concept of global citizenship in their curricula (Caruana, 2014; Clifford and Montgomery, 2014). In this concern, several studies have asserted that an international experience during HE indeed has a positive effect on promoting graduates who are able to act and think as global citizens (Green, 2013; Torres, 2015). Yet, most of these research have conceptualised an international experience in terms of student diversity. Whereas the OECD as well as the European Commission have promulgated the internationalisation of HEIs beyond student mobility (see Chapter 1). As a result, just as this thesis has done, future research should conceptualise internationally orientated HEIs beyond student mobility when exploring its effects on global citizenship.

5.3.2. Recommendations at an institutional level

When performing multiple regression analyses with each indicator of internationally orientated HEIs as the independent variable, only international students seem to have a statistically significant relationship with, and a positive impact on, graduate employability. This suggest that at a national and institutional level, strategies should be implemented in order to attract and facilitate the enrolment of international students. In this regard, Australia, UK and Canada have "developed clear national priorities and comprehensive strategies to attract a larger number of international students" (Schneider, 2000, p. 2). Such strategies include simplified visa and HEI application processes, centralised planning or centralise websites with HE information (Schneider, 2000). Yet, strategies should not be based exclusively on attracting international students but also on ensuring that they have a positive experience and fulfil their educational goals (Lee and Wesche, 2000). As a result, universities could facilitate such objectives by investing in a high quality provision of student services, national language support courses as well as programmes and activities which contribute to the integration of international students into the campus or even national community. Previous research which aimed at exploring the connection between international students mobility and employability have tended to focused on a short sojourn abroad, often referred as credit mobility. This latter type of student mobility has been promoted through the Erasmus+ programme, which has been the subject of several analyses aimed at defining its effects, including in terms of employability. Yet, little is known regarding the impact that degree student mobility has on graduate employability. This is mainly due to the lack of data surrounding this type of student mobility. Indeed, there is a greater difficulty in identifying students who accomplished their whole HE studies abroad, especially compared to the more accessible identification of those students who participated in exchange programmes (Wiers-Jenssen, 2013). Thus, in order to simplify future research regarding degree student mobility, universities should facilitate the identification of such students.

In sum, this thesis has shown that an international HE matters. The results have proved that universities with a high degree of internationalisation, in terms of fostering international students, have higher employability as compared to universities with a lower degree of internationalisation.

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Appendix

Frequency tables

Degree of internationalisation among HEIs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	54	31,0	31,0	31,0
	Medium	98	56,3	56,3	87,4
	High	22	12,6	12,6	100,0
	Total	174	100,0	100,0	

Degree of international academic staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	94	54,0	54,0	54,0
	Medium	75	43,1	43,1	97,1
	High	5	2,9	2,9	100,0
	Total	174	100,0	100,0	

Degree of student mobility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	60	34,5	34,5	34,5
	Medium	110	63,2	63,2	97,7
	High	4	2,3	2,3	100,0
	Total	174	100,0	100,0	

Degree of international students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	126	72,4	72,4	72,4
	Medium	45	25,9	25,9	98,3

	High	3	1,7	1,7	100,0
	Total	174	100,0	100,0	

Degree of foreign language BA/MA degrees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low	44	25,3	25,3	25,3
	Medium	125	71,8	71,8	97,1
	High	5	2,9	2,9	100,0
	Total	174	100,0	100,0	

Assumptions of multiple regression analysis between HEIs with a high degree of internationalisation and graduate employability

Independence of residuals

Model	Durbin-Watson
1	1,420

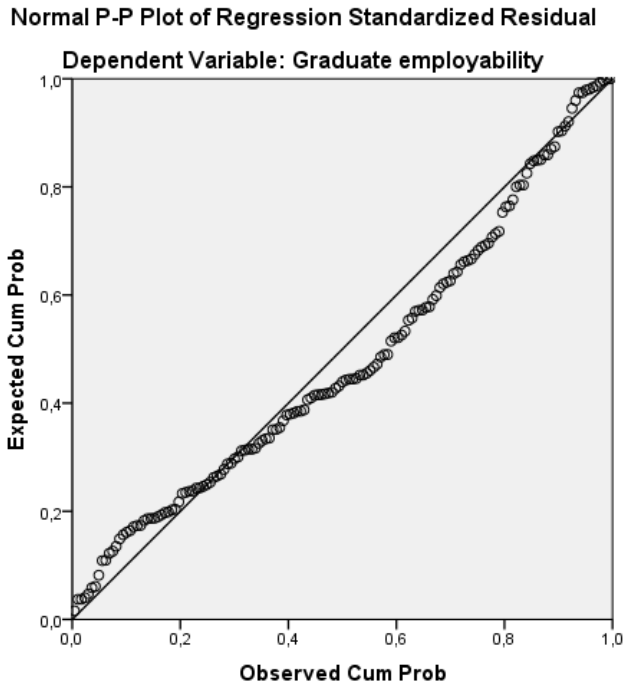
a. Predictors: (Constant), HEIs with a high degree of internationalisation, Unemployment rate, Position in HEIs ranking, Number of full-time students, GDP per capita

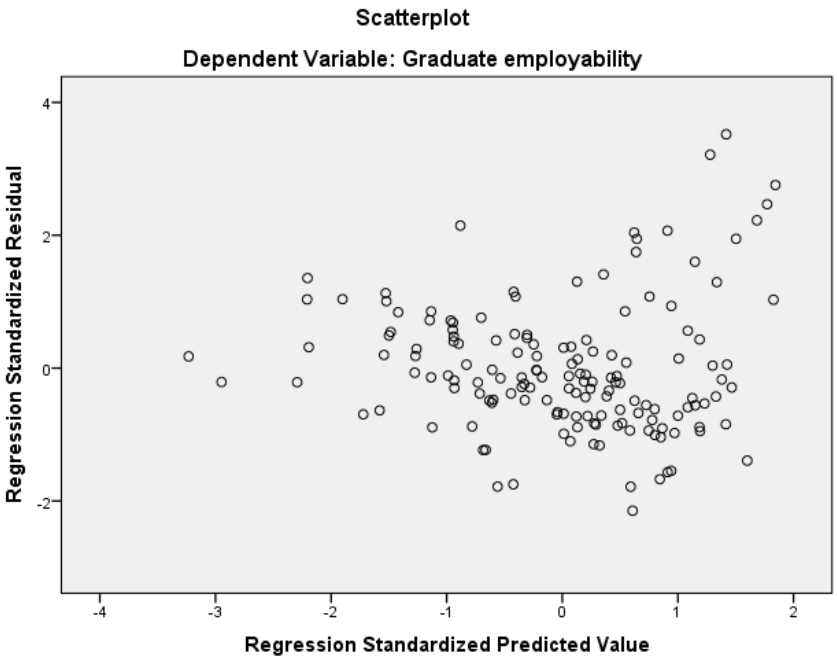
b. Dependent Variable: Graduate employability

No-multicollienarity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Position in HEIs ranking	,781	1,280
	GDP per capita	,725	1,379
	Unemployment rate	,852	1,174
	Number of full-time students	,854	1,171
	HEIs with a high degree of internationalisation	,955	1,047

a. Dependent variable: graduate employability





Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	33,0778	59,1524	50,2983	4,41963	155
Std. Predicted Value	-3,896	2,003	,000	1,000	155

Standard Error of Predicted Value	1,101	5,711	1,784	,649	155
Adjusted Predicted Value	31,1842	59,6633	50,2472	4,53708	155
Residual	-18,99066	35,77909	,00000	9,48682	155
Std. Residual	-1,969	3,710	,000	,984	155
Stud. Residual	-1,985	3,775	,003	1,001	155
Deleted Residual	-19,30418	37,04470	,05116	9,83288	155
Stud. Deleted Residual	-2,005	3,956	,006	1,014	155
Cook's Distance	,000	,084	,006	,012	155

a. Dependent Variable: Graduate employability

Assumptions of multiple regression analysis between student mobility and graduate employability

Independence of residuals

Model	Durbin-Watson
1	1,644

a. Predictors: (Constant), Student mobility, Number of full-time students

b. Dependent Variable: Graduate employability

No-multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Number of full-time students	,835	1,197
	Student mobility	,835	1,197

a. Predictors: (Constant), Student mobility, Number of full-time students

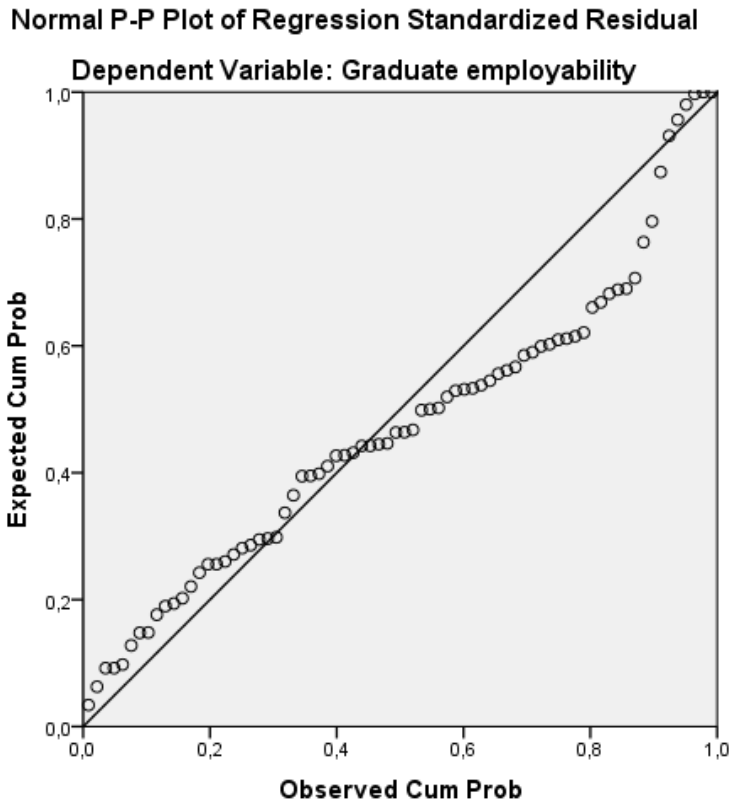
b. Dependent Variable: Graduate employability

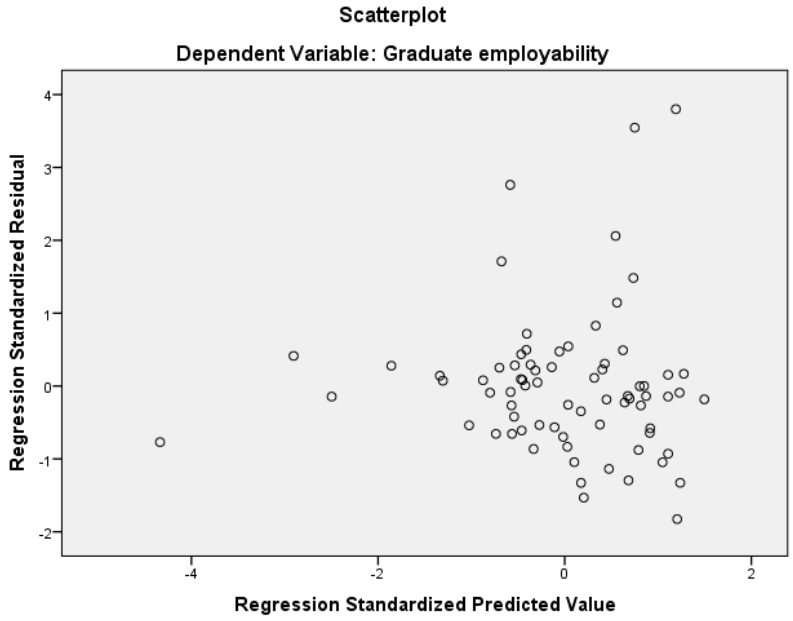
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	40,9992	52,6979	49,6975	2,00590	74
Std. Predicted Value	-4,336	1,496	,000	1,000	74

Standard Error of Predicted Value	1,024	5,994	1,580	,768	74
Adjusted Predicted Value	42,6932	52,7787	49,7635	1,83552	74
Residual	-15,91871	33,11694	,00000	8,59525	74
Std. Residual	-1,826	3,800	,000	,986	74
Stud. Residual	-1,858	3,867	-,003	1,003	74
Deleted Residual	-16,47405	34,30570	-,06605	8,92407	74
Stud. Deleted Residual	-1,892	4,322	,010	1,055	74
Cook's Distance	,000	,337	,014	,045	74

a. Dependent Variable: Graduate employability





Assumptions of multiple regression analysis between international academic staff and graduate employability

Independence of residuals

Model	Durbin-Watson
1	1,389

a. Predictors: (Constant), International academic staff, Number of full-time students

b. Dependent Variable: Graduate employability

No-multicollienarity

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Number of full-time students	,921	1,086
	International academic staff	,921	1,086

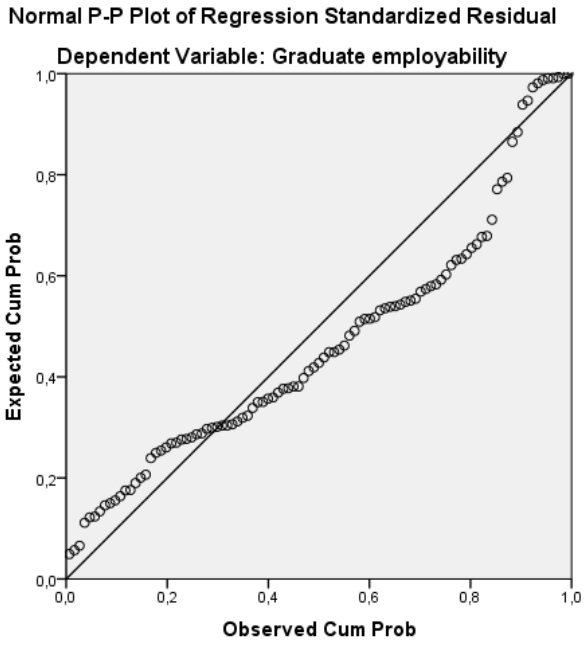
a. Dependent Variable: Graduate employability

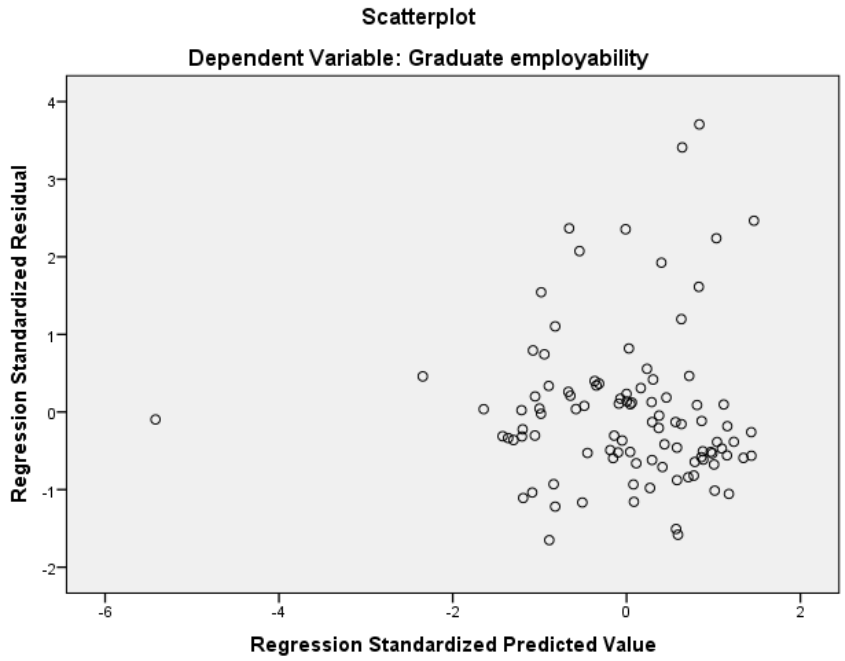
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N

Predicted Value	35,2727	54,1145	50,1032	2,73631	99
Std. Predicted Value	-5,420	1,466	,000	1,000	99
Standard Error of Predicted Value	1,033	5,772	1,668	,640	99
Adjusted Predicted Value	35,7288	54,2575	50,1060	2,72922	99
Residual	-16,93210	38,01560	,00000	10,15231	99
Std. Residual	-1,651	3,706	,000	,990	99
Stud. Residual	-1,667	3,754	,000	1,002	99
Deleted Residual	-17,26056	38,99963	-,00278	10,40383	99
Stud. Deleted Residual	-1,682	4,043	,008	1,029	99
Cook's Distance	,000	,122	,008	,018	99

a. Dependent Variable: Graduate employability





Assumptions of multiple regression analysis between international students and graduate employability

Independence of residuals

Model	Durbin-Watson
1	1,326

a. Predictors: (Constant), International students, Number of full-time students

b. Dependent Variable: Graduate employability

No-multicollienarity

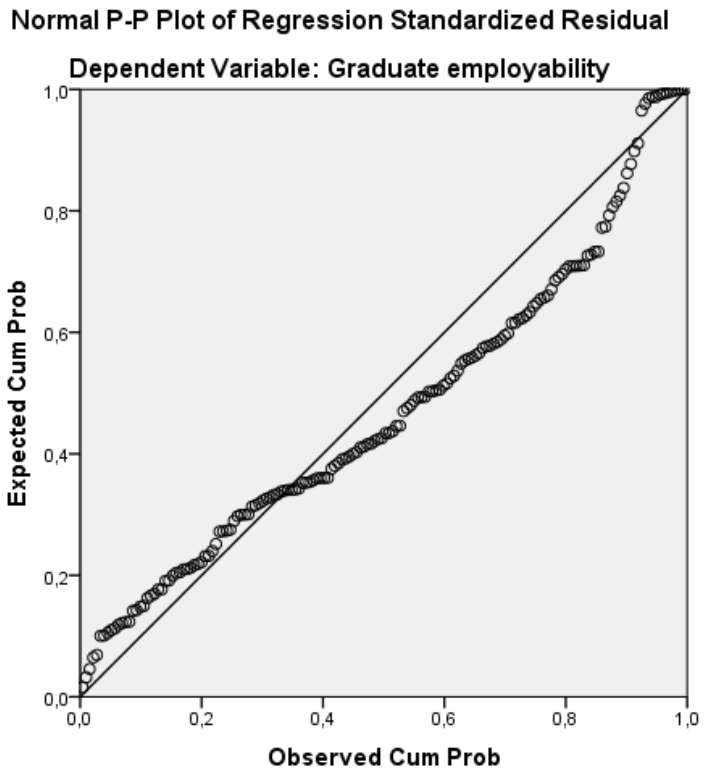
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Number of full-time students	,905	1,104
	International students	,905	1,104

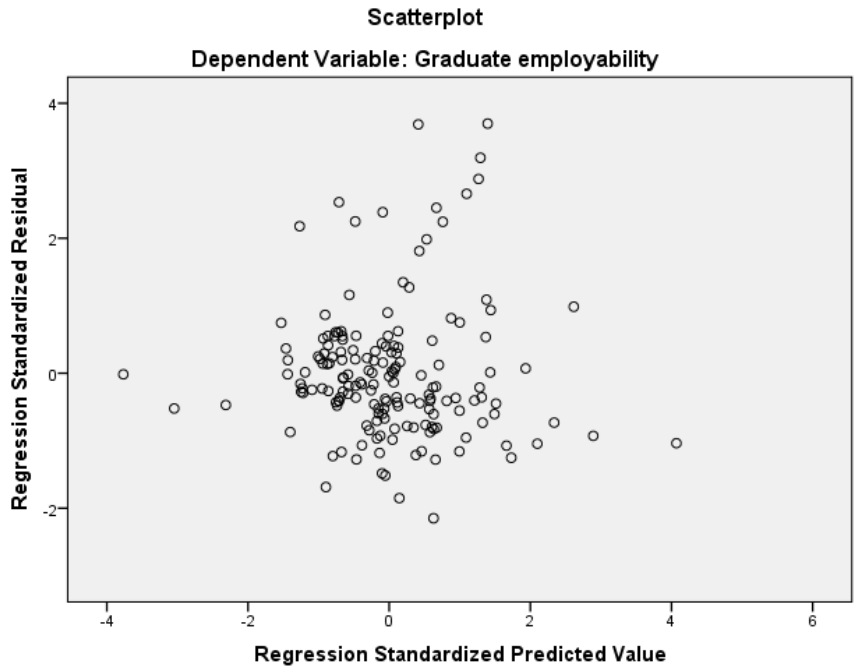
a. Dependent Variable: Graduate employability

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	36,7468	64,4509	50,0640	3,53583	168
Std. Predicted Value	-3,766	4,069	,000	1,000	168
Standard Error of Predicted Value	,751	4,792	1,177	,504	168
Adjusted Predicted Value	36,8011	66,0163	50,0712	3,56562	168
Residual	-20,58020	35,41208	,00000	9,51729	168
Std. Residual	-2,149	3,698	,000	,994	168
Stud. Residual	-2,159	3,731	,000	1,002	168
Deleted Residual	-20,76258	36,04734	-,00724	9,67058	168
Stud. Deleted Residual	-2,183	3,888	,004	1,017	168
Cook's Distance	,000	,083	,005	,013	168

a. Dependent Variable: Graduate employability





Assumptions of multiple regression analysis between foreign bachelor and master programmes and graduate employability

Independence of residuals

Model	Durbin-Watson
1	1,707

a. Predictors: (Constant), Foreign bachelor and master programmes, Number of full-time students

b. Dependent Variable: Graduate employability

No-multicollienarity

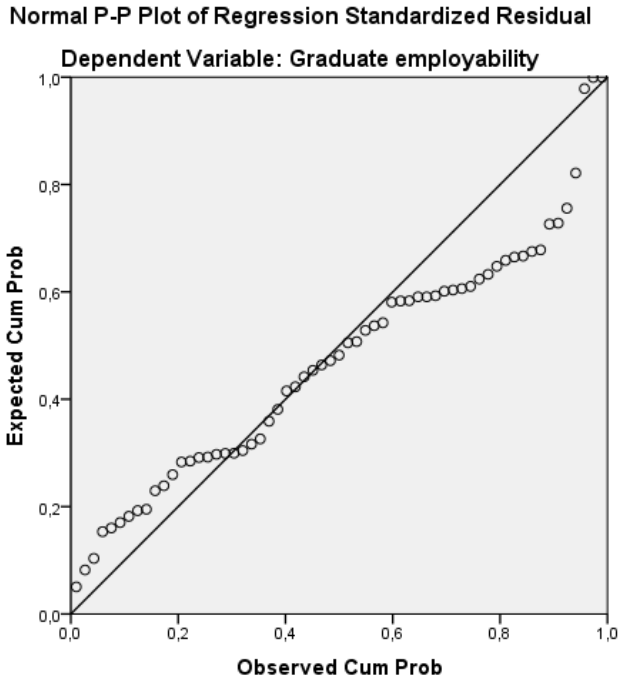
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Number of full-time students	,861	1,162
	Foreign bachelor and master programmes	,861	1,162

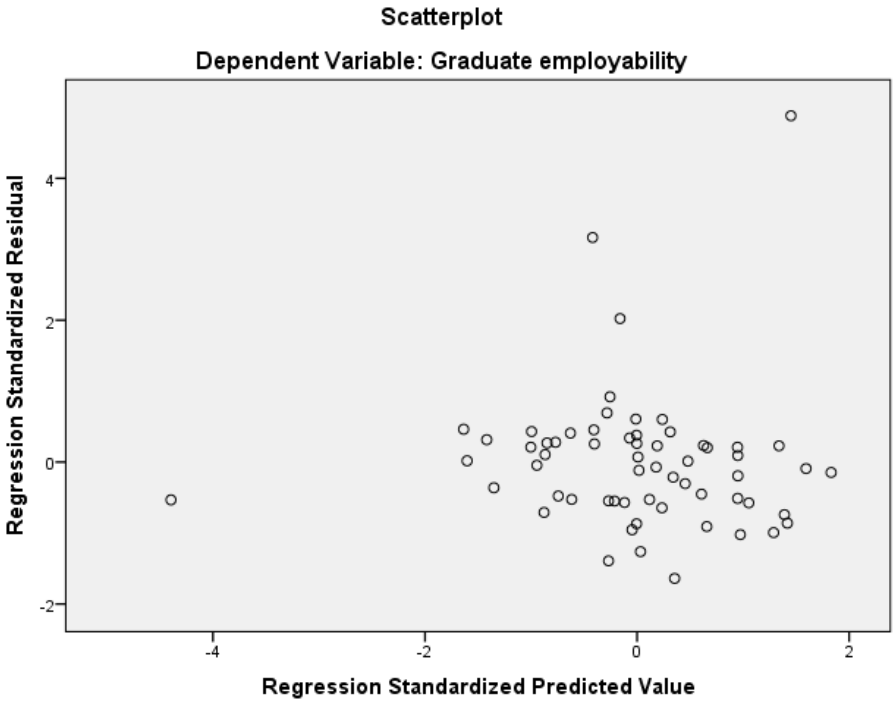
a. Dependent Variable: Graduate employability

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	38,5087	52,5279	48,4067	2,25144	61
Std. Predicted Value	-4,396	1,830	,000	1,000	61
Standard Error of Predicted Value	1,022	5,581	1,619	,695	61
Adjusted Predicted Value	42,6403	52,6182	48,4530	2,03266	61
Residual	-13,00803	38,73519	,00000	7,80165	61
Std. Residual	-1,639	4,882	,000	,983	61
Stud. Residual	-1,656	5,018	-,002	1,005	61
Deleted Residual	-13,27255	40,92558	-,04630	8,17130	61
Stud. Deleted Residual	-1,682	6,612	,029	1,165	61
Cook's Distance	,000	,475	,016	,065	61

a. Dependent Variable: Graduate employability




Scatterplot
Dependent Variable: Graduate employability
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-2
0
2