Research and Analysis of the Benefits of International Education Opportunities

A literature review on UK competitiveness and skills (needs)

LSE Enterprise

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01. Introduction

The British Council commissioned CFE Research and LSE Enterprise in May 2014 to conduct research to examine the impact of international experiences on individuals, employers, the economy and society. The purpose of the research is to provide evidence to inform a report that will be produced by the British Council setting out the benefits of international experiences to a UK audience of senior policymakers, business leaders/employers, education and culture sector stakeholders, think tanks and the media.

The findings presented in this document draw on a literature review of key evidence on the UK's competitive position and the role of skills within this. The findings complement a second literature review that investigates the evidence on the provision, scale and benefits of different types of international experiences.[1] The literature reviews helped to inform the design of primary research with individuals with and without international experiences and a series of case studies.[2]

Aims and objectives

This literature review has two central themes: competitiveness and skills (in particular, skills needs), both with a specific focus on the UK. These two themes are discussed through an analysis of the existing literature, which has been sourced according to the method outline below. The literature review is presented in three sections, enabling a sequential discussion of the key themes. Section 2 presents data relating to UK competitiveness using established international benchmarks. Section 3 discusses the role of skills in contributing to the UK's competitiveness, primarily through a 'macro-level' analysis linking economic competitiveness with skills formation and education at a national level. In this section issues such as the balance between higher education and vocational education and training and the overall distribution of skills across the population are discussed. In contrast, Section 4 provides a 'micro-level' analysis focussed on the skills that graduates need in the labour market (notably, 'employability skills') to help them progress in their careers, and increase employer competitiveness in the national and international economy. This section is primarily based on literature that makes use of data derived from surveys of employers.

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[1] CFE Research and LSE Enterprise (2014) *Research and analysis of the benefits of international educational opportunities: A literature review on the opportunities for international experience in the UK and in comparison with the US and Germany.* London: British Council.

[2] CFE Research and LSE Enterprise (2014) *Research and analysis of the benefits of international educational opportunities: A report for the British Council.* London: British Council.

Since the overall context of this document is centred on international experience in education, the review attempts to link the issues of skills and competitiveness to that of international education experience. Findings in this respect are reported in Section 4, although it should be noted at the outset that the literature does not seem to establish a strong link between skills and competitiveness on one hand and international experiences on the other. This is largely due to a lack of evidence, given that international experiences tend to be pursued by a minority of the workforce. Therefore, we have taken the decision to structure the literature review by considering step by step broader skills issues, and then how international experience can contribute to these. There are sources that suggest that international experiences do contribute to a range of positive personal traits and skills, including many of those associated with employability (also see the other literature review for this project on the nature and benefits of international experiences), as well as evidence on the importance of language skills in, for example, exporting. We conclude the review by highlighting the key emerging points from the analysis.

Methodology

The literature review has employed combinations of key-words to run Google Scholar searches. The main combinations of key-words are reported in Appendix 1. Relevant references in the articles obtained through Google Scholar have been scrutinised employing a snowballing technique, considering English language sources. The timeframe of the research is the last 10 years and the time boundaries of the search have been set at 2004 and 2014. Priority has been given to academic studies in peer-reviewed journals as this is in itself a preliminary signal of the robustness of the piece of research. Relevant documents from well-established organisations (e.g. government bodies, international organisations) have also been consulted. In total, over 50 documents have been reviewed.

02. Overview of UK competitiveness

One of the most widely-used sources to identify the economic competitive position of a country is the World Economic Forum's (WEF) Global Competitiveness Report, which ranks countries according to a composite competitiveness indicator. The ranking produced by the WEF is the outcome of a complex assessment exercise. The methodological features have been developed by the WEF and its experts since 1979, when the first report was published as part of a research project led by Professor Klaus Schwab. The synthetic score of a country's competitiveness is the combined result of a country's score across 12 dimensions or pillars (listed in chapter 3) which are composed by several sub-dimension amounting altogether to 200 indicators. Each of these 12 dimensions are then grouped into three macro-dimensions, namely Basic Requirements (e.g. institutions and infrastructure), Efficiency Enhancers (e.g. higher education and training), and Innovation and Sophistication Factors (e.g. R&D innovation). The data used to compile the country score in each dimension is drawn from different sources. Data that is easily captured through quantitative measures (e.g. secondary education enrolment rate) is drawn from internationally reputable data sources such as United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Monetary Fund (IMF), and the World Health Organization (WHO). Data that require a qualitative assessment (e.g. businesses' hiring intentions) are generated every year by the WEF through a survey – the Executive Opinion Survey (EOS) – and amount to around one quarter of the 200 indicators contributing the measurement of a country's competitiveness. In the last edition, the EOS was carried out in 148 countries and captured the opinions of over 14,000 business leaders.[3]

The figures overleaf show the UK competitive position at three points in time: 2007, 2010 and 2014.

[3] The details of how the computations are made to come up with a synthetic figure capturing a country's competitiveness are reported on the WEF webpage: http://reports.weforum.org/global-competitiveness-report-2014-2015/structure-of-the-gci/

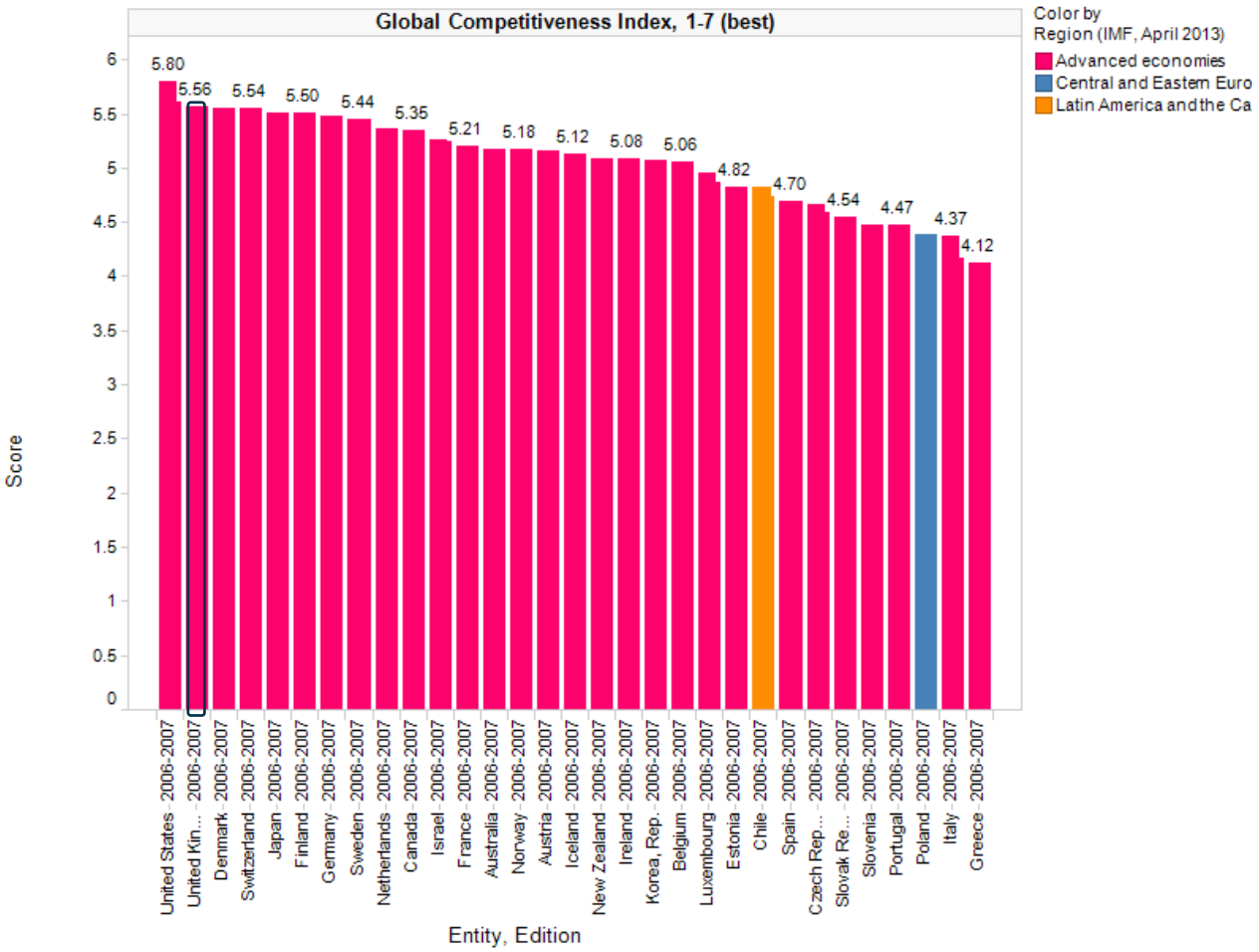

Figure 1: WEF Global Competitiveness Index for OECD countries 2006/2007 (Source: WEF online database)

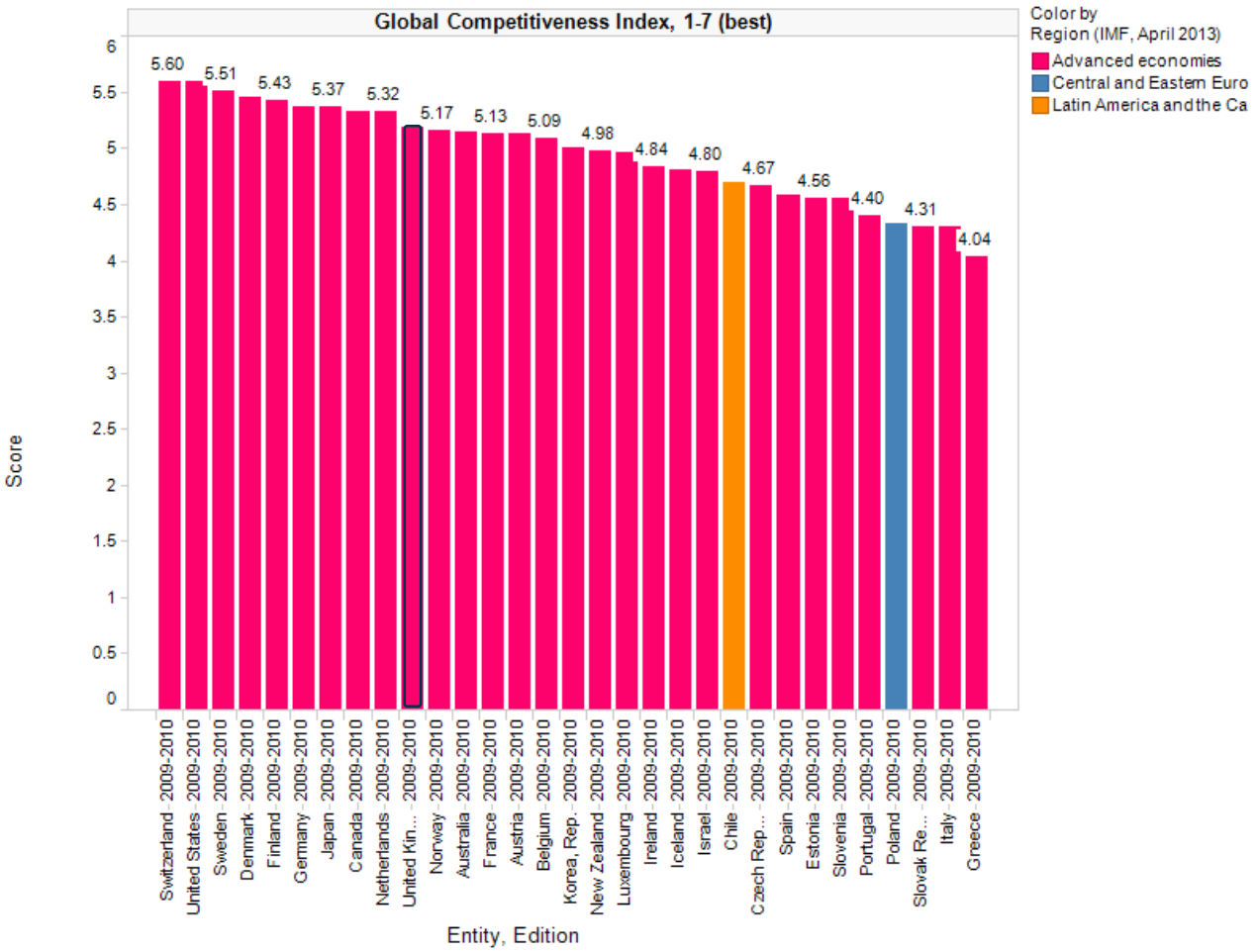

Figure 2: WEF Global Competitiveness Index for OECD countries 2009/2010 (Source: WEF online database)

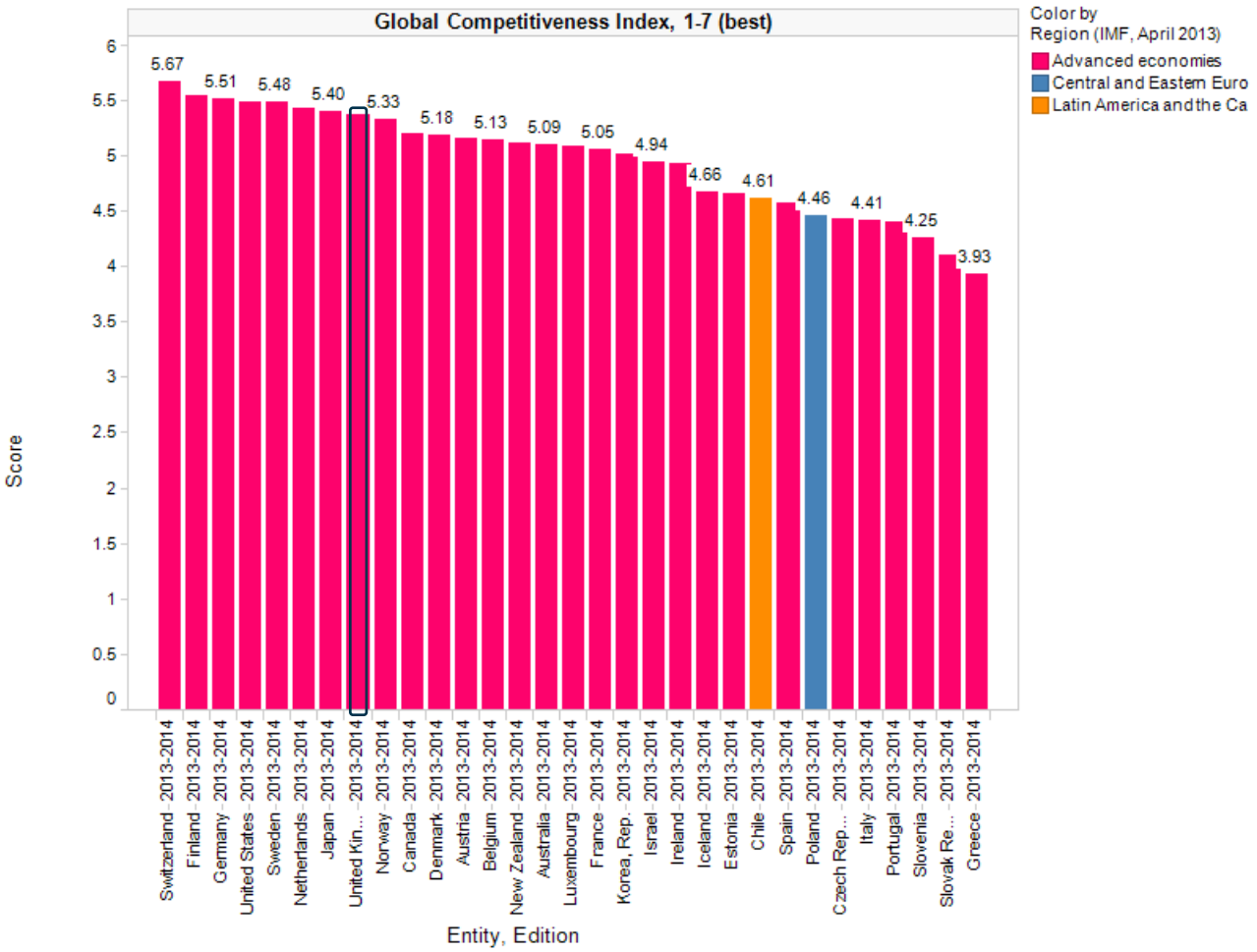

Figure 3: WEF Global Competitiveness Index for OECD countries 2013/2014 (Source: WEF online database)

The three figures show that the UK lost competitiveness vis-à-vis OECD economies between 2007 and 2010, dropping from the 2nd to the 10th position of the WEF ranking. The trend then reversed slightly with the UK moving from 10th to 8th place in 2014. This is in line with recent analysis from BIS (2012a) which, taking into account additional synthetic indicators (e.g. the World Bank's Ease of Doing Business Ranking and the IMD Competitiveness Yearbook), concluded that 'the UK has improved its position relative to its major competitors in recent years and tends to perform better than France, Italy and Japan, although still lags behind Germany and the US' (p 52). Labour productivity in the UK has fallen since the 2008 economic crisis, in common with other OECD countries, and the overall productivity (output per hour) still lags behind the US, France and Germany (ONS, 2012).

Over the previous 30 years, the UK performed well, reducing (though not closing) the productivity gap with key comparator countries (US, Germany, France). Productivity grew at around 2.8 per cent per annum between 1980 and 2007 – driven not only by a large increase in financial services activity, but also by increases in market competition, labour market flexibility, removal of restrictions on foreign direct investment, and a significant expansion of higher education (LSE Growth

Commission, 2013:9). In common with other advanced economies, the UK has seen increasing sectoral specialisation, whereby a small number of sectors account for a relatively large share of GDP. OECD analysis suggests that the UK's sectoral diversity is roughly the same as Germany's and marginally higher than both the US and France (BIS, 2012b). The UK is equally specialised against the four comparators in aerospace, chemicals and pharmaceuticals, and is more specialised in finance, business, communications and personal services. (BIS, 2012b).

In productivity terms, the UK performs well in highly skilled sectors such as financial services, publishing, utilities and R&D, but less well in mechanical engineering, electrical machinery/components and precision instruments. Labour productivity in business services is lower than in all three of the major competitors (BIS, 2012b). Research has typically reasoned that gaps in productivity have been as a result of the role of technological innovations; however, more recent research emphasises the impact that management practices can have. These two schools of thought are now not considered mutually exclusive in terms of effecting productivity – increased productivity is considered to be most likely when technology is coupled with 'innovations in production, organisation, customer and supplier relationships and new product design' (Battisti and Stoneman, 2010). The most intensive innovative organisations in the UK are 'high technology' sectors: manufacturers of electrical and optical equipment, manufacturers of transport equipment and manufacturers of fuels, chemicals, plastic metals and minerals. The least innovative sectors are typically in production: mining and quarrying, electricity, gas and water supply and construction (Battisti and Stoneman, 2010). Both the higher and lower innovative sectors are strategically important to the UK. While the UK Government's economic policy objective is to create growth evenly shared across the country and industries (BIS, 2011), it is known that economic conditions, including productivity and innovation, vary considerably across sectors and industries. The UK Government has therefore placed emphasis upon developing targeted industrial strategies that support growth in areas where the UK is best placed to succeed, and where government intervention (for example, to address market failure) could add the most value. The Government is also seeking to address areas of known weakness through new legislation or an injection of research and development funding. These include advanced manufacturing sectors as alluded to above, knowledge-intensive traded services (such as professional and business services), and enabling sectors that support growth in the wider economy, such as energy and construction (BIS, 2012b).

The UK currently accounts for around 3.4 per cent of global exports of goods and services, of which around two-thirds are goods, in particular machinery, electrical equipment and vehicles. As a share of world exports, the UK has a particularly high share of financial services (18%) and insurance (12%). Financial and business services are by far the highest net exporters (BIS, 2012b). As the international division of labour has changed, shifting more towards China and others, the UK faces

competition across a range of sectors, in particular manufacturing (LSE Growth Commission, 2013). It is therefore argued that the UK must respond positively to these new challenges and take up new opportunities, such as exporting to emerging economies. Our relatively high level of specialism in knowledge intensive sectors is a strength here. Such a composition of exports directly relates to the arguments presented in the next section, where it emerges clearly that the skills composition of the UK economy tends to be polarised towards high- or low- skilled sectors, with a significant gap at the intermediate level of skills, which are crucial for a thriving and innovative manufacturing sector.

Looking more closely at recent levels of foreign direct investment (FDI) into countries, the UK performs very well compared with other European countries. The US remains the main destination for FDI, with $227 billion net inflows in 2011. In comparison the figures for the UK were $53 billion in 2011, higher than any other European country (France: $41 billion, Germany: $40 billion) (UK Parliament, 2013). In 2011 net inflows into the UK were dominated by the services sector, including a tripling of USA investment into UK financial services between 2010 and 2011 and an increase in French investment into UK electricity, gas, water and waste. (ONS, 2013). The US had the highest level of stocks of inward investment ($3.5 billion), followed by the UK ($1.2 trillion) – figures for France and Germany were $963 billion and $713 billion, respectively. The US and the Netherlands are the largest inward investors in the UK. The UK is the third largest investor in outward flows of FDI, after the US and Japan, and the second largest investor in terms of outward stocks, after the US (UNCTAD, 2012 figures cited in UK Parliament, 2013). Using a range of indicators, UNCTAD[4] has produced an FDI Attraction Index and an FDI Potential Index. The former index examines the attractiveness of an economy to FDI, while the latter indicates the potential attractiveness, based on the attractiveness of the market, availability of low-cost labour and skills, the presence of natural resources and infrastructure. Comparing actual against potential attractiveness, the UK is judged to be "in line with expectations", while both Germany and the USA are judged as "below expectations" (UNCTAD, 2012, pp.29-32). The indicators suggest that skills are only one of a number of components that influence FDI levels, and therefore it is difficult to make a clear link between FDI levels and skills alone. The UK's strengths and weaknesses in terms of skills are considered in Section 3 and 4 below.

Although the UK performs well in many core aspects of competitiveness, lack of sufficient investment in skills and infrastructure have been noted as key limiters to the country's overall productivity and competitiveness. As noted by the LSE Growth Commission, the UK has key strengths in comparison to other countries, including a

[4] United Nations Conference on Trade and Development

strong rule of law, competitive product markets, flexible labour markets, a world-class university system and important sectors at the international level, such as financial services. The Commission identified three areas of long-term investments – human capital/skills, infrastructure and technology/innovation – in which it argued too little had been invested over recent decades and which continue to be inadequately addressed by current policy (LSE Growth Commission, 2013). The LSE Growth Commission identified a failure to invest in mid-level skills (discussed below), a failure to build adequate infrastructure, particularly in transport and energy, a failure to provide a supportive environment for private investment and innovation, and a failure to distribute the fruits of growth more widely. These are seen as a result of public policy failings over decades. Overall then, the UK performs well as one of the world's largest economies, but as international competition increases, addressing persistent gaps in skills investment, infrastructure and innovation, all of which should support greater productivity, are key priorities for the future.

03. The macro picture: The role of skills for competitiveness

As discussed above, skills are not the only ingredient of a country's competitiveness. The WEF ranking, for instance, constructs the competitiveness index using a number of different indicators that are captured through the following 12 'pillars'.

1. Institutions
2. Infrastructure
3. Macroeconomic environment
4. Health and primary education
5. Higher education and training
6. Goods market efficiency
7. Labour market efficiency
8. Financial market development
9. Technological readiness
10. Market size
11. Business sophistication
12. Innovation

Skills are components of some pillars of competitiveness (notably 'higher education and training' and 'primary education'). However, Keep et al. (2006) argue that while the role of skills in increasing competitiveness and productivity is certainly important, it should not overshadow other factors which appear to be *more* important than skills, including 'spending on R&D [...], investment in plant, equipment and public infrastructure'(p. 547).

The following figures show the performance of the UK across time (2006/2007 vs 2013/2014) along the 12 pillars of competitiveness and compare UK performance with two major international competitors, the US and Germany. They also look at specific elements of interest in the context of this project, such as ability to attract foreign talent and the skill-related components of innovation capacity.

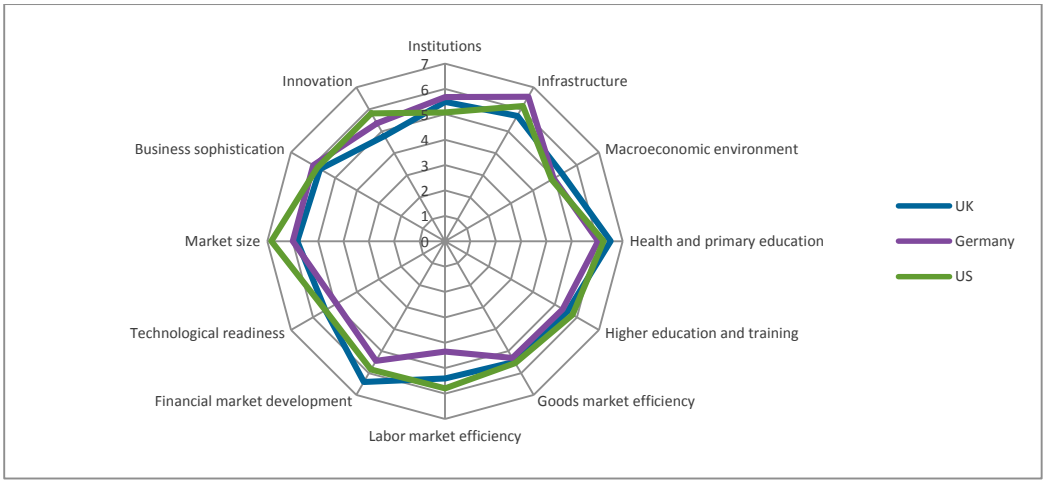

Figure 4: Disaggregated measure of competitiveness: UK, Germany and the US – 2006/2007 (Source: CFE elaboration based on WEF online database)

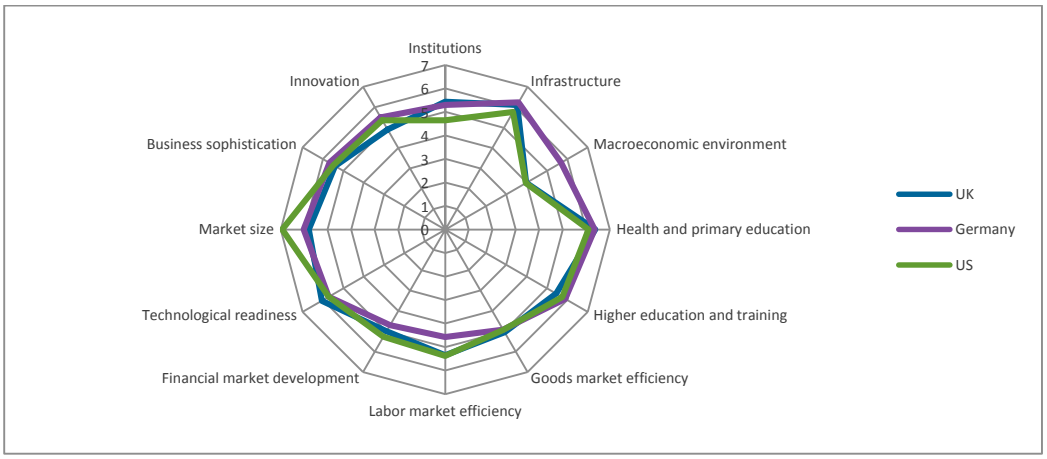

Figure 5: Disaggregated measure of competitiveness: UK, Germany and the US – 2013/2014 (Source: CFE elaboration based on WEF online database)

The figures above show that, according to the WEF, Germany has consolidated its competitive position through – by and large – a macro-economic environment that outperformed the UK and the US during the timeframe considered. At the same time, Germany made substantial gains in terms of labour market efficiency, although the US and the UK are still leaders in this respect, and in particular, in terms of their capacity to attract foreign talents (see Figure 6 overleaf).

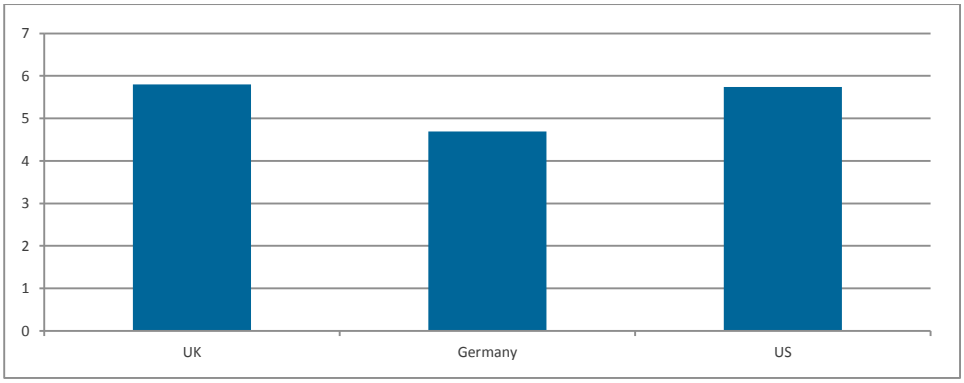

Figure 6: Capacity to attract foreign talent: UK, Germany and the US – 2013/2014 (Source: CFE elaboration based on WEF online database)

The capacity to attract foreign talent in the UK labour market does not seem to be coupled with the ability to nurture talent from young age through the school system. The LSE Growth Commission (2013) identifies poorly performing schools and pupils as a key element preventing the full economic potential of the country being unleashed. According to the latest PISA results for instance, British secondary school students tend to perform worse than their peers in some continental European, Asian and North American countries (e.g. Germany, Singapore, Hong-Kong, Canada), particularly in mathematics (OECD, 2014: 5). The LSE Growth Commission (2013) also highlights that there is a strong association between parental background and pupils' school performance – pupils from lower socio-economic groups typically perform less well than those from higher socio-economic groups. Poor educational performance limits potential which, in turn, is detrimental on both social and economic grounds. The association between parental background and later academic success (measured in terms of graduation from higher education) is stronger in countries with an early tracking system in place (e.g. Germany, Austria) than in countries with a comprehensive school system, such as the UK (Pfeffer, 2008).

According the WEF Global Competiveness data for 2013/14, the UK is ranked 4th in 'technological readiness' (scoring 6.06 out of 7) while Germany and the United States are ranked respectively 14th and 15th. This score is contributed to by its sub-component factors of ICT use and technological adoption. As far as ICT use is concerned, the UK is ranked 5th (with a score of 6.37) vis-à-vis Germany and the US, being ranked respectively 14th and 19th with scores of 5.84 and 5.67. The UK is also ranked 3rd for its quality of scientific institutions (6.24 out of 7) and 5th for its university-industry R&D collaborations (5.58 out of 7) being in line with or ahead of countries such as the US and Germany. Whilst this places the UK in a strong position in regards to the skills-related components of innovation, it is currently behind Germany and the US in terms of its overall capacity, mostly because the UK severely falls behind Germany and the US in other sub-components of innovation capacity, notably company spending on R&D and government procurement of advanced technology products.

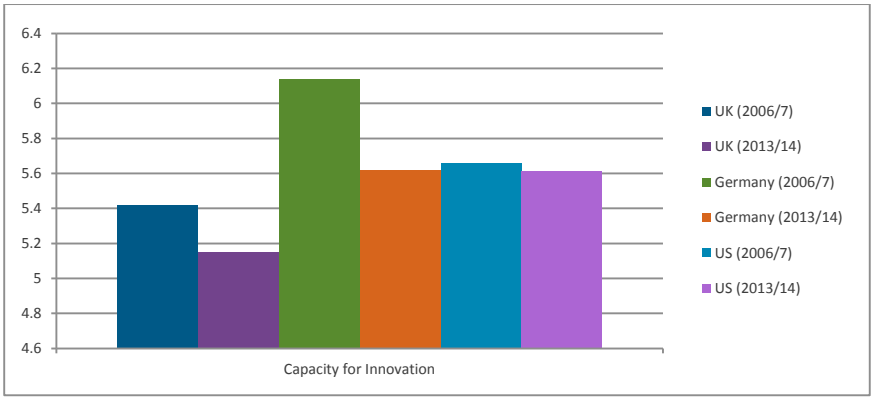

Figure 7 Capacity for innovation: UK, Germany and the US – 2006/2007 and 2013/2014 (Source: CFE elaboration based on WEF online database)

If we take a closer look at the skills-related indicators, two very different trends emerge: on the one hand, Germany has substantially improved its position, on the other hand the UK and the US have lost some competitiveness in recent years, as illustrated in the figure below. This holds true for both the primary education sector and the higher education and training sector.

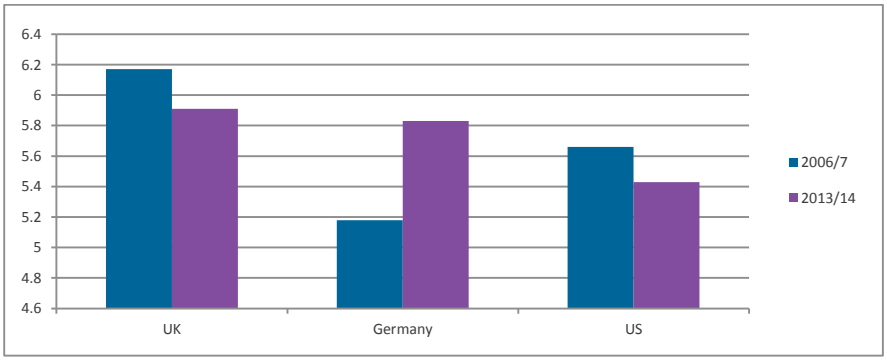

Figure 8: Quality of primary education: UK, Germany and the US – 2006/2007 and 2013/2014 (Source: CFE elaboration based on WEF online database)

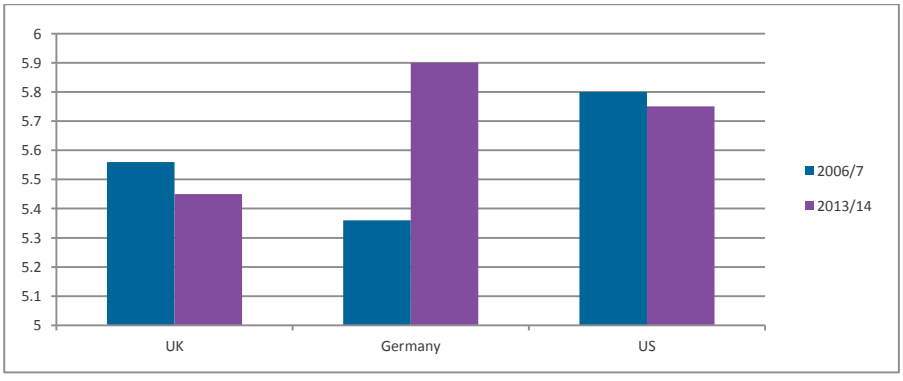

Figure 9: Higher education and training: UK, Germany and the US – 2006/2007 and 2013/2014 (Source: CFE elaboration based on WEF online database)

Commentaries on improving the UK's competitive position often focus on skills investment as one of several key pillars of action. The LSE Growth Commission (2013), as noted above, identified human capital investment as crucial for growth, particularly investment in improving the UK's school-level performance from mid-table to top-table in the international rankings.

In particular, the literature on skills and competitiveness in the UK devotes a huge amount of analysis to the role of vocational education and training vis-à-vis higher education. A recurrent finding is that the UK has traditionally neglected the development of 'intermediate skills' (usually delivered through vocational education and training) to focus disproportionately on 'higher skills' and higher education (IPPR, 2014; Broadberry and Mahony, 2014; Keep and Mayhew, 2004). Appendix 2 provides an overview of the distribution of low skills (below upper secondary level), intermediate skills (upper secondary) and higher skills (tertiary) across OECD countries showing that the UK – compared to the OECD average – has a higher proportion of individuals with higher skills, a similar proportion with low skills, and a much smaller proportion with intermediate skills (UKCES, 2012). Analyses of the UK's stocks of skills in the labour force suggest that higher level skills will continue to rise (for example, UKCES, 2012). Broadly speaking the UK has seen a large expansion of higher level skills as a proportion of the labour force, but no equivalent increase in intermediate level skills, which is seen as a major potential weakness in our national skillset. The removal of the binary divide between universities and polytechnics in 1992 may have limited the capacity of the UK to develop a strong vocational sector of higher education, comparable to the German Fachhochschule or Dutch HBO systems. The OECD (2013) concluded that England's post-secondary vocational education is small by international standards (10% of the youth cohort, compared to around 50% in Austria and Germany).

The expansion of higher education at the expense of vocational education holds economic and social/cultural consequences. On the economic side, it has caused a variety of issues related to over-qualification (Chevalier and Lindley, 2009) and job mismatch (Bevan and Cowling, 2007), leading to graduates often accepting 'non graduate jobs' (Green and Zhu, 2010). Further, the lack of intermediate skills has also shaped large sectors of the UK economy as 'low-skills equilibria' characterised by 'low-skill labour [...] locked into producing goods and services for low-wage consumers' (Page and Hillage, 2006: 33).

On the social and cultural level, the continued expansion of higher education has been associated with a persistent academic elitism and 'lower status and respect to practical learning' (Humphreys, 2006: 241). In this respect, Hansen and Vignoles (2005: 6) talk about the lack of 'parity of esteem' between vocational education and training and higher education. Higher education in the UK is frequently regarded as one of the most steeply stratified systems of higher education (Teichler, 2007) in

which 'where' you study is regarded as more important than 'what' you study as far as entry to the labour market is concerned (Brennan et al, 2013).

In response to the imbalance between higher education and vocational education and training, efforts have been made by policy makers to focus on intermediate skills, continuous learning, and skills development in the adult workforce (Mason and Bishop, 2009). Politically, the deprioritisation of vocational and technical education has been recognised as a priority for government action. The Secretary of State for Business, Innovation and Skills cited the issue in a speech in April 2014 (Cable, 2014), when he called for a greater emphasis on high level vocational skills, including through expanding Higher Apprenticeships. The leader of the Opposition also proposed plans for increased numbers of "technical degrees". (Miliband, 2014). The recent expansion in apprenticeship numbers has been a strong government response to the need for high quality vocational routes, integrated to employer needs. However, this is against a backdrop of an overall diminishing budget for further education and skills outside of Apprenticeships.

The Leitch review (2006) set ambitious targets in terms of skills development – in particular intermediate skills – of the UK workforce and considered skills development as the crucial ingredient to increase productivity and competitiveness. The Leitch review has been criticised for being essentially too focussed on the supply side with little attention to demand side considerations (Green, 2012; Hopking and Levy, 2010). Lloyd and Payne (2004: 25) summarise effectively the problems connected with supply side skills strategies, stating that the recent history of UK skills strategies is one of:

> 'recurrent cycle of policy failure, where the UK state endlessly launches one skills supply initiative after another that repeatedly neglect the underlying causes of the UK's skills malaise. Meanwhile, our manufacturing industry slips overseas, [and] the service sector churns out a steady stream of low skill, low wage jobs […].'

More generally, the inadequacy of supply side (only) initiatives signals that skills policies tend to be complex and embedded into broader societal features. Hancke' and Coulter (2013), comparing the economic organisation of the UK and Germany, note that skills formation strategies would inevitably encounter difficulties and constraints if they were not embedded in a broader framework of institutional complementarities (e.g. economic coordination between government, employers and unions). A similar argument pointing to the crucial role of a 'stable institutional framework' to enhance economic growth and productivity is made in Broadberry and Mahony (2014: 72). The more recent government skills strategy, *Skills for Sustainable Growth* (BIS, 2010), emphasises the importance of employers taking responsibility for skills development, and the current government has pushed forward several initiatives to encourage greater employer ownership of skills,

including the Employer Ownership of Skills Pilots, and the Employer Ownership Fund.

An interesting analysis from Foreman-Peck and Wang (2013) establishes a relationship between the volume of international trade of British SMEs and the language deficiencies of their employees. The analysis is based on bilateral international trade flows and responses to surveys at the individual company level focusing on actual and potential exports. The findings suggest that foreign language skills do have an impact on the ability of SMEs to trade with foreign businesses. The authors estimate that the cost of foreign language ignorance to the UK economy was in 2006 £48 billion, equivalent to 3.5 per cent of GDP. While the authors themselves are cautious about the reliability of this estimate, there seems to be strong evidence to claim that better foreign language abilities would boost UK SMEs' international trade by easing and increasing their activities in non-Anglophone markets. The evidence base supporting a comparison of UK language proficiency in educational formation versus other countries is limited. However, the UK position has been compared through the European Survey on Language Competencies (ESLC) undertaken by the European Commission, which looks at a total of 14 European countries. The study, published by the Department for Education in 2013, found that the UK's language proficiency did not compare well to other European countries, but noted that direct comparison between countries is confounded by the natural variation in languages commonly taught and adopted between countries (DFE, 2013). Nevertheless, it seems clear that the UK's language proficiency is behind competitors, and that this is felt to have a significant negative impact on exports.

This section has provided a review of the existing evidence on the relationship between skills and macro-outcomes. It emerges that while economic competitiveness remains strong in highly skilled sectors, there is considerable evidence to indicate that skills are not being adequately developed in many sectors of the UK economy, such as the manufacturing sector. The development of this sector is hampered by the relative lack of intermediate skills and of a well-functioning vocational education and training system able to supply such skills. With respect to international skills and experiences, it emerges that better foreign language skills across UK SMEs would be beneficial to increase the volume of UK international experts.

04. The micro picture: Evidence on specific skills needed

This section provides a discussion of evidence on UK skills needs at the micro-level. As such, the literature presented is primarily concerned with generic employer skills needs, and the skills that individuals need at a high level to progress and succeed in their careers and lives. Much of the evidence presented below is based upon the employer viewpoint, for instance, through large-scale surveys that seek to identify workforce skills needs and skills gaps from the employer perspective. This data is frequently focused upon graduate level skills, and primarily concerned with known skills gaps and stated skills needs of particular sectors or industries. It follows that much of the focus of the literature is upon skills needs at the point of entry to the labour market (i.e. preparation for the first job after full time education), rather than at later stages of an individual's career. While it becomes clear from the literature that most sectors and industries all have discrete and evolving skills needs, the need to address skills needs is often driven by external forces, such as replacement demand brought about by an aging workforce, for example. This section attempts to make reference to these key arguments, albeit at a relatively high level, given the scope of this project. We also provide a more detailed discussion on internationally-focused skills, such as language skills. This is intended to focus on how international experience and skills are also relevant to the employability discussion, despite not being cited in much of the literature that directly focuses on skills and competitiveness.

Presenting a clear picture on micro-level skills needs is challenging. The literature on this topic is vast, often highly subject-specific, and fragmented, whereby key information of relevance to policy makers is effectively 'in silos'. This said, the literature on this subject is heavily dominated by the concept of 'employability skills', which emerges as the main priority for a successful transition from university to the labour market, according to employers, policy-makers and students alike (e.g. Docherty and Fernandez, 2014; Porter, 2014; Andrews and Higson, 2008; CBI, 2010; Helyer, 2011; Mason et al. 2009; Tomlinson, 2008).

Employability skills broadly refer to the set of skills that enhance graduates' readiness to start their professional life. There is no single or standardised definition of employability skills, and indeed the notion of strong employability skills will differ from employer to employer. Definitions of employability have continually shifted throughout the latter part of the 20th Century (Wilton 2011), away from pure demand-led skill sets and towards a more holistic view of graduate skills and attributes, that emphasise transferable skills and person-centred qualities, which may be developed alongside subject-specific knowledge. Additionally, the literature

seems to focus primarily on two sets of skills: on the one hand, 'soft and cross-cutting' skills (such as negotiation, leadership, project management) and on the other hand, previous exposure to 'real life' problems, for instance through internships or work experience. At a high level, the current concept of employability may be defined as a set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, benefiting themselves, the workforce, the community and the economy (Knight and Yorke, 2003). For educational institutions to successfully develop such skills, a broadening of student experiences beyond those of the classroom and library seem to be required.

Concerning 'exposure to real life problems', Branine (2008) reported that 60 per cent of a large sample of employers believe that many graduates do not have experience of real-life work. Similarly, Docherty and Fernandez (2014) note that there may be a gap between what universities teach and the skills that are required at work. They go on to suggest that bringing universities and industry closer together may help to bridge the gap, for example, through the sharing of their infrastructure and movement of students and personnel between industry and university (see also Mason et al., 2009, on university-industry cooperation to enhance employability of graduates). The request for work experience – or more generally for extra-curricular experience (Tomlinson, 2008) – emerges as a recurrent finding from comparative studies. Andrews and Higson (2008) find that 'prior work experience' is one of the core requirements requested by employers in the UK, Austria, Slovenia and Romania. The demand for work experience does not come from employers only. The results of a student survey reported in Porter (2014) reveals that 92 per cent of students wanted an internship during their studies, but that less than half had access to one. International placements and sandwich courses can also contribute to meeting internship and work experience goals. We should note, however, that despite the limited availability of internships and similar arrangements, large numbers of undergraduate students combine study with significant amounts of part-time work. They do so in order to help pay their university fees and living costs while studying.

Turning to 'soft and cross-cutting' skills, several studies refer to the importance of problem solving, team work, time management (CBI, 2010), analysis, critical debate, creativity, imagination and entrepreneurship (Heyler, 2011). A CBI survey among British employers reveals employers' dissatisfaction with both school/college and university graduates when it comes to business and customer awareness, time management and problem solving skills (CBI, 2010). Further, when asked about future skill needs, almost 70 per cent of employers thought that leadership and management skills would become increasingly important (CBI, 2010; see also Felsted et al., 2007 and Sodhi and Son, 2008 on the increasing need for leadership skills);

however, only 50 per cent of them are confident that they will find sufficient highly-skilled employees in the future (CBI, 2010).

Cranmer (2006) raises doubts about the effectiveness of developing employability skills in the classroom as opposed to the workplace and argues that that the development of employability skills may be more effective when delivered by educational institutions working in conjunction with prospective employers. Wilton (2011) gores further and offers a critique of the rhetoric linking the employability agenda with social inclusion. He questions the ability of employability skills to facilitate more equality of opportunity for graduates in the labour market.

The government has identified a series of strategically-important sectors: advanced manufacturing, including aerospace and automotive, knowledge intensive traded services, including ICT, enabling sectors, such as energy and construction, and life sciences, including pharmaceuticals. These sectors align to the UK's relative advantages compared to other countries and it is believed that investing in skills within these sectors will in turn support jobs and economic growth (BIS, 2012b).

Looking beyond these sectors, the UK is likely to exhibit strong demand for all occupational levels in future. Projections in a report by IPPR (2104) indicate fastest growth in high-skilled occupations, such as management and senior professional jobs, but also depict an economy with a renewed demand for medium and lower-skilled occupations. There is likely to be 'expansion demand' growth within higher skills roles, such as professionals, managers and directors over the next ten years. However, demand for intermediate and lower tier occupations is also likely to increase as a result of 'replacement demand' and, in absolute terms, the vast majority of jobs will continue to be found at the lower end of the occupational ladder, such as in sales, services and elementary occupations. This again reinforces the importance of intermediate and lower skills development alongside higher education. Sectors that have been identified as having strong demand for intermediate level skills include pharmaceuticals, digital technology, advanced manufacturing and green technology. The IPPR report (2014) summarises net demand for employees (i.e., both replacement and expansion demand) across a range of occupations, and shows that demand continues to be strong across all levels: higher, intermediate and lower. The trend in high-skilled professional jobs is evident, with a projected 60 per cent increase over the next decade. However, there is also expected to be significant growth in demand at the middle and lower skilled tiers, and the projected acceleration of high-skilled jobs, although significant, will still be overshadowed by middle and particularly lower-skilled jobs which are predicted to account for 70.1 per cent of jobs in 2022. The report concludes that there needs to be a strengthening of vocational education and training, as under current trends the supply of intermediate skills will not meet the continuing demand for intermediate occupations (IPPR, 2014).

Evidence also suggests mismatch in the skills that individuals hold and what employers require, with many employees being over-skilled and over-qualified for their jobs. The latest UKCES Employer Skills survey (2014) found that 48 per cent of employers reported that the skills of their staff were under-utilised (4.3 million workers / 16% of the workforce). Under-utilisation of skills is most likely to occur in the hotel and restaurant sector and least likely within manufacturing and public administration.

At a methodological level, Watson et al. (2006) warn against excessive reliance on employers' surveys to determine skills needs and gaps in the labour market. Through a probit analysis, they find for example that firm-size is a significant factor in shaping employers' perception of skills deficiencies. Taking employers' surveys at face value without further modelling may therefore lead to a distorted picture of the actual skills needs. There is also a limitation in the tendency for surveys to focus on skills needs at the point of entry to the labour market rather than the graduate's capacity to 'learn on the job' and develop professionally in the long term. Furthermore, Docherty and Fernandez (2014) warn that the traditional empirical view of labour market skills needs, based on fluctuations in supply and demand for numbers of qualifiers per degree subject, is not sufficient to fully address skills mismatches. Instead of focusing only on specific, often qualification-based solutions to skills mismatches, a more fluid overview of the labour market and the skills of graduates is required. Docherty and Fernandez (2014) note that it is likely that there will always be some degree of mismatch between the knowledge developed by graduates and experienced workers. They suggest that stronger, more effective collaboration between employers and universities is the only way to bridge the gap and to fully benefit from the high-growth and competitiveness potential of the higher education and labour market. Similar arguments can be made for both further education and compulsory (school) education.

Skills needs and international experience

The review has revealed that the evidence linking skills and economic competitiveness with international experiences is somewhat limited. One of the few examples is a report published by Think Global and the British Council (2011) that analyses a survey of 500 CEOs based in the UK. They outline some key aspects that contribute to 'global employability skills', including work experience overseas, which is regarded as extremely important by business leaders. However, they also observe the reluctance of UK graduates to undertake such endeavours. A comparative report on language policies and practices in Europe suggested that the UK was somewhat behind other countries in not having compulsory foreign language provision in primary schools (5 of the 24 countries had at least one compulsory foreign language at primary level, while it is optional in England, Northern Ireland and Scotland, and is not explicitly mentioned in Wales) (British Council, 2012). Furthermore, a report

by the British Council (2013b) argued that the UK has an acute shortage of people able to speak the ten most important foreign languages for the country's future prosperity and global standing (identified as Spanish, Arabic, French, Mandarin Chinese, German, Portuguese, Italian, Russian, Turkish and Japanese). A poll for the report found that French was the most commonly spoken language (15% of adults), but that three-quarters of UK adults were unable to speak any of these languages well enough to hold a conversation. This sits within the context of widespread concerns about the reduction in language learning at school level. In 2010, for example, 57 per cent of pupils were taking no language at GCSE, and between 1996 and 2010, the number of candidates for languages at A-level declined by 25 per cent (British Academy, 2011). As cited earlier in this review, the UK's foreign language proficiency also rated poorly in comparison to 14 other European countries (DfE, 2013).

The lack of international exposure of employees (in terms of cultural and linguistic understanding) is also seen as a limiting factor for exporting and conducting business abroad. A report by the British Chamber of Commerce (2013) highlights that lack of awareness of foreign cultural norms and an inability to speak a foreign language are crucial barriers to expanding export volumes. As many as 70 per cent of the respondents to the Chamber of Commerce's survey declared not to have any foreign language knowledge of the markets they operate in. Furthermore, 62 per cent of non-exporters who are likely to consider trading internationally in the future see proficiency in foreign languages – or lack thereof – as a barrier. French was found to be the most commonly spoken language, but only 5 per cent felt able to converse fluently enough to conduct business deals in the language. Non-European languages were even less commonly spoken.

Findings with respect to employer views on foreign language ability are however more mixed. A survey by UKCES (2009) reveals that foreign language skills are not a high priority among the skills in need of updating, as illustrated in Table 1 overleaf. A report comparing language policies and practices across Europe also suggested that UK employers are comparatively less conscious of the value of multilingualism (British Council, 2012).

	% of establishments reporting managers as single most important occupation in need of skills updating
Technical, practical or job-specific skills	58
Management skills	56
Problem solving skills	40
General IT user skills	40
Team working skills	40
Customer handling skills	38
Communication skills	35
Oral communication skills	30
Office admin skills	26
IT professional skills	24
Written communication skills	23
Numeracy skills	13
Literacy skills	12
Foreign language skills	**11**
Weighted n =	118240
Unweighted n =	8943

Table 1: Main types of skill in need of updating for managers (where managers are the single occupation most affected by skills updating needs): private sector establishments with five or more employees, NESS09 (population-weighted). (Source: UKCES, 2009)

In a similar vein, a comparative study carried out by CILT, the National Centre for Languages for the European Commission, and focussing on the Effects on the European Economy of Shortages of Foreign Language Skills in Enterprise finds that Business Leaders in UK companies do not regard a lack of language skills as a barrier to exports and developing language skills within their workforce is not a priority (see Table 2).

Question	UK	EU average
Is there any possibility that your company ever missed an opportunity of winning an export contract due to lack of foreign language skills?	6%	11%
Do you think your company will need to acquire additional expertise in languages in the next 3 years?	4%	42%

Table 2: Rate of positive response to selected questions (Source: CILT, 2006: 71-72)

However, this dominant perception may indeed be part of the problem, reflecting a lack of appreciation of the connection between language skills and the development of a broader social and cultural awareness and business performance. This interpretation is plausible according to some of the data emerging from CILT (2006). For instance, when asked 'Is your decision of investing based on knowledge of the relevant language/culture?', only 1 per cent of British Employers responded 'yes' as opposed to a European average of 10 per cent. This suggests that developing strategies to enhance their linguistic or cultural understanding of potential customers or business partners abroad is not a priority for British employers. It should be noted in this respect that – as illustrated in section 2 – the UK labour market is very open and attracts considerable amount of foreign labour, which may in turn make it relatively easy for employers to fill any skill gaps in terms of language skills by simply drawing on a (large) supply of foreign labour.

There has also been increasing discussion in the literature about the development of "global" competencies, which include languages, but also encompass broader cultural awareness and other features. International experience is argued to have a positive impact on employability and provide a further "point of difference" to make graduates stand out (Fuller and Scott, 2009). Douglas (2008) outlines the following as key elements for global skills (many of which are developed through international experiences):

- an ability to communicate with people from a range of social and cultural backgrounds;
- an ability to work within teams of people from a range of backgrounds and other countries;
- openness to a range of voices and perspectives from around the world;
- willingness to resolve problems and seek solutions;
- recognition and understanding of the impact of global forces on people's lives; and
- willingness to play an active role in society at local, natural and international level.

According to a survey of multinational employers, 20 per cent said that a UK graduate with any overseas experience is more employable, and 60 per cent indicated that having experience of professional work overseas makes a UK graduate more employable (Fielden, 2007). There seems to be more work to do to convince more employers about the potential value of international experiences, but many recognised international experience as an additional indicator in favour of candidates, assuming personal attributes and skills were equal (Fielden, 2007).

A report by CFE, with the Council for Industry and Higher Education (CIHE) (now NUCB) and the Association of Graduate Recruiters (AGR), based on interviews with large employers, also found that global competencies, a global mindset and 'cultural agility' were becoming increasingly relevant, particularly for multinational employers (CFE, 2011). The report suggested that experiences overseas were a key way, if not the only way, to develop a global mindset. The report also suggested that for UK employers, additional languages are a 'nice to have', rather than a 'must have' but can certainly add value. Research cited earlier in this review by Forman-Peck and Wang (2013) argues that there is a strong link between lack of language ability and low exports performance. Companies with a poor understanding of the value of languages remain engaged only with English-speaking markets. Their analysis identified a number of markets (including Brazil, Russia, India, China (BRIC) and Japan) in which the UK is exporting less than would be expected, and notes that over time, the trade cost to the UK resulting from language barriers has been consistently large.

From an individual perspective, language skills, and intercultural skills more generally, can open up more career possibilities, as can openness to living and working in another country. A survey of employers by the British Council (2013a) also reinforced the value of intercultural skills, both to employers and individuals, in terms of bringing in new clients, working in diverse teams, and supporting an organisation's reputation. A survey of UK undergraduates also suggested that students regarded an international outlook as important, but did not necessarily relate this to their future careers (British Council, 2011). Findings at both the employer and individual level therefore suggest that more could be done to promote the benefits and importance of international experiences in developing intercultural outlooks and competences amongst the UK population.

05. Conclusion

Drawing upon a range of sources, this literature review focused on two wide-ranging themes: competitiveness and skills. Four main points emerge from the analysis.

First, evidence suggests that at a headline level, the UK has rebounded in terms of international competitiveness vis-à-vis OECD countries after its competitive position deteriorated between 2006 and 2010. The UK's productivity has increased over the last 30 years, and it holds a leading position in foreign direct investment. Despite this, a productivity gap with our key international competitors persists, and UK productivity has fallen since the 2008 economic crisis. Under-investment in skills, infrastructure and innovation has been identified as a restraining factor for the UK economy, and this has influenced the Government to develop industry and sector-focused strategies to maximise UK growth and productivity, build on areas of international strength, and address possible weaknesses and market failures.

Second, at the macro-level, skills policies are only one component that contributes to a country's competitiveness. For skills to be an effective component of competitiveness and productivity, skills policies should be embedded in a broader framework that takes into account both skills supply and demand side issues. Evidence suggests that the UK has an abundance of individuals with higher level and lower-level skills, and relatively few with intermediate-level skills. The emphasis upon higher-level skills apparent in UK policy literature in the previous decade reflects a strong growth in higher level skills in the labour force, yet the UK's capacity for vocational and technical skills is limited in comparison to competitor countries, such as Germany. A balanced development of higher education and intermediate and vocational education and training policies seems crucial to 'unlock' the economic sectors currently running on a low-skills equilibrium. Such policies are likely to require greater and new forms of collaboration between educational institutions and employers. There is also some specific evidence on the UK's poor performance on foreign language skills contributing to lower export levels than could be the case.

Third, at the micro-level, employers' demands for graduates' and other employees' competences heavily revolve around the concept of 'employability skills', which range from soft and cross-cutting skills to prior work experience. Evidence, such as that produced by the CBI, has continually reinforced the need for better work-readiness amongst school leavers and graduates, and emphasises the importance of 'softer' cross-cutting skills. There are strong arguments in favour of developing employability skills through university-industry co-operation, and it is possible that bridging skills gaps in this way will be more effective than the traditional empirical view of skills needs based on macro-level projections of supply and demand.

Fourth – and finally – the literature linking skills and economic competitiveness on the one hand and international experiences on the other is underdeveloped, but increasing. There is no definitive evidence at the macro-level on the impact of a 'more international' workforce on economic competitiveness overall, although there is evidence on the potential benefits for foreign trade stemming from a more multi-lingual workforce, in particular for SMEs. At the micro-level, evidence suggests that international exposure and related skills, such as language skills and intercultural awareness, are valued by employers and may bring a range of benefits to the individual. The available evidence suggests that international experience dovetails with other types of employability skills, and may be viewed as a differentiating factor in an individual's skillset. However, there is a need for a greater level of synergy between the benefits and impacts recognised by these sources, and the wider literature around skills supply and demand, which covers more generic issues, such as employability skills.

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Appendix 1: Combination of key words

The main combinations of key-words that have been used are the following:

- UK competitiveness + Europe
- UK competitiveness + global economy
- UK competitiveness + emerging markets
- UK competitiveness + strengths
- UK competitiveness + opportunities
- UK competitiveness + sustainability
- UK competitiveness +labour market
- Skills needs + sector
- Skills demands + profession
- UK skills needs + higher education
- UK skills needs + graduate
- UK skills needs + masters
- UK skills needs + postgraduate
- Skills needs + international awareness
- Skills needs + intercultural sensitivity
- Skills needs + confidence + international
- Skills needs + leadership + international

Appendix 2: Distribution of skills across countries

Low skills			Intermediate skills			Higher skills		
Country	%	Rank	Country	%	Rank	Country	%	Rank
Canada	5.0	1	Czech Republic	75.7	1	Canada	60.6	1
Czech Republic	5.0	1	Slovak Republic	73.4	2	New Zealand	58.9	2
Hungary	5.0	1	Hungary	67.9	3	Korea	56.2	3
Ireland	5.0	1	Poland	63.0	4	Ireland	52.8	4
Japan	5.0	1	Austria	62.4	5	Japan	52.3	5
Korea	5.0	1	Germany	60.5	6	Israel	47.7	6
Norway	5.0	1	Slovenia	56.7	7	Switzerland	47.3	7
Poland	5.0	1	**EU21 average**	**51.8**	**n/a**	**Scotland**	**47.1**	**n/a**
Slovak Republic	5.0	1	Sweden	51.1	8	United States	46.8	8
Finland	5.7	10	Finland	50.2	9	Australia	46.7	9
Sweden	7.1	11	Norway	49.6	10	Luxembourg	46.6	10
Slovenia	7.2	12	Italy	49.0	11	**England**	**46.1**	**n/a**
Estonia	9.8	13	Greece	46.6	12	**United Kingdom**	**46.1**	**11**
Switzerland	10.1	14	Estonia	46.6	13	Netherlands	45.8	**12**
United States	10.1	15	**OECD average**	**45.2**	**n/a**	Norway	45.4	**13**
Germany	10.9	16	Belgium	45.0	14	**Wales**	**44.9**	**n/a**
Luxembourg	11.8	17	Japan	43.1	15	Finland	44.1	**14**
EU21 average	**11.9**	**n/a**	United States	43.1	16	Estonia	43.6	**15**
Austria	12.0	18	France	42.9	17	Iceland	43.6	**16**
Australia	13.1	19	Switzerland	42.6	18	**Northern Ireland**	**43.1**	**n/a**
Belgium	13.6	20	Ireland	42.3	19	Denmark	43.0	17
Netherlands	13.7	21	Luxembourg	41.6	20	Sweden	41.8	18
OECD average	**15.4**	**n/a**	Netherlands	40.4	21	Belgium	41.4	19
New Zealand	16.2	22	Australia	40.2	22	Spain	39.6	20
Israel	17.6	23	Korea	38.8	23	**OECD average**	**39.3**	**n/a**
Wales	**18.0**	**n/a**	Denmark	38.0	24	**EU21 average**	**36.4**	**n/a**
Scotland	**18.8**	**n/a**	**Wales**	**37.1**	**n/a**	Slovenia	36.0	21
Denmark	19.0	24	**Northern Ireland**	**35.2**	**n/a**	France	35.7	22
United Kingdom	**19.2**	**25**	Iceland	34.9	25	Poland	32.2	23
England	**19.2**	**n/a**	**United Kingdom**	**34.7**	**26**	Greece	32.1	24
Greece	21.2	26	Israel	34.7	27	Germany	28.6	25
France	21.3	27	England	34.6	n/a	Hungary	27.1	26
Iceland	21.5	28	Canada	34.4	28	Austria	25.7	27
Northern Ireland	**21.7**	**n/a**	Scotland	34.1	n/a	Portugal	23.0	28
Spain	28.5	29	Spain	31.9	29	Slovak Republic	21.8	29
Italy	29.6	30	Mexico	26.4	30	Italy	21.4	30
Portugal	56.4	31	New Zealand	25.0	31	Czech Republic	19.5	31
Mexico	58.4	32	Turkey	23.7	32	Turkey	17.7	32
Turkey	58.6	33	Portugal	20.6	33	Mexico	15.2	33

Source: UKCES, 2012