



Enterprise and Entrepreneurship Education and Support in the Midlands Enterprise Universities

On behalf of the Midlands Enterprise Universities (MEU)

Report 1: Literature Review and Baseline Data Analysis

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Report 1: Literature Review and Baseline Data Analysis

1. Introduction

This is the first of two reports, to be accompanied by an extended Executive Summary covering the findings from both reports alongside overall conclusions and policy recommendations. This report sets out the context for the project, including: a summary of relevant national policy; a review of national and international literature; a detailed assessment of secondary data pertaining to enterprise and the wider labour market across the two Midlands regions; and analysis of data on the student populations, graduate destinations, start-up and spin-out activity for the seven Midlands Enterprise Universities. Report 2 will then summarise the findings from an information collection exercise and in-depth interviews with colleagues engaged in enterprise and entrepreneurship education.

This study has been undertaken on behalf of the Midlands Enterprise Universities (MEU), a consortium of Higher Education Institutions (HEIs) that includes Birmingham City, Coventry, De Montfort, Derby, Nottingham Trent, Lincoln and Wolverhampton Universities. The consortium has a lead role in the entrepreneurship agenda for the Midlands regions, in support of the Government's Midlands Engine for Growth initiative. This report investigates the nature and extent of enterprise and entrepreneurship education and business support activities undertaken by the seven members of the MEU consortium across the East and West Midlands regions.

The MEU Director and the attendees at an MEU Enterprise Meeting (8th February 2017) identified the research questions underpinning this project, which are as follows:

- How does the scale, profile and impact of enterprise and entrepreneurship activity in the MEU institutions compare to the UK Higher Education sector overall?
- Is there evidence of higher rates of business start-up, survival and growth amongst graduate entrepreneurs and other beneficiaries of MEU enterprise education and business support services compared to the wider regional population?
- What are the impacts on local and regional economies and labour markets, including on graduate retention and higher-level skills, earnings and the quality of employment (including the quality of self-employment), innovation and productivity?

The evidence presented in these two reports aims to influence UK national and Midlands Engine policies, providing a rationale for future delivery and funding across the MEU institutions and the HE sector more widely. It will also identify potential case studies that represent best practice in programme design and delivery, as well as identifying any possible gaps in provision. The approach used to investigate these research questions includes:

- A brief review of relevant policy and national and international literature, focussing particularly on recent meta-reviews (e.g. BIS, 2013 and the European Commission, 2015);

- A contextual analysis of secondary data, identifying local and regional trends in indicators of entrepreneurship and enterprise, wider labour market trends, and an analysis of the MEU student and graduate populations; and
- An information collection and delivery mapping exercise undertaken across the MEU consortium. Following an MEU Enterprise Meeting on the 23rd of May, it was agreed that there would be a follow-on phase for this project, comprising an additional round of information collection to address gaps (given the large size of the institutions involved, and multiple members of staff across different schools, colleges and arms-length incubation and support units) accompanied by one-to-one interviews with key contacts at each university.

The findings from this final phase will be summarised in Report 2.

Throughout the two reports, distinctions are made between three different categories of activity, which have implications for different beneficiary groups and potential impacts:

- **Enterprise education**, which describes the teaching and development of “entrepreneurial skills, attitudes and competencies, enterprise culture and an entrepreneurial mind-set” (BIS, 2013, pp. 14-15), including the importance of creative ideas, practical problem solving, networking and taking the initiative, which are relevant to both entrepreneurial activity (e.g. starting a business) and progressing and innovating within an existing organisation or in subsequent education (i.e. being ‘intrapreneurial’);
- **Entrepreneurship education**, which relates to the teaching and development of the skills required to start a business, including those competences and attitudes established by enterprise education but in the context of establishing a new venture or managing and growing an existing business; and
- Many universities operate arm’s length or integrated **business support**, advice and incubation hubs, which not only provide enterprise and entrepreneurship advice, funding and support to students, university staff and graduates, but also to other population groups within given parameters (e.g. residents of certain postcodes, individuals in given age groups, or entrepreneurs active in ‘priority’ sectors).

Enterprise and entrepreneurship education can be delivered through dedicated modules or degree courses (e.g. a postgraduate qualification in entrepreneurship), or can comprise part of an assessment or learning and teaching environment (e.g. an enterprise case study) within a wider course or module. Additionally, entrepreneurship opportunities may be offered in the form of a placement or internship (e.g. a year of a Sandwich Course spent with the institution’s support and incubation hub) or as a voluntary or bolt-on CPD activity undertaken by the student at any time during their studies (e.g. the Enactus International Social Entrepreneurship programme).

This Midlands-focussed project has been conducted at the same time as a national review led by Professor Tim Dafforn, the Chief Scientific Advisor for the Department for Business, Energy and Industrial Strategy (BEIS), which has been investigating the provision of enterprise education in UK universities and its importance for wider economic competitiveness. The BEIS review was commissioned by the Permanent Secretary in September 2016, and work so far has included several policy and consultation workshops and an analysis of Higher Education Statistics Agency (HESA) data and Longitudinal Education Outcomes (LEO), experimental statistics on the employment and earnings

of graduates using matched data from different official sources. The LEO data provides useful context for this report, but lacks detail on individual institutions or regions, and does not separately identify entrepreneurship or self-employment. This report will include more detailed analysis of institution-level data from HESA (specifically graduate destinations and university-business interaction data) within the context of UK national analysis such as LEO.

2. Project Context

Enterprise can be defined as the seizing of new business opportunities, both by start-ups and existing firms (BIS, 2013). Economists often regard it as part of the process of “creative destruction” (e.g. Schumpeter, 1934) that improves productivity through the introduction of new technologies, processes, skills and products, resulting in a more efficient allocation of resources as more productive, innovative firms gain market share at the expense of less competitive businesses.

Enterprise has been identified as a key driver of long-term economic growth, and differentials between regions in entrepreneurial activity can help explain wider disparities in overall economic performance. The literature identifies a series of common drivers or enablers of enterprise:

- Culture - the attitudes to, or experience of, enterprise within a local area or population group;
- Knowledge and skills - related to leadership and creativity as well as more practical management, organisational and financial skills;
- Access to finance - including through capital markets and bank lending;
- An innovative business environment - where there is a demand for, and ongoing development of, new products and processes;
- Regulatory frameworks - which influence the decisions of individual entrepreneurs and potential entrepreneurs and affect the way markets operate; and
- The nature of the market - including barriers to entry and exit and the presence of monopolies and oligopolies.

Universities can influence some of these factors, particularly in encouraging a favourable culture for enterprise amongst students, graduates and the wider population of their local area, in supporting the development of the required knowledge and skills, and in assisting and advising on access to finance, including the administration of grants and venture capital funds where appropriate. Universities also provide opportunities for knowledge transfer to existing businesses and spin-offs and other start-ups led by staff and students.

The MEU institutions have a common commitment to support enterprise, and have had notable success to date, particularly in terms of high graduate employment rates and Graduate Prospects (the proportion of recent graduates in ‘graduate level’ occupations within 6 months of graduation) and in supporting a total of 454 new start-ups in 2015. This complements the national policy context of increasing focus on HEIs’ local impact, commercialisation of research and closer business links.

The role of education in supporting enterprise, at all levels and age groups, was investigated during David Cameron's premiership by the Young Review. Lord Young published three reports between 2012 and 2014, culminating with *'Enterprise for All: The Relevance of Enterprise in Education'* (his third and final report). During the previous Labour Government, Gordon Brown had emphasised the importance of enterprise skills and universities' role in developing them as both Chancellor and then Prime Minister, commissioning the Smith Institute to produce their *'Enterprise for All'* report in partnership with the East Midlands Development Agency (Pilch and Shimshon, 2007 - with conclusions written by Ed Balls and John Healey, then Economic and Financial Secretaries to the Treasury respectively). This followed on from the 2002 Davies Review into *'Enterprise and the Economy in Education.'*

The Smith Institute's *'Enterprise for All'* (2007) attempted to build on Howard Davies' review, which conceptualised entrepreneurship as a continuum of skills, attributes and attitudes built up over the long term. The Davies review defined these as 'enterprise capabilities', which comprised a bundle of concepts including: "the capability to handle uncertainty and respond positively to change, to create and implement new ideas and new ways of doing things, to make reasonable risk/reward assessments and act upon them in one's personal and working life." Enterprise capabilities draw on four domains:

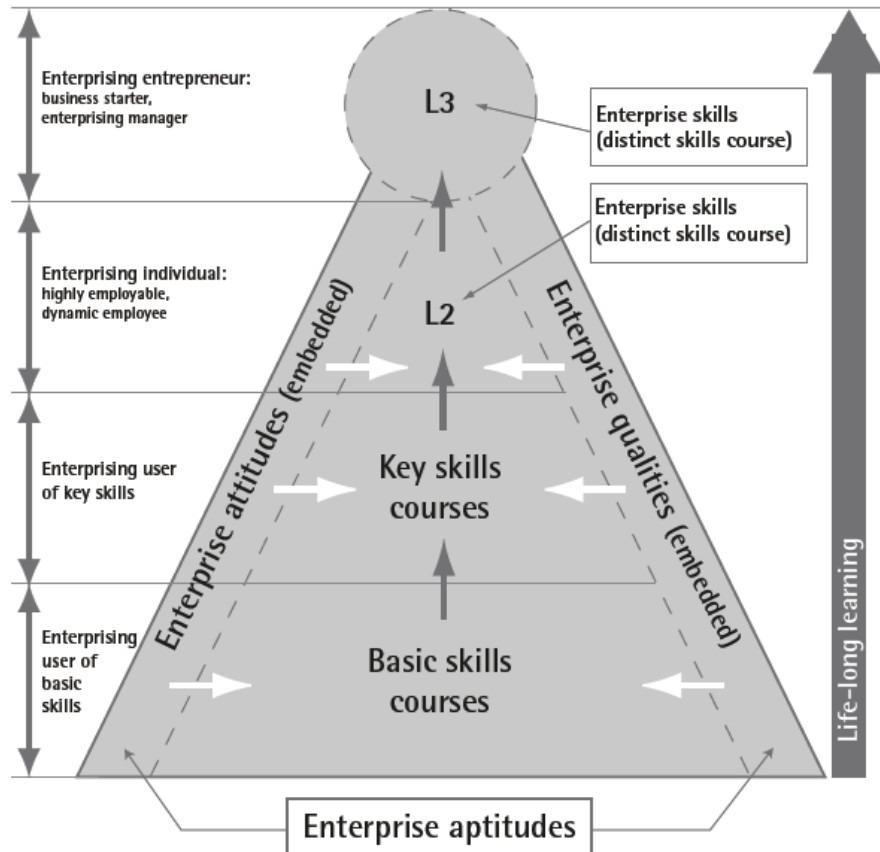
- 'Knowledge and understanding of concepts' - including organisation, innovation, risk, change;
- 'Skills' - decision making (particularly under conditions of uncertainty), interpersonal and social skills, leadership, risk management, presentation;
- 'Attitudes' - self-reliance, open-mindedness, respect for evidence, pragmatism, commitment to making a difference; and
- 'Qualities' - adaptability, perseverance, determination, flexibility, creativeness, improvisation, confidence, initiative, self-confidence, autonomy, action-orientation.

In order to recommend how enterprise capability could be developed through the stages of the education system (with some students choosing to progress towards more specialised study later in their education), the Smith Institute grouped the four domains into two sequential areas:

- 'Enterprise skills' covering knowledge/understanding and skills (the 'what' or the content of a course); and
- 'Enterprise aptitudes', which encompasses attitudes and qualities, representing a distinctive approach to problems ('how' a course is delivered and assessed and the wider institutional culture).

As illustrated in Figure 1, the Smith Institute felt that enterprise capability required a foundation of basic skills that *all* students should be taught during compulsory education, starting at primary school. If taught actively and engagingly and including interaction with entrepreneurs and businesses, those students who developed enterprise aptitudes could go on to access further provision (e.g. Level 2 and Level 3 in Further and Higher Education) that would focus on the development of more specific and high-level enterprise skills (e.g. the legal and financial practicalities of starting and running a business), that would not be relevant or engaging for all students.

Figure 1: Enterprise Capability and Lifelong Learning (from basic skills in enterprise, to enterprise aptitudes for management and leadership)



Source: The Smith Institute, 2007. *'Enterprise for All'*, p. 42.

With specific reference to universities, the Dowling Review (2015) on business-university research collaborations and the Witty Review (2013) on universities and their impact on local growth, included recommendations for HEIs to play a greater role in local economic development and to increase their support for SMEs and micro-businesses.

Lord Young's *'Enterprise for All'* (2014) made several recommendations on how education can promote an 'entrepreneurial spirit' amongst students as well as developing the skills needed for modern employment. It argued that enterprise and entrepreneurship education are important in adapting to a changing economy and world of work. Because smaller firms (particularly those employing less than 10 people) make up a large share of the business population, combined with the transformative impact of the internet, many of today's young people will be more likely to work for a small firm or start a business compared to previous generations, including at the same time as working within a larger firm. An entrepreneurial mindset and associated attributes including creativity and risk-taking will be more important - but mainstream education tends to focus on the employability skills and attitudes that are associated with large, hierarchical and process-driven establishments.

Lord Young also alluded to the quality of work associated with modern employment (including the idea of an over-reliance on routine or 'meaningless' jobs within the UK's service sector), suggesting that entrepreneurship offers a greater sense of meaning or achievement - particularly for young people at an early stage in their careers. He cites an RSA/Populous Survey from 2014 in which 82% of self-employed people felt the work they did was more meaningful than found in a typical job. The report argues that it is not surprising that many young people find it difficult to connect what they are learning at school or university with what they will need in their careers. Enterprise could thus be used to motivate learners to engage - especially if it is consistently incorporated in each stage of education.

The challenge in this, also identified in academic sources (e.g. Edwards and Muir, 2012), is that young people (18-30 year olds in the RBS Youth Enterprise Tracker) may be more likely than other age groups in the population to want to start a new business (55% compared to 35% of the working age population) but are significantly less likely to actually do so.

This dichotomy is also recognised by the CIPD (2015) and in the European Commission's '*Entrepreneurship 2020 Action Plan*' (2012). The EC worked with the OECD to develop a framework for entrepreneurial universities to improve capability with tailor made modules. The EC Action Plan pushes embedding entrepreneurship into curricula, encouraging education providers to deliver at least one practical entrepreneurial experience, and using the European Social Fund (ESF) to boost entrepreneurship training for young people and adults. The CIPD cite the Flash Eurobarometer on Entrepreneurship (2012), which suggests that young people across Europe are more positively disposed towards entrepreneurship than older people. Amongst 15-24 year olds, 45% stated that they would prefer to be self-employed, compared to 35-37% for the three older age groups reported in the survey. When the CIPD themselves surveyed 2,000 employees in 2013, they found that 18-24 year olds were most likely to be considering entrepreneurship, but least likely to have set up their own business. The EC regards entrepreneurship as an essential driver of growth and job creation across Europe, but in their Action Plan recognise that the barriers faced by young people (explored in the summary of the GEM survey in Section 4) can be exacerbated by the: "too-frequent failure of education and training systems to provide a strong foundation to support young people's entrepreneurial spirit and ambitions." In the context of increased difficulties transitioning from education to work post-Financial Crisis (particularly in southern European countries such as Greece and Spain), expecting young people to have the knowledge and confidence to start their own business is even more challenging.

Lord Young recommends greater interaction with entrepreneurs at all levels of education, and increasing incentives, rewards and monitoring for Higher Education institutions. His recommendations include:

- Further and Higher Education providers should maintain a Further Earnings and Employment Record (FEER) for all courses, including employment rates and earnings for leavers over a period of at least 10 years, to enable applicants to identify courses with the best medium- and long-term employment and enterprise outcomes;
- Similarly, for students to update an Enterprise Passport from school onwards, recording extra-curricular enterprise activity throughout their educational journeys (e.g. Young Enterprise,

Fiver and Tenner challenges at school, Enactus etc. at university). This would signal entrepreneurial potential and be sharable with employers alongside existing tools such as the Higher Education Achievement Record (HEAR);

- Schools and colleges should ensure that the increasing emphases on employability skills is accompanied with skills for enterprise. They should be supported by a team of Enterprise Advisors - potentially coordinated sub-regionally by Local Enterprise Partnerships (LEPs). Teacher training, for example during inset days, should include opportunities to interact with, or even shadow, entrepreneurs and larger businesses;
- Higher Education, particularly within business schools, should increase emphasis on self-employment as a viable and high-status career option: “Business schools have, up to now, devoted themselves to producing executives for large companies” (p.3). However, this should not be exclusive to business schools or business-focused courses, “all too often this activity is confined to the entrepreneurship programmes run by the university business school and confined to business students” (p. 36). Rather than being centred within business schools and taught in discrete, dedicated courses and modules, entrepreneurship (and social entrepreneurship) should be delivered across a greater diversity of university subjects and courses. He celebrates the relatively recently formed group of Small Business Charter business schools (awarded SBC status to celebrate their role in supporting small businesses, local economies and student entrepreneurship), but argues that the SBC Award should be rolled out across universities;
- Universities’ cross-departmental, arms-length or shared business incubation and support centres should be used to deliver both enterprise education and the outcomes of entrepreneurial activity (i.e. business start-ups). The University of Leeds’ ‘Enterprise at Leeds’ programme runs across departments and subjects as a joint honours degree (e.g. ‘Biotechnology with Enterprise, Music with Enterprise etc.). The Young Review also identifies the Hive business support and incubation centre at NTU as good practice in its deliberate positioning of enterprise across the university - accessible to students from all subject areas;
- An enterprise society in every university should be supported by BEIS. The funding awarded to the National Association of College and University Entrepreneurs (NACUE) should be awarded to societies on the achievement of targeted objectives, including number of graduate start-ups. These societies could be the basis for delivering a Student Business Start-Up Programme; and
- Universities can be incentivised to compete, and have excellence rewarded, through a national campaign such as ‘E-Star Awards’ for those institutions that deliver the “strongest enterprise ethos and outcomes for their students” (p. 6). The Enterprise E-Star could be delivered through the annual National Business Awards (NBA).

In common with the Witty and Dowling Reviews, Young regards university engagement as having local transformative potential for the small business population and the extent of innovation associated with entrepreneurial activity. He argues that, unlike the majority of business start-ups, which “are in low cost and low or -no-tech enterprises”, start-ups associated with universities are more likely to be science-based and within research facilities (p. 33). However, it must be noted (as will be explored later in this report) that student and graduate start-ups can be quite different from the high-tech spin-offs based on university-owned Intellectual Property and led by academics and/or research students.

Data analysed in Section 4 suggests that freelance-style self-employment accounts for the largest share of entrepreneurial activity for recent graduates - a large share of which is in the creative, cultural and media sectors.

In practical terms, implementation of the FEER would be hugely costly and resource intensive, unless follow up information on leavers from the Destinations of Leavers from Higher Education (DLHE) survey period could be collected or modelled from matched administrative sources (this is the principle behind the LEO project, the initial Experimental Statistics for which are only available on a UK wide-basis, illustrating the huge resources required to produce course-level 10-year longitudinal data).

Further critical responses to Lord Young's recommendations are found in the academic literature (for more detail on the literature see Section 3), not least in terms of the desirability of such outcome-level monitoring and comparison. For example, in their critique of common approaches to evaluating enterprise education, Johnson and Muir (2012) warn against an over-fixation on quantitative outcome measures such as those proposed by Lord Young (increased start-ups etc.). If the ultimate objective is to "produce entrepreneurial students who actually become entrepreneurs" (p. 286), then there should be wider cultural and pedagogical outcomes - and these are unlikely to be visible immediately, or within 6 months of graduation. For students and graduates, enterprise and entrepreneurship education should incrementally affect their 'role identity' - enabling them to regard themselves as 'entrepreneurs' as a positive descriptor of their role and traits, even if they do not start up a business until later in their careers. For institutions, enterprise and entrepreneurship education should reflect a deeper pedagogical philosophy, including a wider up-take of active and interactive learning and assessment, such as problem- and project-based learning. Approaching an inherently interactive, cross-cutting topic like entrepreneurship in terms of a given number of credit-points associated with elective or 'bolt-on' modules, reflects a: "reluctance to move away from standard university assessment [and] is evidence of a lack of understanding of these needs" (p. 287). This echoes the prioritisation of content (specific knowledge or skills, 'what' is taught) over innovative modes of delivery (the learning environment, including interaction with alumni entrepreneurs, 'how' something is taught) that affects much of the delivery of employability in Higher Education (see Knight and Yorke etc.). In short, Johnson and Muir observe a tendency to deliver courses and modules that are *about* rather than *for* entrepreneurship, and Young's recommendations arguably do little to address this. The main challenge in delivering education that is genuinely *for* entrepreneurship is the need to develop "appropriately trained trainers" (Hytti and O'Gorman, 2004, in Johnson and Muir, 2012, p. 287). This is one of the reasons why the MSc in Enterprise and Entrepreneurship Education delivered at Coventry is so interesting - as it recognises the need to develop tutors who can deliver this wider, integrated cultural and pedagogical change (see Report 2).

The current Government has, at the time of writing, published their Industrial Strategy Green Paper (BEIS, 2017) and the Midlands Way strategy (CLG, 2017), although enterprise education and skills for entrepreneurship are only briefly mentioned. It is too early to conclude whether this indicates that enterprise education and some of the recommendations of Lord Young's report have moved to a lower priority within the current Government's growth, enterprise and skills agenda. It is one of the objectives of the MEU Consortium to influence these policies, particularly with regards to the Midlands Way. The fact that Professor Tim Dafforn and his team have been appointed by BEIS to carry

out their review of enterprise education through 2017 is a positive indication that it remains of interest to politicians and officials.

The Policy Exchange (2017) has produced a useful critique of the Industrial and Midlands Engine strategies, in order to inform their implementation by delivery partners within the Midlands regions. The Industrial Strategy identifies the need to reduce the gap in productivity between regions and local areas to drive national productivity growth and increased living standards (as did development strategies throughout the New Labour administrations, for example the *'Productivity in the UK'* series published by HM Treasury, 2000-2007). In the Policy Exchange's updated analysis of the causes of the UK's inter-regional productivity gap (particularly between the Midlands and the South East), they emphasise the decline of manufacturing and the increased geographical centralisation of both high value services and Government investment around London. These long-term differences have been recently exacerbated by the differential rates of recovery since the 2008 recession - leading to a slowdown in innovation activity in the Midlands, an over-reliance on low-pay/low-skill jobs and labour hoarding (due to the abundant supply of relatively cheap labour, providing little incentive to adapt to technological change and weak competition). In terms of the business population, there is a significant and widening gap between leading, high growth firms and the bottom third of least productive firms, that have seen little improvement in productivity since 2000. Unsurprisingly, the former is overwhelmingly concentrated in London and the South East. The Midlands Engine Strategy recognises poor graduate retention across the Midlands, lower workforce qualification levels (particularly in the West Midlands, which has the highest proportion of people with no qualifications in the UK) alongside business start-up rates around half of London. Just 37.9% of the graduates who studied in institutions in the East Midlands who are in work six months after graduation, are working in the region. The figure for the West Midlands is 55.4%. In contrast, London retains 69.2% of its graduates (CLG, 2017, p.16). The Policy Exchange identify this as another facet of the high degree of centralisation in the UK's pattern of economic development.

Rather than objectives to 'upskill' the workforce or 'raise the demand for skills' through national and/or regional enterprise support programmes that typified economic development during the New Labour administrations, the Industrial and Midlands Engine strategies both place heavy emphasis on discrete area or cluster-based programmes. For example, the existing Enterprise Zones (established in 2012, with 48 zones in place across the UK at the time of the Industrial Strategy's publication) provide facilities, infrastructure and tax relief for those businesses based within the zones. The Policy Exchange challenge whether zone-based programmes, alongside major infrastructure investment such as HS2, are enough to address the relative "lack of entrepreneurship and economic dynamism" affecting the Midlands. They see the problem as fundamentally structural, as the UK's "service-based model has concentrated economic activity in a single economic hub," exacerbated by an over-centralised political system, consistently favouring London and the South East for investment. This leads to further policy failures by successive Governments since at least the 1980s that have had particularly detrimental impacts for the Midlands, for example the over-favouring of the City/finance that has harmed the manufacturing sector (e.g. strong Sterling, high energy prices).

Although the Industrial and Midlands Engine strategies and the Policy Exchange presentation mention enterprise education only briefly, 2 of the 10 pillars in the Industrial Strategy, 'developing skills' and 'supporting businesses to start and grow', address broad topics that are relevant. The Government's

ScaleUp agenda (BEIS, 2017, pp. 63-64) is particularly relevant. The Industrial Strategy defines small businesses growing in scale as, “not just a question of capital... [but] also about having the leadership and management skills to make the right decisions for a business.” When compared to international competitors, the UK lags in management and leadership skills, important because, “organisations with better qualified management and a dedicated programme of management development have been shown to perform more effectively, and have more sophisticated and higher quality products and market strategies... In this context, local economic growth strategies should focus not only on high-growth scaleups, but also on those with more moderate ambitions.” This is the context in which the Industrial Strategy briefly introduces the aims of Professor Tim Dafforn’s review to: “examine the entire entrepreneurial journey, focusing on the motivations and opportunities for those embarking on business ventures, from education to business development and growth... to ensure best practice across business schools can reach the widest audience.” The Industrial Strategy notes that those recommendations from the Young Review that have now been implemented relate to the Small Business Charter Awards, with 33 business schools being awarded Charter status (although it is important to note that Lord Young was explicit that such recognition should not exclusively focus on business schools). It goes on to claim that 4,700 students have found work placements in micro start-up businesses as a result, whilst 8,000 small businesses and more than 800 new businesses have already been started as a result of the Small Business Charter schools.

There is consensus across the policy documentation that the principal role of enterprise education is to create the culture or environment within which potential entrepreneurs can develop. The CIPD note that: ““There is some debate about the extent to which entrepreneurship can be ‘taught’ within national education systems. The key question is, how can education and training provide the right climate and opportunities to encourage entrepreneurial skills, behaviour and outcomes so that setting up a business becomes a natural choice for young people with entrepreneurial potential?” (2015, p.2). Where students are exposed to enterprise or entrepreneurship education, policy makers identify a greater propensity to actually engage in start-up activity. From the 2012 Flash Eurobarometer on Entrepreneurship, the CIPD observe that, whilst only 23% of EU respondents had taken part in a course or activity about entrepreneurship, 50% agreed that their school education helped them to develop a sense of initiative and a ‘sort of’ entrepreneurial attitude. Of those who had taken part in enterprise-related learning within school, 47% said that their school education helped them better understand the role of an entrepreneur in society, but fewer (28%) agreed that their education made them interested in actively becoming an entrepreneur.

The academic and programme evaluation literature reviewed in the next section provides more detail on the challenges in both creating a conducive environment and ‘converting’ positive views of entrepreneurship into discernible enterprise activity. Importantly, the academic literature investigates issues of attribution, causality and self-selection. Where sources like the Flash Barometer cited above observe an association between engagement in enterprise education and positive perceptions towards enterprise, it cannot be said that the former ‘causes’ the latter - particularly as students who are already positively predisposed to enterprise are most likely to choose to engage with such learning and training opportunities.

Report 2 will build on the above summary with reference to the regionalisation and subsequent localisation of enterprise policies and programmes, including the Regional Development Agencies’

(RDAs) management of European-funded programmes during the New Labour administrations and the Local Enterprise Partnerships' (LEPs) role in sub-regional delivery from 2010/2011. This includes the LEP-led local priority frameworks for ESF and ERDF-funded programmes (the Strategic Economic Plans, or SEPs, developed by the LEPs in England are primarily concerned with the targeting and distribution of European funds in their areas). Analysts have identified a potential 'balkanisation' of enterprise education and support policy because of these developments, with associated advantages and risks. This may partly explain the relative absence of reference to this agenda in recent national-level policy.

Section 2 Summary - Project Context

- Enterprise can be defined as the seizing of new business opportunities, both by start-ups and existing firms. It is important for the wider economy in introducing new technologies, processes and skills, and in enabling a degree of 'churn' in the business population, where resources are allocated away from less productive firms to new, innovative and high growth businesses.
- Enablers for enterprise include a supportive culture, access to finance, a competitive market with low barriers to entry, and the necessary knowledge and skills.
- Successive Governments have targeted enterprise and entrepreneurship education in order to increase business start-ups and equip young people for a changing world of work, in which creativity and a positive attitude towards risk have become more important – including for employees of large firms and multi-nationals. Enterprise and entrepreneurship education can engage a broad range of students and better equip them for their future careers, that are more likely to include business start-up compared to previous generations.
- The Smith Institute summarised earlier reviews to present enterprise capability as a continuum, including *skills* that should be included within basic, compulsory education and *aptitudes* that should be developed in Further and Higher Education, essential for addressing the UK's management and leadership skills gap with international competitors.
- There is some criticism of Government policy (e.g. responses to the Young Review) and its tendency to prioritise quantitative outcomes from enterprise and entrepreneurship education, rather than wider cultural change and pedagogical benefits - such as its role in supporting active and engaging learning environments. Universities can often miss these opportunities, favouring more traditional modes of learning, teaching and assessment - instead delivering courses that are *about* rather than *for* entrepreneurship.
- The most recent relevant policy publications from central Government, the Industrial Strategy and the Midlands Engine Strategy, make only brief mention of enterprise and entrepreneurship education, but do emphasise the 'ScaleUp' agenda - which prioritises the management and leadership skills required for small businesses to grow and innovate. Local and regional developments will be discussed in Report 2.
- A consistent concern expressed across independent reviews and international policy reviews (for example, the European Commission and the OECD), is the

evidence that young people are more likely to regard enterprise and self-employment positively, but are significantly less likely to actually start a business.

3. Literature Review

This section reviews literature evaluating enterprise and entrepreneurship education, entrepreneurial activity amongst young people (particularly students and graduates), and the impacts of HE activities on start-up, survival and wider local and regional economic impact. As well as identifying examples of UK and international best practice, it will enable us to refine relevant taxonomies to structure and develop our analysis of MEU activity in Report 2 - which will be presented in Section 5 at the end of this report.

3.1 UK and International Meta-Reviews and Academic Studies

Several major meta-reviews have been undertaken of key relevance to this study, notably by ICF/GHK on behalf of BIS (2013), by the European Commission to inform their Action Plan (2015), by the OECD's Centre for Entrepreneurship, SMEs and Local Development (2008) and by the Quality Assurance Agency (QAA) (2012) to inform their guidance for UK Higher Education providers.

The ICF/GHK research for BIS (2013) comprises a major literature review (155 references, of which 77 were selected for detailed review) and primary research to map out the broad structure of provisions across both Higher and Further Education providers.

The mapping found that, across institutions in the UK, formal provision is well established, and is found in nearly three quarters of Higher and Further Education providers (70% of HEIs and 74% of FE colleges have formal enterprise or entrepreneurship courses). Full qualifications (for example a NVQ, BA or MSc in Entrepreneurship) were provided by 26% of HEIs and 31% of FE colleges. However, most of this provision was concentrated within Business Schools (accounting for 61% of formal provision in HE) or wider Business and Management departments (when business faculties were combined with IT, Law and accounting this covers the vast majority of enterprise provision, at 80%), rather than being spread across a wide range of departments - as recommended by Lord Young. In terms of national coverage, the majority of providers offering formal courses were in the South East, the North West and London, with the smallest number of providers in the East Midlands and the North East. All HEIs in the West Midlands offered formal enterprise or entrepreneurship education.

This mapping also identified the approaches to learning deployed in enterprise and entrepreneurship education which, in the case of formal and credit-bearing provision, was more likely to be traditional or 'passive' in delivery (with 75% of institutions delivering the learning through lectures, and only 17% providing online activities and 16% providing project-based activities). This is in line with Lord Young's concern that institutions continued to teach entrepreneurship by passive means, and the concern in the literature (e.g. Johnson and Muir, 2012) that the wider pedagogical opportunities inherent in enterprise education - as education *for* rather than *about* entrepreneurship - were being missed in favour of institutions' tendency to fall back on traditional modes of delivery.

From the international literature reviewed by ICF/GHK, there are several examples of studies that attribute skills acquisition relevant to starting or managing a business to participation in enterprise

and entrepreneurship education programmes. A US study from 2009 identified a positive relationship between participation in such programmes and the ability to identify new business opportunities, the knowledge necessary to take advantage of these opportunities, the ability to design a strategy, and the ability to develop a business entity to take all this forwards. Participants were also more likely to have self-confidence in these business-related skills, which could also be attributed to their completion of the educational programme. Similar links between skills, self-confidence and enterprise and entrepreneurship education were found in a study in Germany in 2010 and in the UK in 2012 (related to participation in the Young Enterprise programme), which recorded acquisition of and self-confidence in very similar skills to the US study (with additional skills including researching and evaluating ideas, building business relationships, marketing, selling/trading and intellectual property). According to US and UK studies, less formal learning, for example elective participation in clubs and societies, may enable 'learning by doing', 'learning through reflection' and 'learning through observation' - with social learning through networking identified as a key, distinctive benefit of engagement in enterprise clubs and societies.

In addition to skills, knowledge and self-confidence, there is some evidence from these studies that enterprise and entrepreneurship education leads to changing attitudes and ambitions (for example improved perceptions of the desirability of a career as an entrepreneur). However other studies reviewed (for example Von Graevenitz et al, 2010) found a negative impact on intentions to become entrepreneurs in the future. Students' stated perceptions shifted from neutral to negative as they found out more about the risks and consequences of business start-up, "enabling a number of those to decide that it is not for them" (BIS, 2012, p. 29). Similarly, a 2004 study of compulsory undergraduate enterprise modules in Canada found little significant positive effect on students' desirability to launch an enterprise venture, although it did heighten students awareness of the feasibility or otherwise of starting a business in the future - with some students demonstrating a reduction in their stated future intent to start a business.

Fewer studies found evidence of links between participation in education programmes and the increased likelihood to gain employment or actually start a business. Stronger evidence for improved employability was found in the case of programmes that included a work experience placement. For example, a 2006 study on the Shell Technology Enterprise Programme (STEP), which offered undergraduates placements in SMEs that included 'meaningful' experiences such as task-orientated assignments, found a slightly high rate of employment for STEP leavers compared to a control group.

A 2008 longitudinal study of graduates with entrepreneurial ambitions from 8 UK HEIs over a 10 year period found positive effects of enterprise education on employment and business growth, with all participants becoming self-employed or owners of businesses - whilst none experienced unemployment or any business failure - although the absence of a control group, and the self-selecting nature of the participants (all of who stated an intention to start a business in the final year of undergraduate study) means it is impossible to identify attribution to their education. A 2000 study of graduates from enterprise and non-enterprise courses in Arizona suggests that those from enterprise-related courses were 25% more likely to have started new business ventures, controlling for a range of socio-economic variables. However, a 2009 analysis of UK GEM 2005 data found that enterprise training in college or university increased the probability of graduate business start-up by just 1.3% (and setting up a new business in the future by 3.2%), although both results are affected by

the graduates' self-selection in having undertaken enterprise-related study in the first place. A study of 2008 GEM data across 37 countries, which looked at the impacts of mandatory enterprise education compared to a control group with similar demographic characteristics found that the study group were 2.4 times more likely to have started a business than the control. The highest gain from mandatory enterprise training was in France (where the study group were 4.3 times more likely to have started a business than the control).

On the basis of these findings, ICM/GHK makes the following summary observations:

- Participation in enterprise-related education and support initiatives in FE and HE institutions does lead students to acquire relevant knowledge, skills and competencies;
- Students and graduates of enterprise education are also more likely to report changed attitudes towards risk, and a change of intent around self-employment and entrepreneurship, compared to non-participants. However, it is important to note that the change in intentions are not always positive - with some evaluations suggesting that greater knowledge and awareness can lead to a reduction in the desirability or feasibility of starting a business amongst students;
- However, studies have mixed results on whether the beneficiaries of enterprise education are more likely to develop a new business or apply their skills and competencies within an existing business (i.e. enterprise education may be just as likely to result in students/graduates being 'intrapreneurial' as entrepreneurial); and
- There are positive relationships between enterprise education and enterprise support in HE and FE and wider economic impacts at a local and regional level, including increased new business start-up (particularly where there are graduates from dedicated entrepreneurship courses), increased employability and earnings, and increased business growth (particularly for graduates entering existing small businesses). One study reviewed by the ICF/GHK team noted a net positive impact on regional GVA of enterprise and entrepreneurship education in HE institutions.

ICF/GHK conclude that "while the evidence suggests that enterprise and entrepreneurship education generally has positive benefits that should be expected to lead to some students starting new businesses and making contributions to the growth of existing businesses... the evidence does not conclusively show the attribution of this to enterprise and entrepreneurship education in either FE or HE" (p. 7). However, as also argued by Johnson and Muir (2012), there is stronger evidence that this instead leads to wider benefits in skills development, ambition and other cultural and pedagogic benefits - which may still be under-realised by institutions reliant on traditional lecture/seminar modes of learning and teaching and exam/coursework modes of assessment.

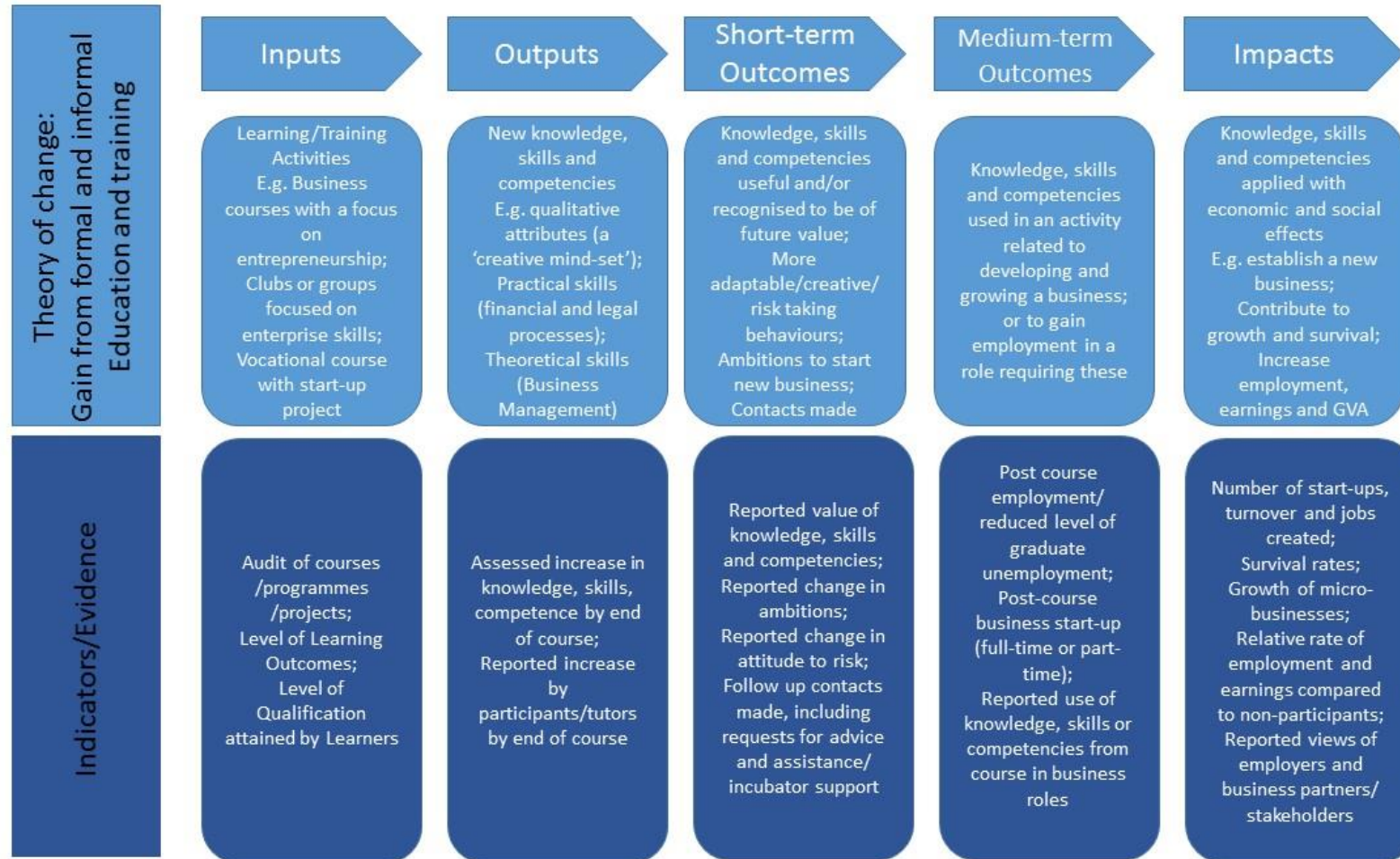
Throughout this study, ICF/GHK work to a logic model based on the Kirkpatrick Model for evaluating the outputs, outcomes and impacts of training. This is illustrated in Figure 2, which conceptualises a hierarchy of gains from enterprise and entrepreneurship education as follows:

- Outputs associated with the student beneficiaries, including changed behaviours and attitudes (e.g. starting to form a positive view of the role of the entrepreneur), a foundation in what the Smith Institute grouped within basic 'enterprise skills' alongside practical experience of relevant activity;

- Short-term outcomes that represent measurable attainment of learning objectives, such as an increase in students' knowledge, skills and competencies (both enterprise skills and enterprise aptitudes in the Smith Institute model, discussed in more detail with reference to the QAA's recommended Learning Outcomes below) and steps taken towards employment or business start-up;
- As a consequence of these, medium-term outcomes might include increased confidence in the students' skillset and increased self-efficacy, alongside 'hard' outcomes including participation in early stage entrepreneurial activity or applying competencies in employment; and
- Together these would contribute to an attributable net impact on several wider economic and social factors - as a consequence of the short- and medium-term outcomes being applied in entrepreneurship or employment. Impact measures may include increased business growth and survival, or an improved local skills profile and graduate retention rates.

The final section of this report (Section 5) will return to the BIS model illustrated in Figure 2, with any amendments and MEU-specific indicators or examples appended to it, in order to provide a bespoke logic model for reference in Report 2.

Figure 2: Logic Model for the Evaluation of Enterprise Education and Support in HE, adapted from the ICF/GHK research for BIS (2013)



Source: ICF/GHK and behalf of BIS, 2013. 'Enterprise Education Impact in Higher Education and Further Education', p. 21.

Finally, the Quality Assurance Agency for Higher Education (QAA, 2012) produced guidance that also draws on a brief meta-review of the international literature in order to “inform, enhance and promote the development of enterprise and entrepreneurship education” among UK HE institutions (p. 2).¹ This reiterates the distinction summarised in Section 1 of this Report (based on BIS, 2013) between ‘enterprise education’ (equipping students with decision-making skills and creative capacity that may be a precursor to business start-up, as well as wider employability) and ‘entrepreneurship education’ (the additional knowledge and skills specific to setting up a new business). It also uses similar logic to the Davies Review and the Smith Institute to argue that both enterprise and entrepreneurship education are required in order for a graduate to exhibit ‘entrepreneurial effectiveness’ in their future career (including in ‘portfolio careers’ where the individual combines personal entrepreneurial ventures with employment). In this, the QAA are responding to the Oslo Agenda for Entrepreneurship Education in Europe (2006), which predated the European Commission’s 2015 Action Plan, and more explicitly emphasised the wider pedagogical and cultural benefits of enterprise and entrepreneurship education - including in enhancing teamwork skills and an aptitude for lifelong learning amongst students and a culture of collaboration with business amongst HE institutions.

Based on research by Gibb (2005), the QAA identify an “ecosystem of interdependent activities” (p.6) within universities that can help develop both a wider entrepreneurial culture and the measurable outcomes of staff and student entrepreneurship. Enterprise and entrepreneurship education is:

- Managed and delivered by a central unit (and either embedded within or separate to student curricula across schools, departments and courses);
- Embedded in the curriculum by subject specialists, and clearly labelled (e.g. a module or degree course in ‘entrepreneurship’);
- Embedded within the curriculum under another name (such within a general employability or professional development module);
- Delivered through a careers service;
- Led by facilities such as arms-length incubators, boot camps and extracurricular clubs and societies, and thus experienced by students as staff as optional, voluntary or wider Continuous Personal Development activities (such as optional enterprise placements). These services may be provided to individuals after graduation (or to non-students/non-graduates in a city or wider area who meet criteria such as age group or sector-specialism).

This provides a useful typology of specific models of enterprise and entrepreneurship interventions in a HE institutional context. Following discussion with colleagues in the NTU Business School involved in delivering both ‘embedded’ learning and teaching and optional/elective or bolt-on enterprise opportunities, we have further developed the QAA’s ‘ecosystem’ into a taxonomy of embeddedness (hierarchically structured according to how embedded the activity is in the students’ experience of HE learning and teaching), set out in Figure 4, Section 5. This will underpin how the information received from MEU partners is structured in Report 2.

In common with BIS, the QAA observe (also based on Gibb, 2005) a tendency for extracurricular learning to be fragmentary and not necessarily accessible across different courses and departments,

¹ This guidance refers primarily to Undergraduate provision, with ‘*Enterprise Lens on the Researcher Development Framework*’ published by Vitae (2011) providing equivalent guidance for Postgraduate provision.

with academics reporting difficulties in accessing formal training to enable them to embed this material (both the *'what'* and the *'how'* of the learning and teaching) into the curriculum. The QAA observe that, in the UK: "Learning environments that encourage the development of creativity and innovation together with business acumen are rare, even though combining these elements is a key aspect of enterprise education. The fragmented landscape for delivery is paralleled by inconsistencies and instabilities in third-stream funding, which impacts upon the sustainability of many enterprise initiatives" (2012, p. 7). Similar to the observations made by Johnson and Muir (2012), the QAA also observe a strong tendency in UK Higher Education to fail to distinguish between learning *'about'* enterprise and entrepreneurship, rather than learning *'for'* these outcomes. To aid analysis of current provision, they provides the following definitions:

- *'About'* courses - aim to improve students' understanding of topics they are already familiar with (e.g. business strategies in a Business Management degree course). They tend to draw on more traditional didactic pedagogy involving lectures and case study texts. Outcomes may include increased familiarity with literature and theory on entrepreneurship and ability to critically evaluate this within a traditional assessment model (e.g. coursework report or exam); and
- *'For'* courses - aim to instil an enterprising mindset amongst students/graduates and provide practical tools and insights for being an entrepreneur. Normally delivered through non-traditional, active pedagogy, including problem-based and experiential learning. Encourage students to think about and visualise their own entrepreneurial behaviour (note the literature reviewed by BIS that suggests that this does not necessarily result in increased enterprise intent or activity, at least in the short-term, with greater reflection and insight leading some students to abandon plans for potentially unsustainable ventures). *'For'* courses are likely to be underpinned by some theory and empirical research, so will include an *'about'* element.

Finally, the QAA recommend a number of Learning Outcomes that should be demonstrated by students following completion of enterprise and/or entrepreneurship education (which should theoretically be clearly visible in the Course or Module Learning Outcomes set out in documentation in more 'embedded' or explicit enterprise and entrepreneurship education curricula):

- The ability to identify opportunities;
- Problem solving and innovation;
- Taking action while considering risk;
- Autonomous management of projects;
- The ability to reflect and be aware of personal strengths/weaknesses and learn from actions and active experimentation;
- The ability to set clear goals and ambitions;
- To take creative and innovative approaches, and to consider multiple solutions;
- To persuade others and negotiate support;
- To manage a range of projects simultaneously;
- Effective use of networking skills with potential colleagues, clients and stakeholders; and
- To account for and apply appropriate financial and legal procedures, including those related to intellectual property.

In order to support the attainment of these outcomes, the educator (e.g. course or module leader) should aim to:

- Create learning environments (i.e. the context of learning and teaching) that facilitate entrepreneurial behaviour amongst students;
- Design curricula with learning outcomes that emphasise ‘for’ rather than ‘about’ objectives;
- Enable students to relate their learning both to their wider subject/discipline (if relevant) and personal interests;
- Experiment with different pedagogical strategies, particularly those with an active component; and
- Engage with external partners, particularly business and civic stakeholders and individual entrepreneurs.

This literature provides an overview of the challenges, weaknesses and best practice observed across Higher Education nationally and internationally. In addition to policy priorities reviewed in Section 2, the QAA recommendations and BIS logic model provide a framework for assessing current MEU delivery to be assessed in Report 2.

3.2 Enterprise Education and Graduate Retention in UK Cities and Regions

The project brief included an interest in the potential for enterprise and entrepreneurship education and support to increase graduate retention. If the outcomes recommended by the QAA, in terms of individual graduates’ skills, attributes, stated intent and actions, and the wider cultural benefits, are to affect the MEU sub-regional economies - a proportion of those graduates and other beneficiaries need to be retained in the local labour market.

There is some debate about the nature of ‘graduate retention’ and the role that graduate enterprise may have in this. A large proportion of graduates are inherently mobile, having left their original home region (known as ‘domicile’ in the destinations data) to study and being at a stage in their careers when their job search parameters are likely to be national and international. For this reason, towns and cities that have a demand for graduate jobs are also likely to attract young recruits who were either originally domiciled in the area but studied elsewhere (‘returners’) or were both domiciled elsewhere and studied in another area (‘incomers’). Therefore, many economists would argue that, if local employers are not reporting that graduate-level vacancies are hard-to-fill, graduate retention is not a ‘problem’: graduates will go where the jobs or enterprise opportunities are.

Conversely, local and regional economic development strategies often express the view that there is ‘wasted opportunity’ if only a relatively small proportion of a large student population in a city go on to live, work or further study in the area after graduation - particularly in terms of potential impact on the skills profile of the local workforce. Graduate retention is therefore a concept that has meaning in the policy literature, but lacks clear empirical or theoretical bases: there is no single definition of ‘graduate retention’ and little understanding of what the optimum level might be for a given town or city.

Because of this, unlike other frequently cited measures of graduate destinations (for example the official ‘graduate employment’ and ‘graduate prospects’ indicators published for HEIs by Unistats in their Key Information Sets, KIS, summarised in Section 4 of this report), readily comparable measures of graduate retention are not available. Graduate retention rates by city or institution are not published in the standard HESA ‘*Graduate Destination*’ tables or by Unistats.

Graduate retention rates available in the public domain are instead calculated on an ad-hoc basis by analysts with access to the detailed DLHE survey data, summing up the number of respondents living in given postcode areas at the time of the survey/or stating a location of employment that falls within a given geographical area (thus some retention rates are based on the location of the graduate’s employment and others, more commonly, are based on their stated place of residence). This means that published retention rates vary significantly - with the Centre for Cities publishing a rate for Nottingham in 204/15 that was almost 3 percentage points lower than the rate calculated by Nottingham City Council for the same DLHE period, likely to be due to differing geographical and methodological bases. The following review, drawing from a range of sources, will thus clearly indicate the origin of the cited statistic and will comment, where possible, on the approach.

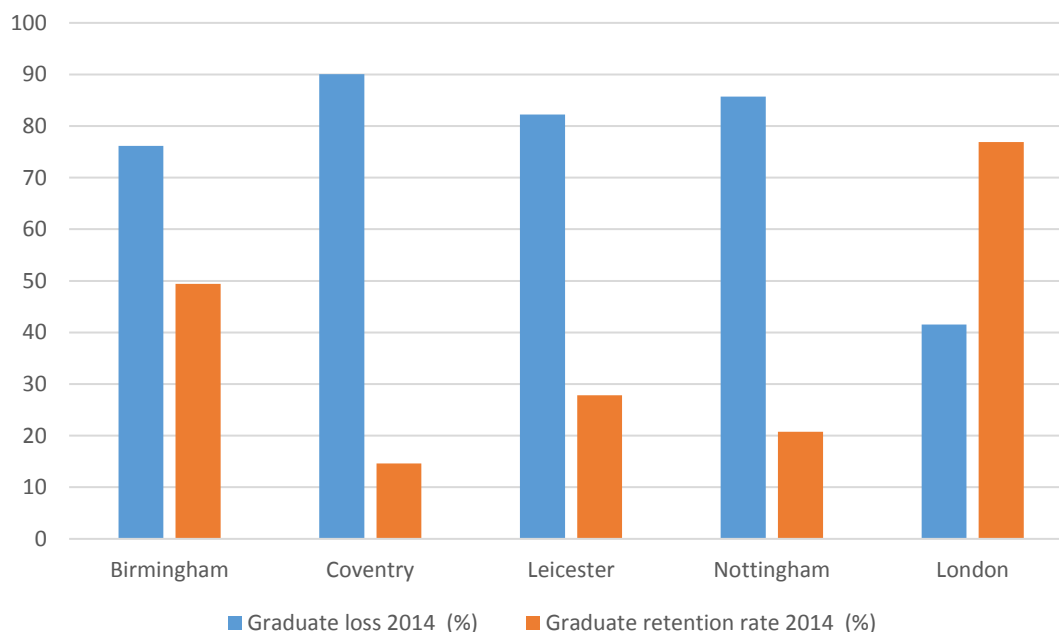
Recent analysis of graduate destinations data, including for the Higher Education Careers Services Unit (HECSU) (Ball, 2015), the Centre for Cities (Swinney and Williams, 2016), and for the Government Office for Science (Foresight Future of Cities Project, 2016), has observed falling graduate retention in regions other than London during the period of recovery from recession. The Centre for Cities has described this trend as ‘the great British brain drain’. Although the authors also note that this is a young and recent graduate phenomenon, often followed by the out-migration from London and return to cities of study or original domicile of older graduates (aged 31 and older), the overall result for most cities excluding London is a net loss of degree holders.

On the basis of 2012/13 destinations data, the HECSU report’s author, Charlie Ball, commented on falling retention in the Midlands and North of England in an interview with the Guardian: “The broadest trend is graduates are now a little less likely to stay close to the university where they studied and a little more likely to go to London.” Analysis published by Nottingham City Council (2016) on employed graduates from the two Nottingham universities indicates a slight fall in retention rate from 24% in 2011/12 to 23.4% in 2014/15.

The Centre for Cities (2016) present city-by-city² analysis of 2014 student populations and graduation destinations from HESA. This includes data for MEU areas Birmingham, Coventry, Leicester and Nottingham - compared to London in Chart 1 (with data not included for Lincoln and Derby, whilst both the administrative area of Wolverhampton and the University of Wolverhampton are included in the figures for Birmingham PUA). The institutions in the Coventry and Nottingham PUAs are notably successful in attracting students from elsewhere, but as a consequence have high rates of ‘graduate loss’, whilst institutions in London both attract and retain students originally domiciled in London, but also retain a very high proportion of graduates overall. The retention rate for London was 76.9% in 2014, compared to 49.4% in Birmingham, 27.8% in Leicester, 20.7% in Nottingham and 14.6% in Coventry.

² Defined by Primary Urban Area (PUA) an aggregation of Local Authority Districts, usually containing a number of HE institutions, summarised in Annex 1 for the MEU areas.

Chart 1: Graduate Loss (% of students gained from other areas who move elsewhere after graduation) and overall Graduate Retention (%), 2014



Source: Swinney and Williams, Centre for Cities, 2016. *The Great British Brain Drain: Where Graduates Move and Why*, Table accessed from: <http://www.centreforcities.org/data-tool/su/08702953> [accessed 21st March, 2017].

The Centre for Cities, in line with the Policy Exchange’s response to the Industrial and Midlands Engine strategies summarised in Section 2, interpret this in light of an increased concentration of graduate-level employment opportunities in London (which accounts for 19% of all jobs in the UK but 22% of all new graduates in employment). Although cities outside London do retain graduates, as illustrated in Chart 1, they “do not retain most of the students that move to their city to study” (p. 1). The Centre for Cities refer to this cohort as ‘bouncers’ - young people who move to one city to study, then to another city to work straight after graduation. Chart 1 shows that the proportions of these ‘bouncers’ in Birmingham were 76.1%, 90% in Coventry, 85.7% in Nottingham and 82.2% in Leicester, compared to only 41.6% in London. The other side of this ‘graduate brain drain’ is the lower proportion of locally domiciled students in most cities outside London. In response to this, the Centre for Cities recommend broader economic development and place-making policies. These include improved housing and infrastructure, but also greater focus from universities and civic stakeholders on ‘growing their own’: which means higher proportions of local students retained to study in the area, with strong ties to their city, who can be supported to start businesses or to work in high-skill, high innovation inward investment or home-grown high growth or spin-off firms.

The Foresight report for the Government Office for Science (2016) presents similar data analysis, expanded with qualitative input from seminars and workshops across the UK (with six city case studies, including Birmingham). Rather than cities regarding retention and attraction of graduates as a competitive, zero-sum game, the Foresight project recommends a UK-wide approach where cities work in different ways on measures that increase the human capital of the graduate population and improve graduates’ experiences of the cities in which they study and work. This encapsulates a two-

way process in which the presence of highly skilled, enterprising graduates in a city tends to increase productivity, whilst a growing urban economy attracts mobile talent - with “place attractiveness” playing an important role in both graduate retention/attraction and graduate entrepreneurship.

Unfortunately for the focus of this study, none of these reports provide empirical or qualitative evidence on the potential contribution of graduate entrepreneurship to retention and attraction. Any evidence of this will be examined in Report 2, drawing on the evaluation reports on East and West Midlands student and graduate entrepreneurship programmes such as SPEED and Enterprise Inc.

Section 3 Summary - Literature Review

- Mapping of activity in Higher and Further Education on behalf of BIS in 2013 found that formal provision of enterprise and entrepreneurship education is well established across the UK, delivered in more than 70% of HE and FE institutions. However, in line with Lord Young’s observations, the majority of this is concentrated within Business Schools rather than more widely available across subject disciplines.
- Moreover, the mapping also indicated that universities delivering formal enterprise and entrepreneurship education were most likely to utilise traditional, passive modes of learning, teaching and assessment (e.g. lectures) with a minority delivering more active modes, such as group and project-based assessments. This is in line with Johnson and Muir’s (2012) concern that the wider pedagogical and cultural opportunities of entrepreneurship-focussed content are often missed by universities.
- International studies reviewed for BIS found strong evidence attributing skills and knowledge acquisition to formal enterprise and entrepreneurship programmes, including the ability to identify enterprise opportunities and the practical knowledge to develop a business strategy and legal form. Elective, informal learning, such as membership of enterprise clubs, had positive associations with softer skills, such as networking and reflection.
- In addition, there were strong, positive associations with participation in formal programmes and improved self-confidence (including in students’ enterprise skills) and self-efficacy. However, this did not always result in a positive change in entrepreneurial intent - with some studies finding that increased knowledge of risks and challenges led to a reduction in the number of students feeling positively inclined to start a business themselves.
- Evidence of impact on increased business start-up was mixed. Some studies did find that beneficiaries of formal programmes, including those with work-placement elements, were associated with higher business start-up amongst graduates - but many of these studies did not have a control group (and were affected by selection bias with students having first opted to take an entrepreneurship course). Where demographic characteristics were controlled for, a study of GEM data for 37 countries did find greater likelihood of starting businesses attributed to enterprise training in college or university, but this was relatively small.
- In general, studies found that students were as likely to develop skills and competencies relevant to employment, enabling them to be ‘intrapreneurial’ within

an existing business, as they were to result in some level of entrepreneurial activity after graduation.

- The QAA's recommendations for Learning Outcomes of enterprise and entrepreneurship education emphasise the skills gained by beneficiaries (predominantly skills that are also relevant to intrapreneurship) and wider cultural and pedagogical benefits related to active, experiential and non-traditional learning and teaching activities, alongside sustained engagement with stakeholders, including current entrepreneurs.
- The literature on graduate retention, though providing limited insight on the potential contribution of graduate entrepreneurship to increased retention of graduates in a local area, does provide a consistent portrait of the increasing role of London as a net attractor of graduates. Most other UK cities lose large proportions of the students originally domiciled elsewhere after graduation. These graduates are referred to as 'bouncers', who move to study in one city, then move again on graduation to another city. MEU Primary Urban Areas such as Coventry, Leicester and Nottingham have relatively low rates of graduate retention due in part to having large proportions of 'bouncers' (and lower proportions of local students).
- Both the Centre for Cities and the Foresight Report for the Government Office for Science recommend wider economic development strategies that improve students' and graduates' experiences of cities, and facilitate a mutually reinforcing cycle where enterprising graduates contribute to local growth, and growing cities attract enterprising graduates. The Centre for Cities also recommend a focus on local students (originally domiciled in a given city), with strong connections to their areas, who can be supported to engage in entrepreneurial ventures after or before graduation - often connected to that city's assets (either leisure or cultural assets or sectoral specialisms) - that are then likely employ other graduates.

4. Contextual Data Analysis

The final section of the ICF/GHK (2013) logic chain recommended for BIS sets out high-level local and regional indicators, which include:

- Jobs created through start-up and small businesses and changes in relative employment and unemployment levels and rates (including graduate employment and unemployment rates);
- Self-employment levels and rates, business start-up, survival and growth of small businesses; and
- Any change in the skills profile of the workforce, earnings and productivity.

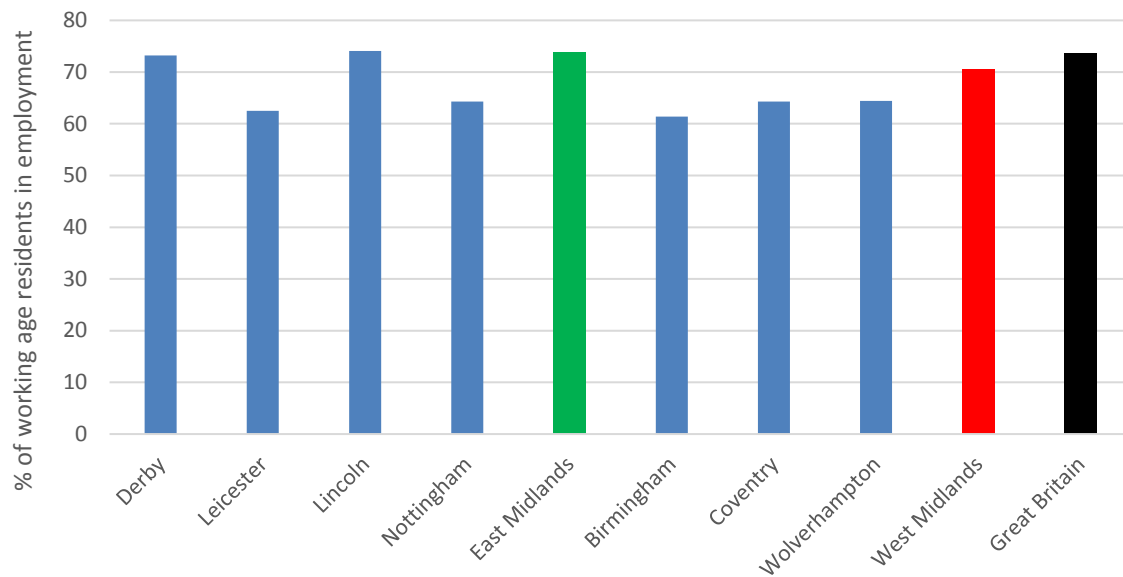
The MEU consortium have identified a strong interest in graduate retention as a potential additional impact.

Direct attribution of changes in these high-level impact measures to the outputs of MEU enterprise activity is highly problematic, and is outside the scope of this report. However, the BIS model recommends consulting employers, programme participants and other stakeholders to develop a more qualitative perspective of likely impact - covered in Report 2. The following baseline analysis of trends in secondary data is designed to underpin the interpretation of this information.

4.1 Employment and Unemployment Trends

As established in Section 3.2, a key 'push' or 'pull' factor for students and graduates, and for other potential entrepreneurs and skilled workers, is the overall health of the local labour market (and students' awareness or perceptions of it - see Blackley and Lawton, 2016). This can be represented by the rates of employment (the proportion of the working age population in some form of employed work, including full-time, part-time and self-employment) and unemployment (the proportion of economically active residents who are currently not in paid work but are available for, and actively pursuing employment).

Data from the Annual Population Survey (APS)/Labour Force Survey (LFS) (the key official source for employment and unemployment rates) would suggest a strengthening labour market across the UK following a 'jobs rich' recovery from the Great Recession. Employment in Great Britain returned to pre-recession levels in 2015 and has since increased to a record high rate. However, employment rates vary significantly across the Local Authority Districts that the ME Universities are located in. Chart 2 shows that in 2015 (the last complete year of data that is available) the employment rate varied between 61.4% in Birmingham City and 74.1% in Lincoln. Employment rates are generally higher in the East Midlands than in the West Midlands.

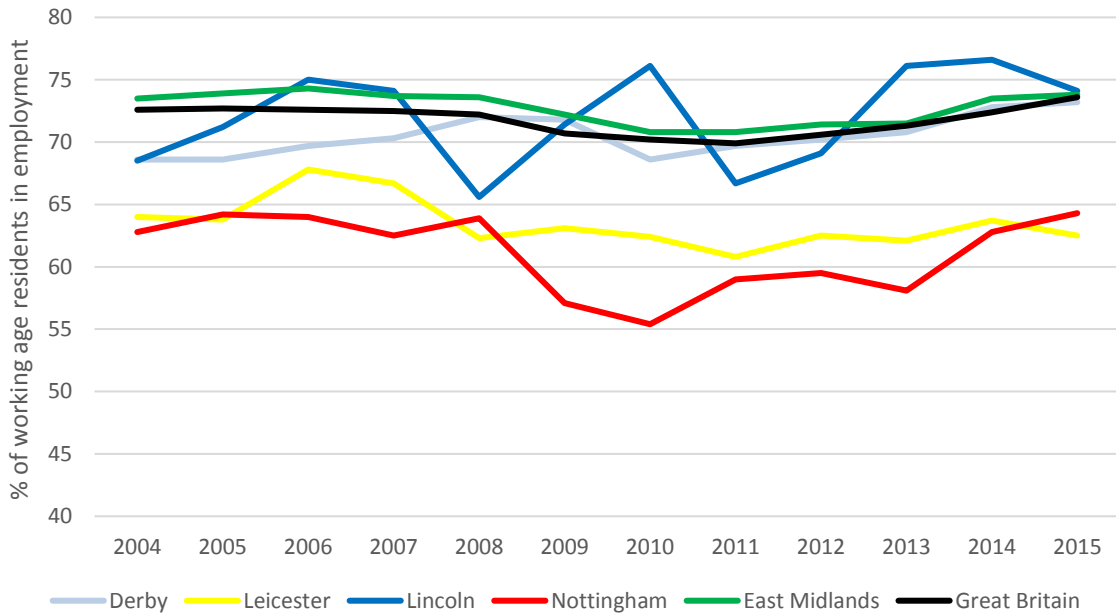
Chart 2: Employment rate (%) by MEU district, 2015

Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2015, From NOMIS, 20/02/17.

Charts 3 and 4 shows that all the MEU districts had, with the exceptions of Birmingham, Coventry and Leicester, also returned to pre-recession levels. These charts also show that the larger conurbations in each region, Leicester and Nottingham in the East Midlands and Birmingham in the West Midlands, have significantly lower rates of employment than other local areas. This reflects a common phenomenon in highly urbanised, developed nations. Though exhibiting the highest job densities on a workplace basis, many inner cities have lower rates of employment amongst residents - as a function of commuting, with more highly paid, highly skilled workers commuting in from elsewhere. Conversely, residents may live in more deprived inner-city neighbourhoods and experience barriers to accessing and progressing in employment.

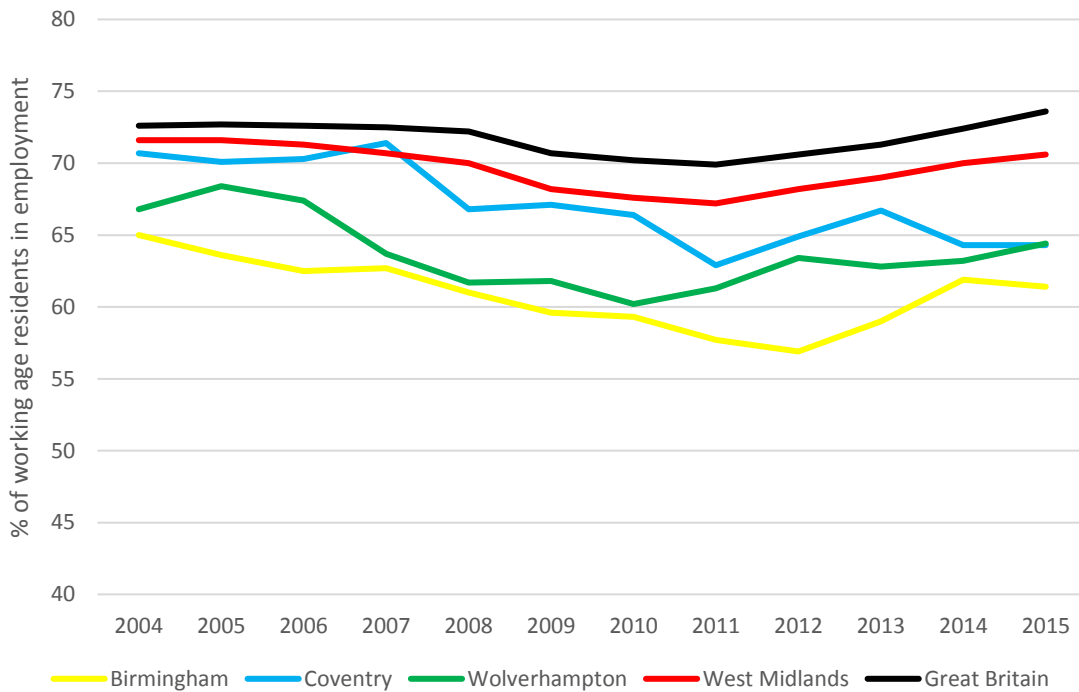
This model of urban development has been observed in Nottingham, and has been given as a reason for limited knowledge or poor perceptions of 'young professional' job opportunities and a more negative view of local amenities by final year undergraduate students, many of whom were living in private-rented accommodation in the more deprived parts of the city (Blackley and Lawton, 2016).

Chart 3: Employment rate (%) by East Midlands MEU district, 2004-2015



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 to January-December 2015, From NOMIS, 20/02/17.

Chart 4: Employment rate (%) by West Midlands MEU district, 2004-2015

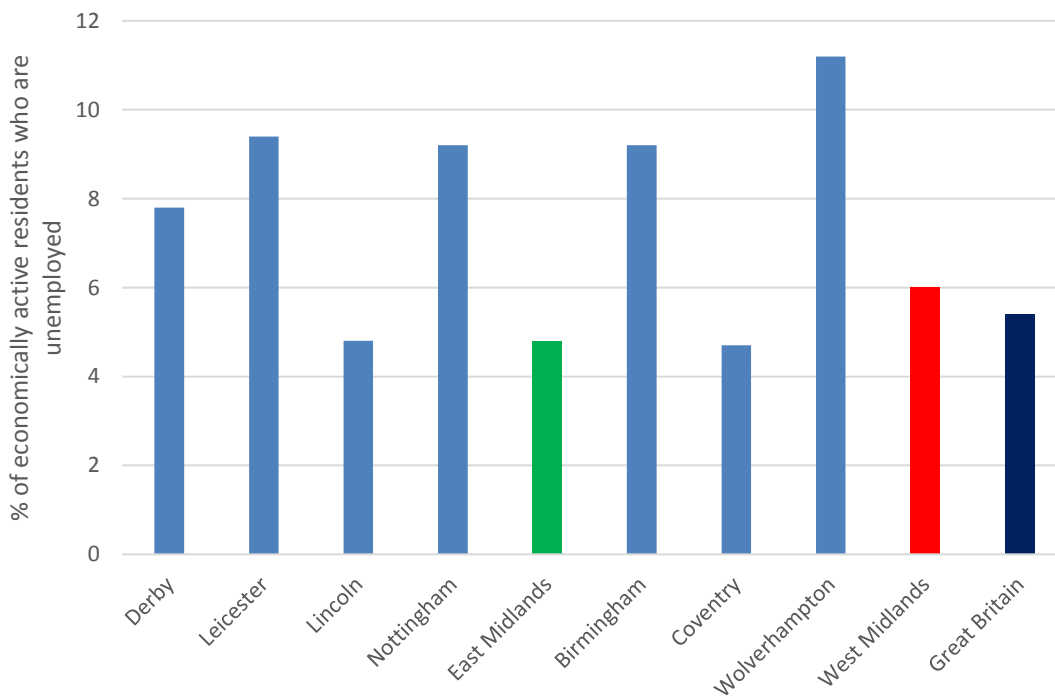


Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 to January-December 2015, From NOMIS, 20/02/17.

Employment provides people with a range of skills that are essential for successfully setting up a business. Over time, through savings from employment income, it also can provide the resources that are required to start a business, either in part and supplemented with loans, or in full. This is explored further below in an examination of data from the Global Entrepreneurship Monitor (GEM) survey.

People who are out of work are a potential pool of entrepreneurs, though the length of time spent out of work is a factor as the stock of human capital declines and budget constraints become tighter, so it is also useful to examine levels of unemployment. Chart 5 shows how unemployment varied across the MEU districts in 2015. With the exceptions of Coventry and Lincoln, unemployment in the MEU districts was substantially higher than in Great Britain or their wider regions. Lincoln and Coventry had unemployment rates below 5% in 2015, whilst in Wolverhampton it was more than 11% and more than 9% in Birmingham, Nottingham and Leicester.

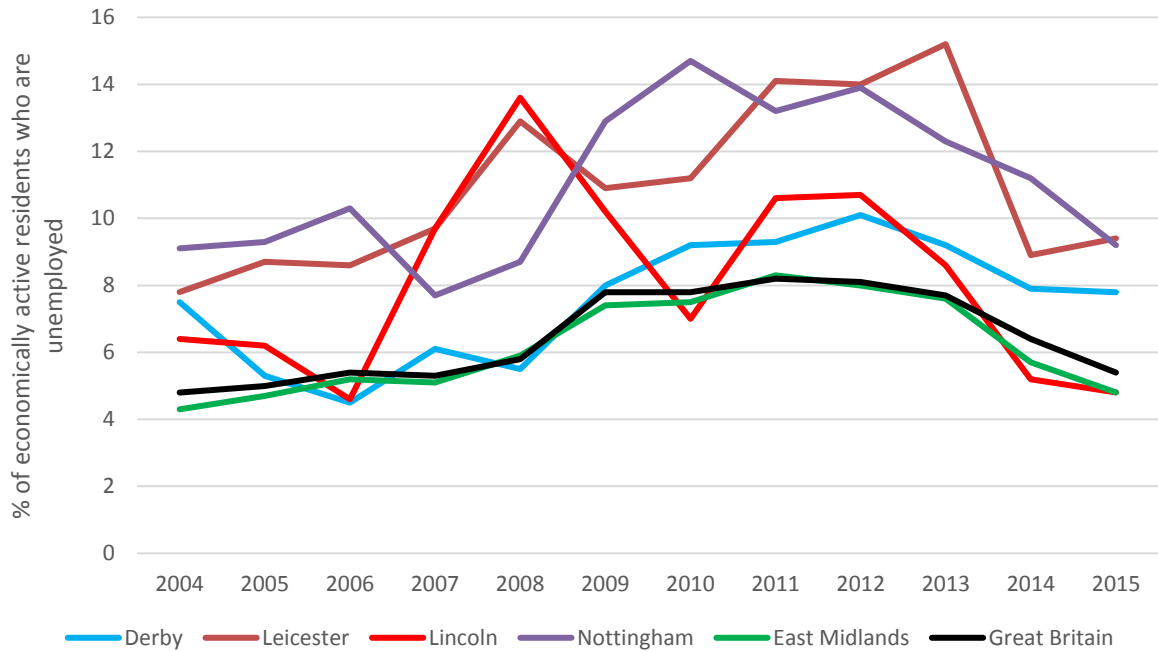
Chart 5: Unemployment rate (%) by MEU district, 2015



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2015, From NOMIS, 20/02/17.

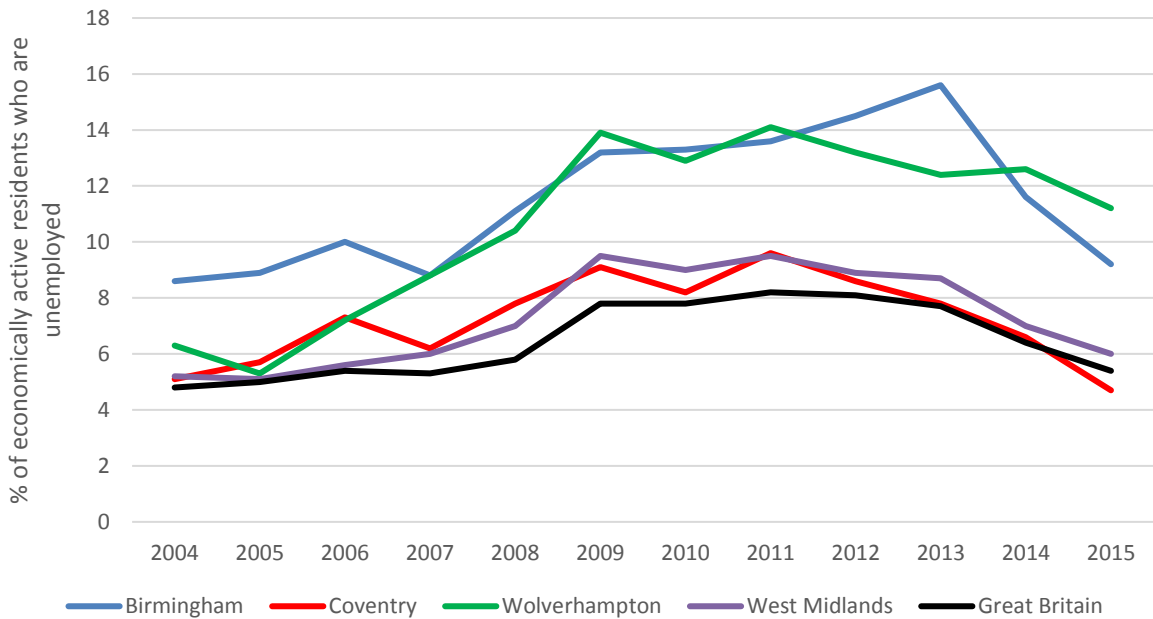
Charts 6 and 7 show how unemployment has varied over time. All the MEU districts experienced sharp increases in unemployment as a result of the Great Recession. Since then, except for Birmingham, Derby, Nottingham and Wolverhampton, unemployment rates have fallen back to pre-recession levels.

Chart 6: Unemployment rate (%) by East Midlands MEU district, 2004-2015



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 to January-December 2015, From NOMIS, 20/02/17.

Chart 7: Unemployment rate (%) by West Midlands MEU district, 2004-2015



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 to January-December 2015, From NOMIS, 20/02/17.

4.2 Enterprise Activity in the UK and in the MEU Areas

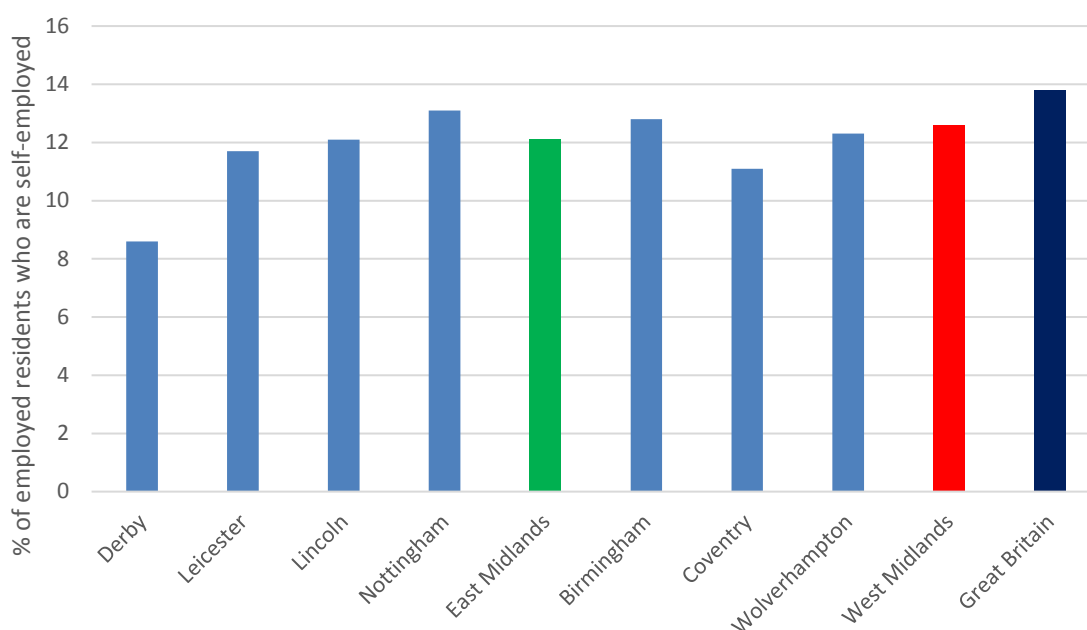
Measuring the impact of enterprise activity is challenging. Data on entrepreneurship is limited. At the level of the individual entrepreneur or business owner, the Annual Population Survey/Labour Force Survey provides information on those in employment who are self-employed, but self-employment is an imperfect measure of entrepreneurship. It may include people who have or are engaged in entrepreneurial activities but it might also reflect other factors, for example becoming a freelancer as a rational response to changes to the tax system³ but which may not result in the types of entrepreneurial behaviours that this report is interested in.

At the level of the firm, official business start-up data capture the outcome of activity that results in a business with turnover above the VAT threshold. Smaller businesses, or entrepreneurial activity that does not result in a start-up, are not captured. The Global Entrepreneurship Monitor (GEM) is a regular survey that does capture this range of activity, but analysis is limited by the sample size of the survey. Nevertheless, this does generate useful and important insights relevant to this project and is conducted around the world, exploring all facets of entrepreneurial activity.

The following analysis covers the available data for the MEU areas (self-employment and business demography) and concludes with an overview of relevant GEM findings. Although the GEM is limited to the UK as a whole (compared to international competitors), it is available for different groups of the population, including young people. Alongside relevant literature based on the GEM, this enables observations to be made on specific barriers and opportunities affecting student and graduate entrepreneurs.

Chart 8 shows that, except for Derby, self-employment as a proportion of total employment is similar across the East and West Midlands and the districts in which the MEUs are located, and below the national average in all cases. In 2015, self-employment was between 12% and 14% of total employment. The lower figure for Derby may reflect its industrial structure, with several large global companies in transport and related manufacturing activities.

³ For example, individual self-employees pay an equivalent of 9% on profits (if profits are between £8,164 and £45,000 pa) to National Insurance compared to the 12% paid by employees from their wages, and there is no equivalent of the 13.8% of wages levied from employers. The introduction of the single-tier pension in April 2016 increased this potential bias in the tax system towards the self-employed.

Chart 8: Self-employment as a proportion (%) of total employment, 2015

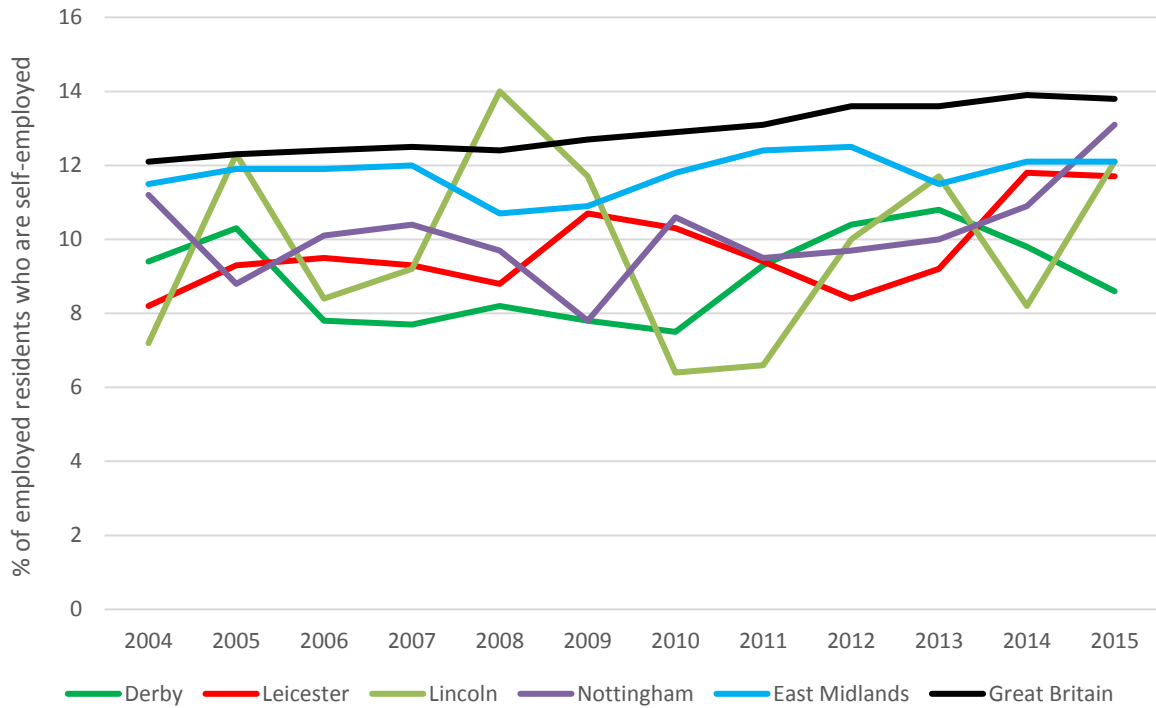
Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2015, From NOMIS, 20/02/17.

Charts 9 and 10 suggest that there has been a slight upward trend in the proportion of people in employment who are self-employed. In 2004 in Great Britain, around 12% of those in employment were self-employed, rising to just under 14% in 2015. The data are more volatile at district level as sample sizes are much smaller but this general pattern holds.

From this data, there is little to suggest that 'necessity entrepreneurship', whereby people start a business due to a lack of opportunities in the labour market, has been a significant feature of the Great Recession and slow recovery. However, special analysis of the LFS undertaken by the ONS and the TUC has indicated potential increases in 'involuntary' self-employment (people working for themselves, often part-time, because they have been unable to access full-time employee jobs) since the UK recovered from recession. The analysis identified a significant increase (particularly amongst older men) of movement from employment to lower-skilled, lower paid self-employment during the period of recovery since 2010. The authors described this as the 'rise of the odd-jobbers', indicating underlying weaknesses in the recovery and cautioning against overstating the extent of entrepreneurialism in the UK.⁴ A further perspective on this will be provided from the GEM later in this section.

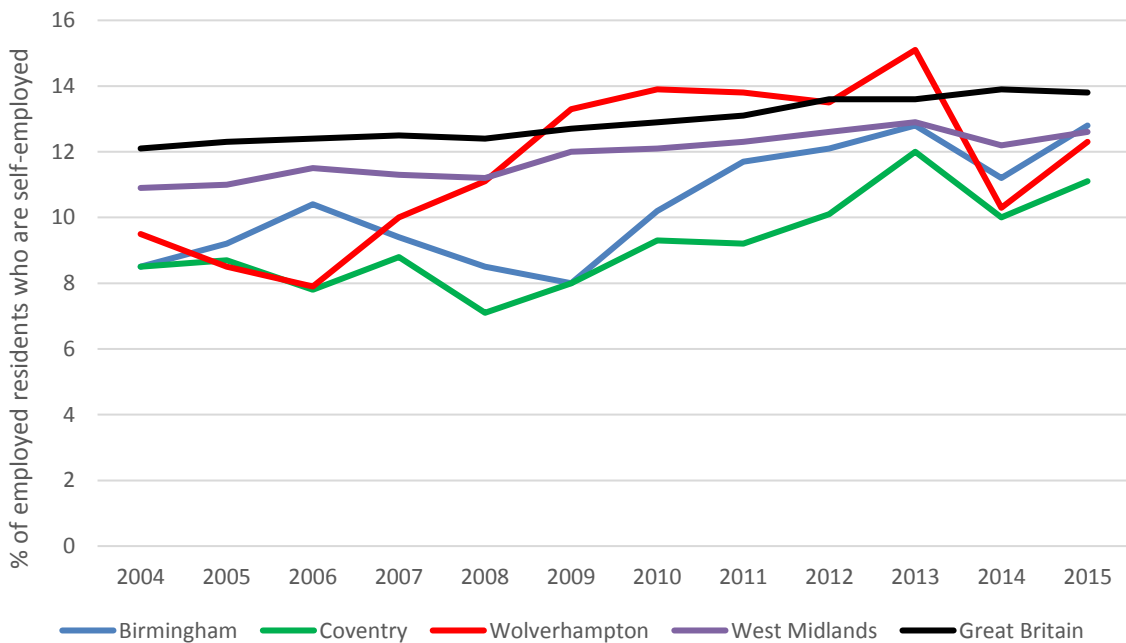
⁴ ONS Crown Copyright and TUC, 2014. 'Labour Market and Economic Reports: More than two in five new jobs created since mid-2010 have been self-employed.'

Chart 9: Self-employment as a proportion (%) of total employment in the East Midlands, 2004-2015



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 to January-December 2015, From NOMIS, 20/02/17.

Chart 10: Self-employment as a proportion (%) of total employment in the West Midlands, 2004-2015

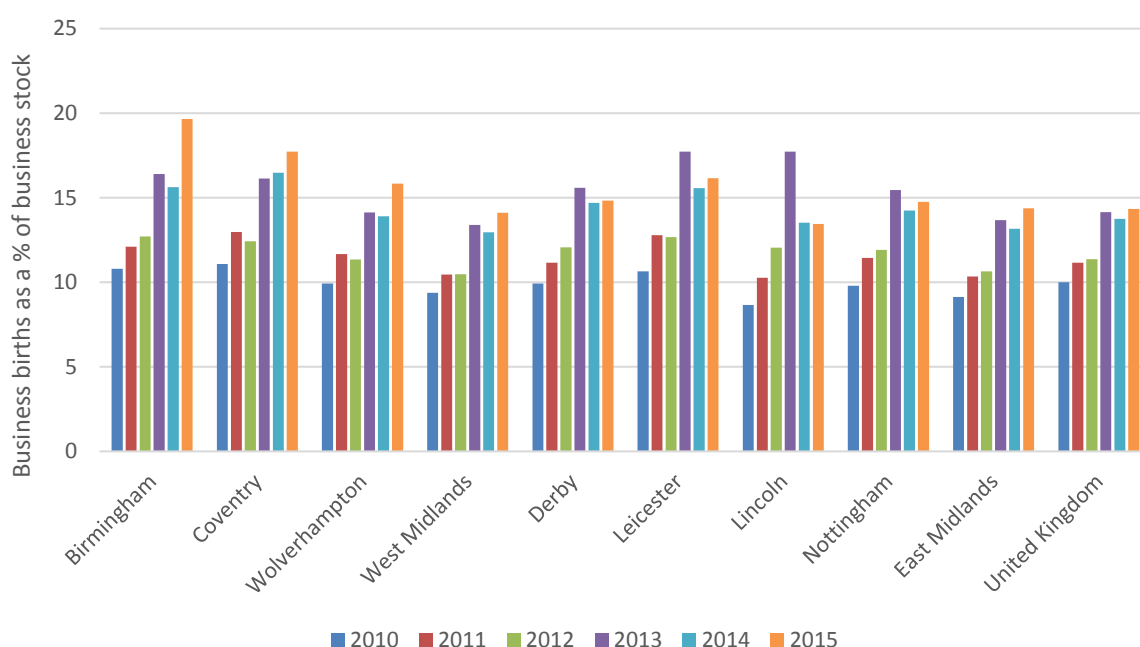


Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 to January-December 2015, From NOMIS, 20/02/17.

The ONS publish the annual '*Business Demography*' series, presenting data on the business stock, business registration, de-registration and survival rates derived from VAT and PAYE management information.

The size of the business stock in the MEU districts reflects the demographic and economic scale of these places. For example, in 2015 there were over 37,000 VAT and PAYE registered businesses in Birmingham compared to just under 12,000 in Leicester, the next largest on this measure. An indication of activity is given by examining data on 'business births' and 'business deaths'. This captures the level of churn, the extent to which resources are reallocated from less to more productive uses in an economy. This data is available for the period 2010-2015. Chart 11 shows annual business birth rates (the number of VAT and PAYE registrations divided by the stock of businesses in that year).

Chart 11: Birth rate (%) for VAT registered businesses, 2010-2015⁵



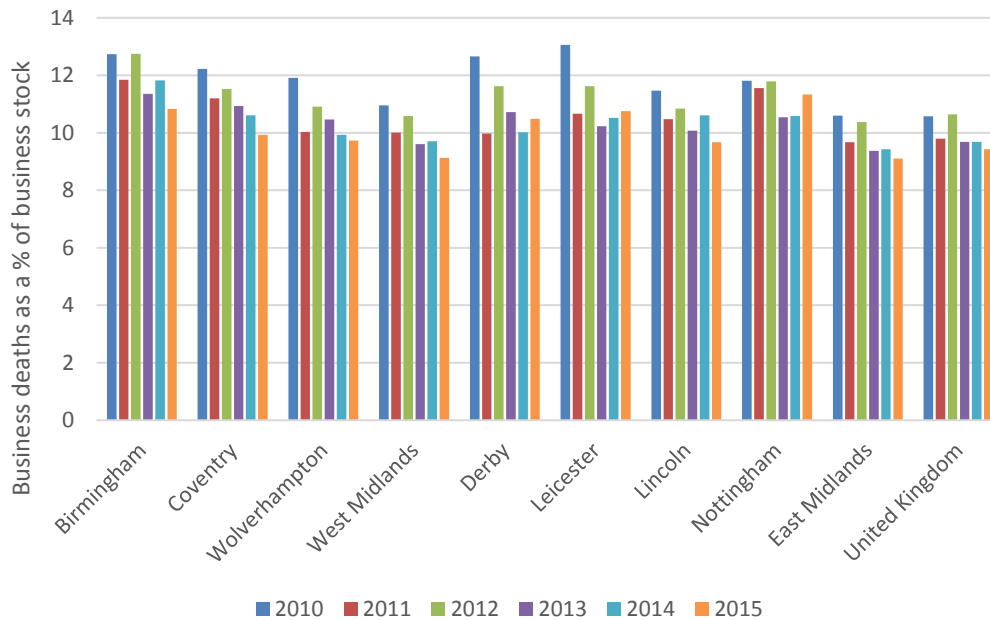
Source: ONS Crown Copyright, 2016. '*Business Demography 2015*.'

Chart 11 shows that the business birth rate has increased in all MEU districts during this period and that there are significant differences in the business birth rate. The chart shows that, in 2015, six of the MEU districts had a business birth rate in excess of the national average of 14.3%. Business birth rates are generally higher in the West Midlands than the East Midlands, with the highest birth rate of almost 20% recorded in Birmingham.

⁵ Note that *Business Demography UK, 2015* reports that "In 2013, Her Majesty's Revenue and Customs (HMRC) information showed growing numbers of PAYE schemes and a rise in numbers of new scheme registrations. Those that were allied to company registration data fuelled an increase in numbers of enterprises on the business register. While the growth in PAYE schemes coincided with the introduction of the Real Time PAYE reporting system (RTI), HMRC have indicated that there are no technical reasons associated with RTI alone which would have increased the number of enterprises on the register during the period. HMRC have no evidence of behavioural changes in the timing of PAYE scheme registrations through the year."

Chart 12 shows that the business death rate (defined in the same way as the birth rate) has declined between 2010 and 2015. There is much less dispersion in business death rates across the MEU districts, with the highest business death rate in Nottingham (11.3%) and the lowest in Wolverhampton and Lincoln (9.7%).

Chart 12: Death rate (%) for VAT registered businesses, 2010-2015



Source: ONS Crown Copyright, 2016. 'Business Demography 2015.'

A final piece of evidence from the Business Demography data is on business survival rates. Tables 1 and 2 show business survival rates for five years for businesses born in 2010 and for 1 year for business born in 2014 respectively. For businesses that were born in 2010, 41.4% in the UK survived for five years. The averages for the West and East Midlands are close to this national figure. Among the MEU districts, the five year business survival rate is highest in Wolverhampton, at 42.6%, and lowest in Lincoln, at 34.9%. Table 1 also shows that the 1 year survival rate for businesses born in 2010 was 86.7% in the UK, and in the low to mid-eighties in the MEU districts (with the exception of Lincoln and Wolverhampton, where it was 88.4% and 89% respectively).

Table 1: Business survival rates for businesses born in 2010 (%)

	1yr	2yr	3yr	4yr	5yr
Birmingham	84.8	68.2	51.7	43.6	36.5
Coventry	81.3	67.9	52.3	45.1	38.3
Wolverhampton	89.0	75.7	58.1	50.0	42.6
West Midlands	87.1	72.3	57.1	48.2	41.3
Derby	86.2	72.5	58.0	47.8	42.0
Leicester	87.0	69.2	51.4	44.2	38.0
Lincoln	88.4	72.1	53.5	41.9	34.9
Nottingham	86.3	70.8	52.8	44.7	38.5
East Midlands	88.3	74.0	57.7	48.8	41.9
United Kingdom	86.7	72.5	57.1	48.1	41.4

Source: ONS Crown Copyright, 2016. 'Business Demography 2015.'

Table 2 shows that, as a result of improved economic conditions, the 1 year survival rate for businesses born in 2014 was higher, at 92.2% for the UK. Across all MEU districts the 1 year survival rate for this later cohort of businesses was significantly higher than for business born in 2010. For businesses born in 2014, the 1 year survival rate was highest, at 94.0% in Leicester, and lowest, at 90.0% in Birmingham.

Table 2: Business survival rates for businesses born in 2014 (%)

	1yr
Birmingham	90.0
Coventry	92.9
Wolverhampton	93.4
West Midlands	92.2
Derby	93.2
Leicester	94.0
Lincoln	93.2
Nottingham	92.6
East Midlands	93.3
United Kingdom	92.2

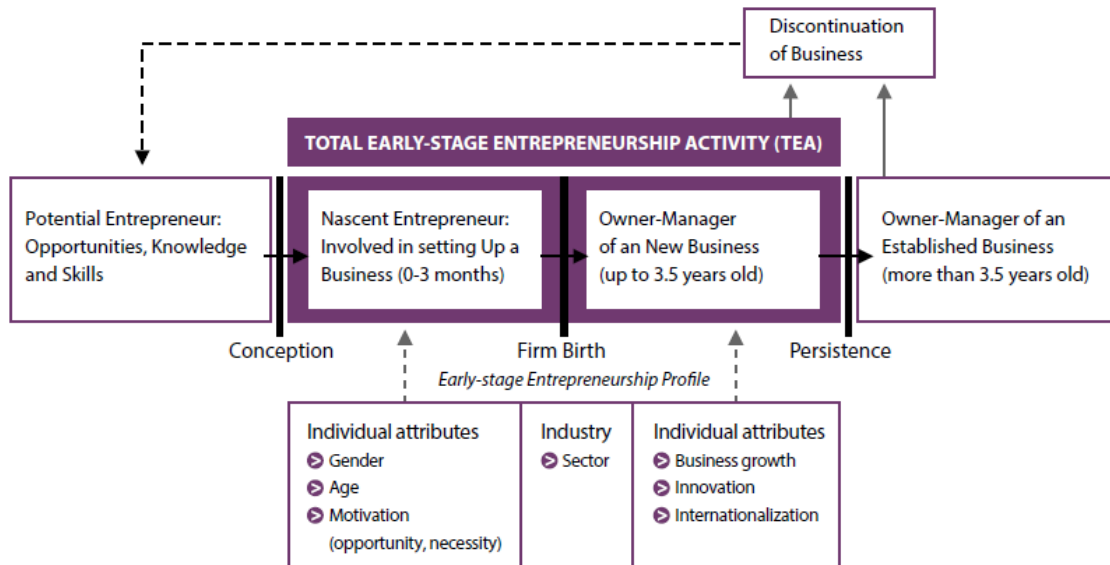
Source: ONS Crown Copyright, 2016. 'Business Demography 2015.'

The data examined so far are proxies for entrepreneurship based on official data sources that are a 'best fit' to the concept of entrepreneurship. The GEM does capture this range of activity more closely. It is conducted around the world and explores all facets of entrepreneurial activity, but is limited by the sample size of the survey.

Figure 3 illustrates how the GEM survey conceptualises entrepreneurship as a staged process or journey, starting with 'potential entrepreneurs': these include individuals who know people who have recently been entrepreneurial in the last 2 years (29.7% in 2015); feel there are good start-up opportunities where they live (41.8% in 2015); and feel they have the required skills and knowledge (43.7% in 2015).

Since 2002 there has been an upward trend in the proportion who know someone who has started a business and who feel that there are good opportunities. The data show a spike in the former in 2010, and a decline in the latter in 2009 as the UK economy was in recession. This is consistent with the concept of ‘necessity’ entrepreneurship whereby people start a business in response to lack of suitable full-time employment opportunities. However, the proportion who feel that they possess the necessary skills and knowledge has remained relatively stable.

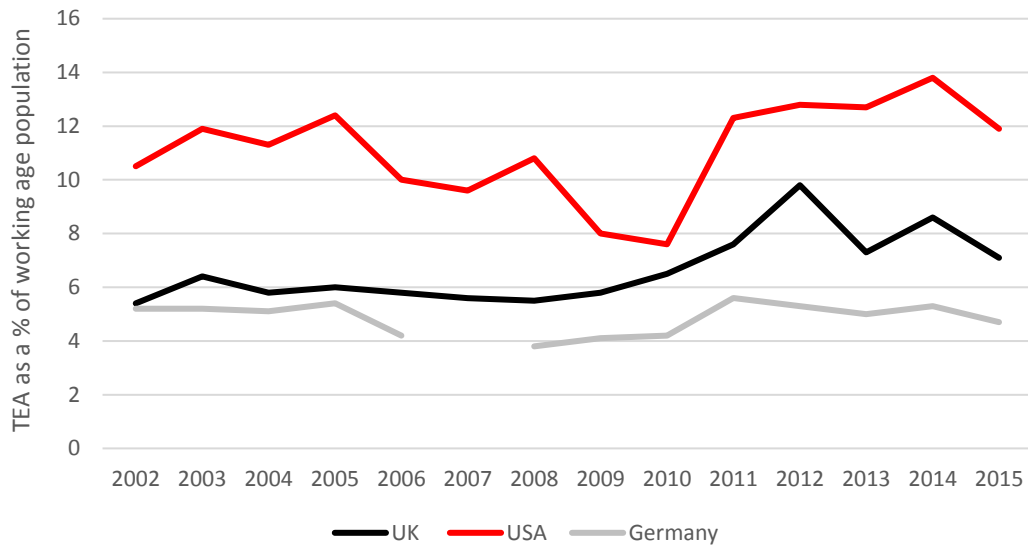
Figure 3: The Entrepreneurial Process and GEM Definitions



Source: Hart, M., Bonner, K., Levie, J., 2015. ‘Global Entrepreneurship Monitor: UK 2015 Monitoring Report’, p. 7.

The GEM then goes on to identify barriers for these potential entrepreneurs to actively pursue business start-up (with 37.3% in stating fear of failure would prevent them), before focussing on the proportion of the population who are either currently active entrepreneurs (owner managers of a new business) or are ‘nascent entrepreneurs’ (involved in setting up a business). Together, the proportion of adults within these two groups are reported as the Total early-stage Entrepreneurial Activity (TEA) rate, the key measure generated by the GEM. Chart 13 shows trends in TEA in the UK compared to Germany and the US. In 2015, 7.1% of working-age adults in the UK were engaged in early-stage entrepreneurship, which was down significantly on the previous year but above the long-run average prior to the onset of the recession in 2008. Levels of entrepreneurial activity in the UK are generally higher than in Germany but lower than in the USA.

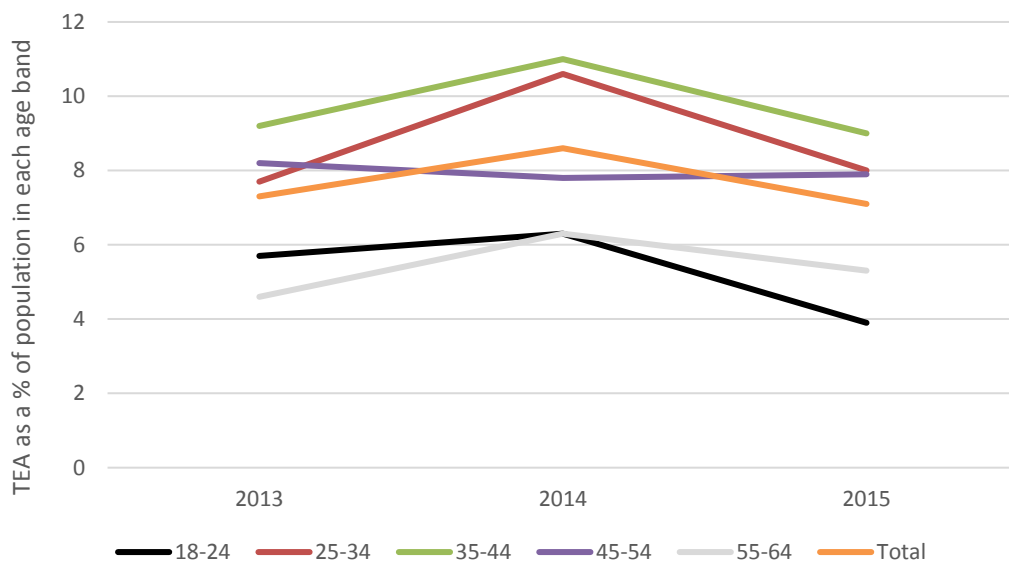
Chart 13: Total Entrepreneurial Activity (%), 2002-2015



Source: Hart, M., Bonner, K., Levie, J., 2015. 'Global Entrepreneurship Monitor: UK 2015 Monitoring Report', p. 14.

The TEA measure is broken down by age band and when this is done, clear differences in levels of entrepreneurship begin to appear. Chart 14 shows that the lowest rates of TEA occur among 18-24 year olds and 55-64 year olds. In 2015 TEA among 18-24 year olds was 3.9%, compared to 9.0% for those aged 35-44 and the overall average of 7.1%.

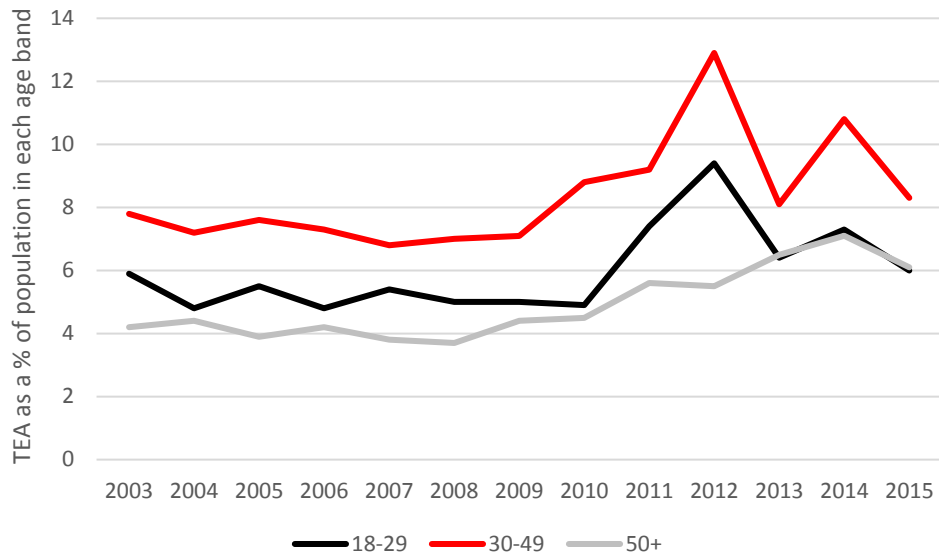
Chart 14: Total entrepreneurial activity by age band (%), 2013-2015



Source: Hart, M., Bonner, K., Levie, J., 2015. 'Global Entrepreneurship Monitor: UK 2015 Monitoring Report', p. 14.

A longer time series is available for a broader grouping of age bands. Chart 15 shows that over the period 2003-2015 TEA among 18-29 years olds is consistently lower than among those aged 30-49, though the trend is similar during this period.

Chart 15: Total entrepreneurial activity by broad age band (%), 2003-2015



Source: Hart, M., Bonner, K., Levie, J., 2015. 'Global Entrepreneurship Monitor: UK 2015 Monitoring Report', p. 14.

There are a number of reasons for lower rates of early-stage entrepreneurship amongst young people in the UK, which importantly include:

1. Resources - younger people are less likely to have the resources, or to be able to borrow resources, compared to older people. In the context of increasing student fees and levels of debt that students leave university with, this is clearly an important barrier; and
2. Skills - despite an increasing focus on entrepreneurship education, many younger people lack the confidence and skills required to produce business plans, be able to make the financial case for investment etc. that starting a business requires.

Both clearly relate to the acquisition of financial and human capital that comes with experience in the workplace. It has been argued that wealth is the decisive factor that determines whether people can start a business and survive (Vanino, 2016). These findings are also consistent with wider studies of entrepreneurship among young people based on the global GEM dataset. In their reviews of youth entrepreneurship using the global GEM dataset, Kew et al (2013) and Schott et al (2015) identify several characteristics of youth entrepreneurship:

- Young entrepreneurs are more responsive to emerging economic trends and opportunities;
- They are typically more active in high growth sectors;
- They are more likely to hire other young people; and
- They are typically better educated than other entrepreneurs.

This final point is particularly important for this report, as the GEM data for all ages has consistently shown that entrepreneurs are more likely to be educated to a degree level or higher compared to the general population (suggesting that young entrepreneurs are even more likely to be highly educated).

In addition to highlighting resources and skills as barriers to entrepreneurship Kew et al (2013), also identify lack of appropriate support infrastructure as a barrier to entrepreneurship.

The GEM survey is a survey of the adult population so that the results for entrepreneurship among youth outlined above will relate to both students and non-students. What might be done to facilitate more student entrepreneurship is discussed by Siegel and Wright (2015) in their review of academic entrepreneurship. They argue that universities should broaden the scope of their activities, going beyond the traditional routes of technology and knowledge transfer and recognise that increasing numbers of student start-ups requires a different support framework.

4.3 Student Populations

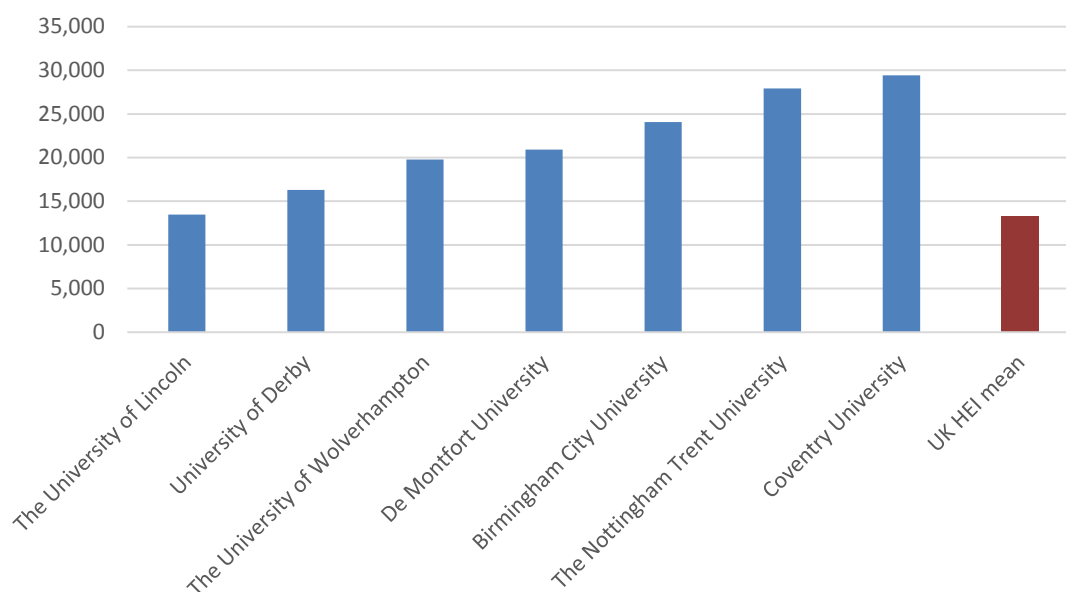
In addition to the local labour market and the current profile of entrepreneurial activity, a further area of context for this evaluation is the size of the student population in the seven institutions (including in relation to their surrounding labour markets).

The main sources of data, made available by the Higher Education Statistics Agency (HESA), is derived from administrative information (including admissions data) collected by each Higher Education Institution in the UK and compiled by HESA in their '*Student Enrolments and Qualifications Obtained at Higher Education Providers in the UK*' release, published annually (the latest being for the academic year 2015/16).

Chart 16 shows the total student populations (undergraduate and postgraduate) studying at the seven institutions, compared to the mean student population of the 164 HEIs⁶ in the UK. All the ME Universities have relatively large student populations, with Coventry University having the largest (29,430 in the 2015/16 academic year), closely followed by Nottingham Trent (27,920), whilst the University of Lincoln had the smallest (at 13,475, exceeding the UK average of 13,289).

Report 2, in summarising the detailed information received from each MEU institution, will comment on the extent of enterprise and entrepreneurship delivery in each, including (where possible) the number of students engaged in enterprise-related learning and business support.

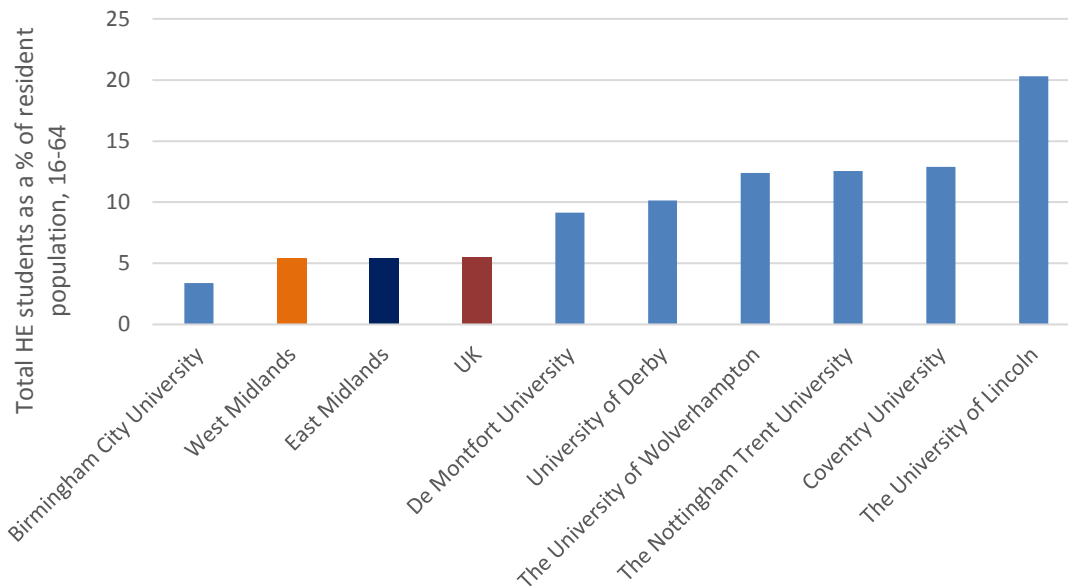
⁶ The mean student number for the UK is calculated from the total student populations of the 164 UK HE providers in 2015/16, excluding the Open University.

Chart 16: Total HE student population (MEU institutions), 2015-16

Source: HESA, 2017. 'Table 1 – HE students by HE provider, level of study, mode of study and domicile 2015/16' [accessed 28th February, 2017].

Charts 17 and 18 present student numbers in the context of the wider local and regional populations. In Chart 17 student numbers are presented as a proportion of the working age (16-64) resident population in the Local Authority most directly associated with each university (e.g. the location of the main campus/campuses). This is important when considering the scale of possible impacts, given the very different population sizes (from Lincoln City, with a working age population of 66,000 to Birmingham City, with more than 712,000 working age residents). The chart shows that, although the University of Lincoln has the smallest student population of the 7 institutions, this is equivalent to 20.3% of the working age population of the City of Lincoln Local Authority District. As the Birmingham Metropolitan District has by far the largest population, the 24,065 students at Birmingham City University (the 3rd largest institution of the 7 ME Universities) are equivalent to just 3.4% of the wider working-age population.

Chart 17: HE student population (MEU institutions), 2015-16, as a % of Local Authority (UA/LAD/MD) resident population aged 16-64, 2015

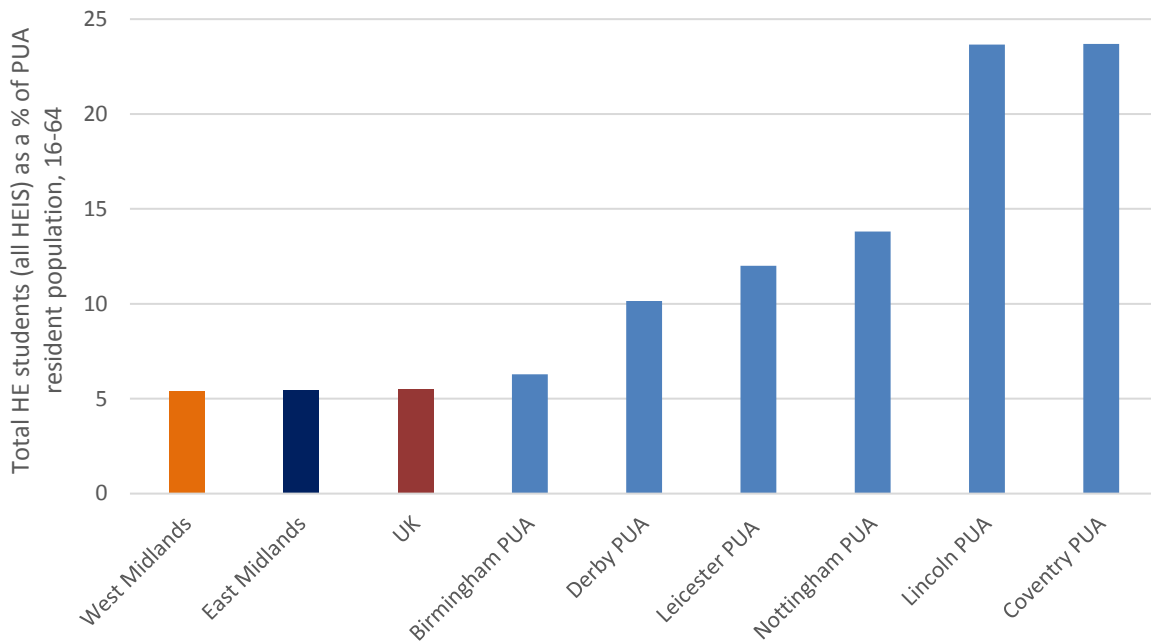


Source: HESA, 2017. 'Table 1...' and ONS Crown Copyright, 2016. 'Mid-year Population Estimates, 2015', from NOMIS [accessed 2nd March, 2017].

In all cases apart from Derby, the 7 MEU institutions are not the only HEIs within their wider urban area. Chart 18 presents the total of all HEI students as a proportion of the total working age population of the wider 'primary urban area' (PUA - see Annex 1). For example, in the Birmingham PUA (a combination of Birmingham City, Dudley, Sandwell, Solihull, Walsall and Wolverhampton Local Authority areas), there are 6 HEIs, including the MEU institutions of Birmingham City and Wolverhampton, with a total of more than 98,000 students in 2015.

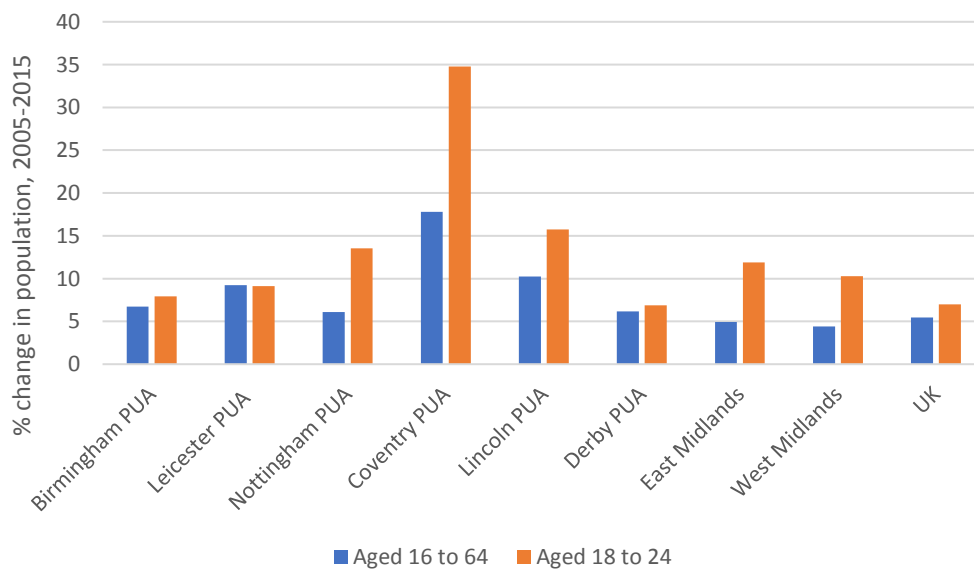
Chart 18 shows that, with two HEIs in the PUA (Coventry and the University of Warwick), Coventry has the highest share of HEI students as a proportion of the working age population, at 23.7%. The two large institutions in Nottingham (NTU and the University of Nottingham), mean that the student population is equivalent to 13.8% of the 434,900 working age residents in the PUA in 2015. The total population of HE students at institutions in the UK is equivalent to 5.5% of the working age population.

Chart 18: HE Student population (all HEIs), 2015-16, as a % of Primary Urban Area (PUA) resident population aged 16-64, 2015



Source: HESA, 2017. 'Table 1...' and ONS Crown Copyright, 2016. 'Mid-year Population Estimates, 2015', from NOMIS [accessed 2nd March, 2017].

Chart 19: Growth (%) in resident population of PUAs, aged 16 to 64 and aged 18 to 24, 2005-2015



Source: ONS Crown Copyright, 2016. 'Mid-year Population Estimates, 2005 and 2015', from NOMIS [accessed 2nd March, 2017].

Chart 19, which illustrates population growth over the decade for the working age group and 18 to 24 year olds (the age group which encompasses most students), shows that Coventry and Lincoln PUAs, where students account for the largest shares of the wider population in those areas, experienced

high rates of population growth in both age groups. The very high growth in the population aged 18-24 in the two PUAs is very likely to be associated with the size and growth of the HE institutions.

4.4 Graduate Destinations, Graduate Self-Employment and Graduate Start-Up Activity

Section 3.2 summarised recent literature on graduate retention. To discuss the extent to which enterprise and entrepreneurship education may increase graduate retention and upskill the sub-regional workforce (Report 2), it is important to assess the wider trends in the graduate populations in the UK and in each MEU area.

There are two important points of context. Over the long term, Higher Education has expanded significantly in the UK, leading to a large increase in the number of graduates (increasing from 17% of the working age population in 1992 to 37% in 2015). However, in the short-to-medium term, the impact of the recession led to a period of lower graduate recruitment and some evidence of a fall in demand for graduate employment. The population of graduates continued to increase through the period of recession and uneven recovery.

Despite this, working age graduates are still much more likely to be in employment, and much less likely to be unemployed, than non-graduates. In 2016 the graduate employment rate in the UK overall was 88% compared to 70.4% for non-graduates, whilst the graduate unemployment rate was half that of non-graduates, at 2.9% compared to 5.9%. However, there is a difference between young graduates (those aged between 21 and 30) and the average for all working age graduates. Young graduates are slightly less likely to be employed and slightly more likely to be unemployed (with an employment rate of 87% and unemployment rate at 4.6%). Looking at the quality of graduate employment, the difference between young graduates and the average for all working age graduates is greater still. Out of the total working age population, 65.5% of graduates were in 'high skilled employment' in 2016 (defined at Standard Occupational Classifications 1-3, Managers, Professionals and Associate Professionals), whilst this was 56% for graduates aged 21 to 30. The current proportion of young graduates in high-skilled employment represents an improvement from the period of recession and uneven recovery (it fell to 53.2% in 2013), but remains lower than the pre-recession proportion of 60.1% in 2007 (DFE, 2016).

The challenges currently experienced by younger, and thus (in the majority of cases) more recent, cohorts of graduate in accessing higher-skilled employment may affect both graduate retention and entrepreneurship. This is due to the increased 'pull' of labour markets with high demand for skilled graduate jobs, principally London, compared to cities in the North and Midlands, as summarised in Section 3.2 (Centre for Cities, 2016, and the Foresight Report, 2016). Barriers to accessing high-skilled employment will affect potential graduate entrepreneurs' skills acquisition, networking and accumulation of savings for start-up capital - although, conversely, challenges accessing graduate-level employment may also reduce the perceived opportunity cost of business start-up.

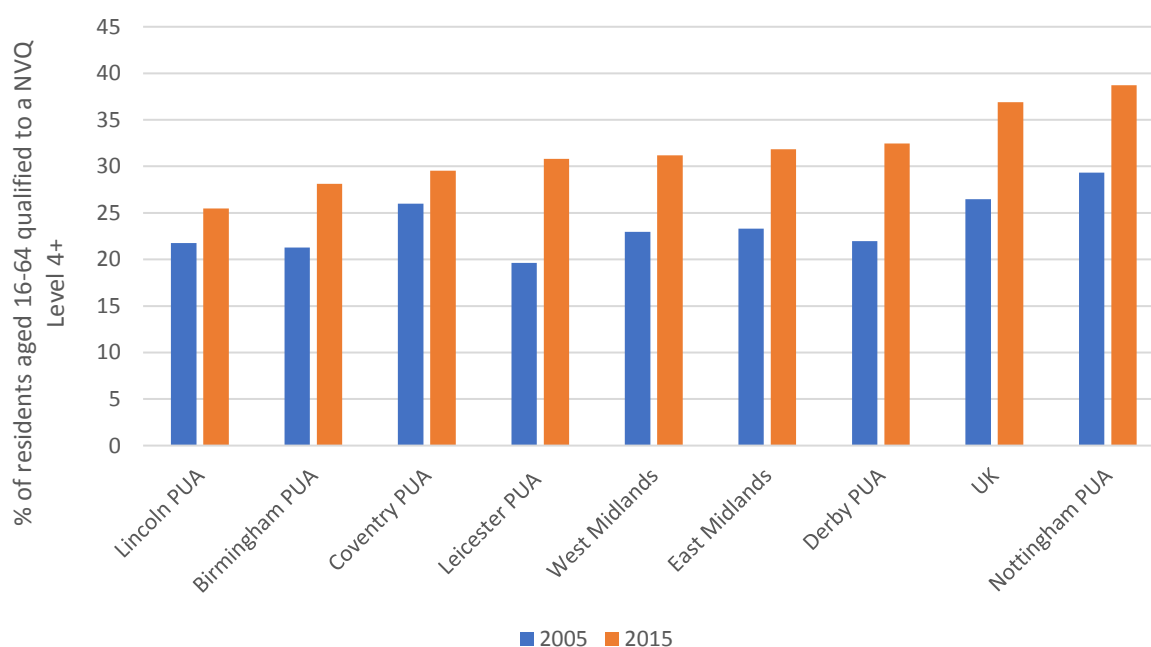
In the MEU sub-regions, the absolute number of graduates has increased significantly in all areas, although some of these areas also experienced strong growth in their wider working age populations (see Chart 19). The highest growth in the number of residents with a degree was in Leicester PUA, at a rate of 77% between 2005 and 2015 (from 55,800 to 98,800 individuals), compared to a 51% increase

nationally. The graduate populations in other PUAs, such as Birmingham and Lincoln, grew more slowly than average over the decade, at 44% and 34% respectively, although these increases are still very significant.

Chart 20 shows how the growth in the graduate populations of the MEU areas has affected the proportion of all residents qualified to at least the equivalent of a first degree (in this case, all qualifications equivalent to an NVQ Level 4 and above). This does not indicate where these individuals attained their education, simply the increase in the proportion of working age people with graduate level qualifications who are usually resident within these areas.

The chart shows that the proportion of graduates has increased in all PUA areas (and in both the East and West Midlands overall) between 2005 and 2015. However, only the Nottingham PUA exceeds the UK average, with 38.7% of working age residents qualified to degree level. Although the proportion in Birmingham PUA has increased, it has remained significantly lower than the UK average, and the gap has increased over the period. In 2005, it was 21.3% of working age residents, 5.2 percentage points lower than the UK average, and in 2015 it was 28.1%, 8.8 percentage points below average. The trend for Lincoln PUA was more volatile (likely to be affected by smaller sample sizes), but is also significantly lower than average, despite the very large student population relative to the size of the city - potentially a function of lower graduate retention (calculated by the Lincolnshire Research Observatory to be similar to Nottingham's retention rate, at around 27%).

Chart 20: Working age residents (% aged 16-64) of PUAs qualified to a Level 4+, 2005-2015



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2005 to January-December 2015, From NOMIS [accessed 20th February, 2017].

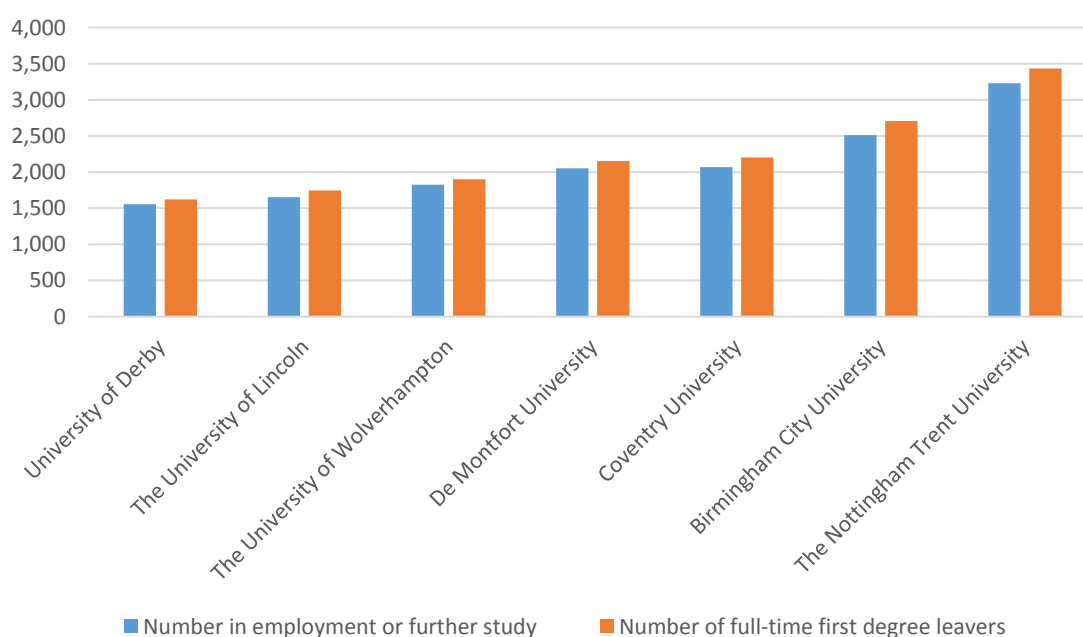
For insight into graduate destinations, including the number of graduates reporting forms of entrepreneurship, the main source of data is the DLHE survey, made available by HESA. The main sample of the DLHE relates to graduates from the last academic year, surveyed within six months of

graduation (399,345 UK and EU domiciled leavers responded to the DLHE in 2015, a response rate of 75.6% for graduates with a known destination). A further sample relates to the DLHE longitudinal survey, the latest of which was conducted in the winter of 2014/15 amongst a cohort of graduates who completed their courses in 2010/11 (3.5 years after graduation). The longitudinal survey is biennial and has been conducted since 2002/3. The latest longitudinal survey achieved a response rate of 27.6% of eligible, randomly sampled graduates - a sample of 82,000 individuals, meaning limited findings are available below a national level.

Graduate employment indicators from the DLHE are published in the Key Information Sets (KIS) for prospective students and parents by Unistats at an institutional and, where possible, course level - with the intention of enabling applicants to compare employability outcomes. These indicators include rates of graduate employment and further study and 'Graduate Prospects', which is the proportion of employed graduates in 'graduate level' occupations (occupations associated with graduate-level skills and/or earnings above the median for that occupation).

Chart 21 illustrates the scale of first degree graduates moving into work/further study in 2015. The total number of leavers is derived from the DLHE 'base' population (based on completed, eligible responses to the DLHE, used as a denominator for calculating the rate for work/further study). Although Coventry is the largest of the MEU institutions in terms of its total student population (undergraduates plus postgraduates), NTU has by far the largest number of leavers from full-time first degrees each year, with a DLHE base population of 3,435 in 2015 (out of an eligible population for the survey of 4,545).

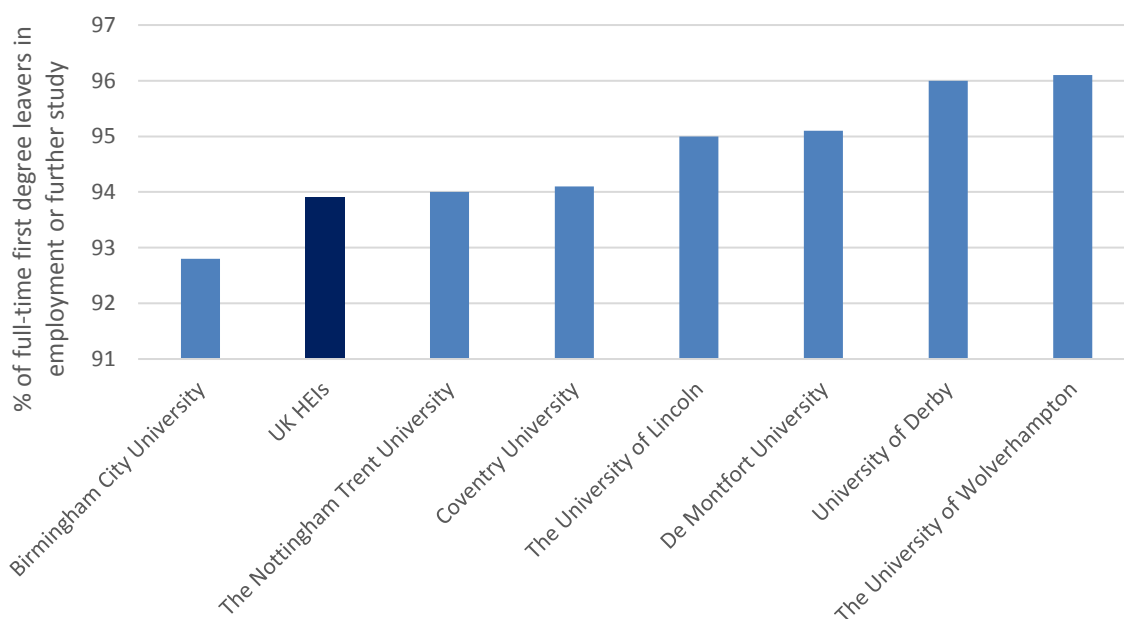
Chart 21: Number of leavers from full-time first-degree courses in employment or further study (base population), 2014/15



Source: HESA, 2017. '2014/15 Performance Indicators: Table E1A Leavers Obtaining first-degrees from full-time courses (respondents to the DLHE survey)', from HEIDI [accessed 28th February, 2017].

Chart 22 shows that, of these NTU leavers, 94% were in employment or further study at the time of the DLHE survey (within six months of completing their courses). This was close to the UK average for all HEIs in 2015 of 93.9%. All MEU institutions except for Birmingham City (92.8%) exceeded this, with the University of Wolverhampton having the highest proportion of 96.1%.

Chart 22: Proportion (% of all leavers of full-time, first-degree) in Employment or Further Study, 2014/15



Source: HESA, 2017. '2014/15 Performance Indicators: Table E1A Leavers Obtaining first-degrees from full-time courses (respondents to the DLHE survey)', from HEIDI [accessed 28th February, 2017].

If the vast majority of recent graduates from all MEU institutions are securing employment or further study within their first six months after graduation, it is very important for this study to identify the nature of this work and the proportion of these employed graduates who are reporting some form of self-employment or entrepreneurial activity.

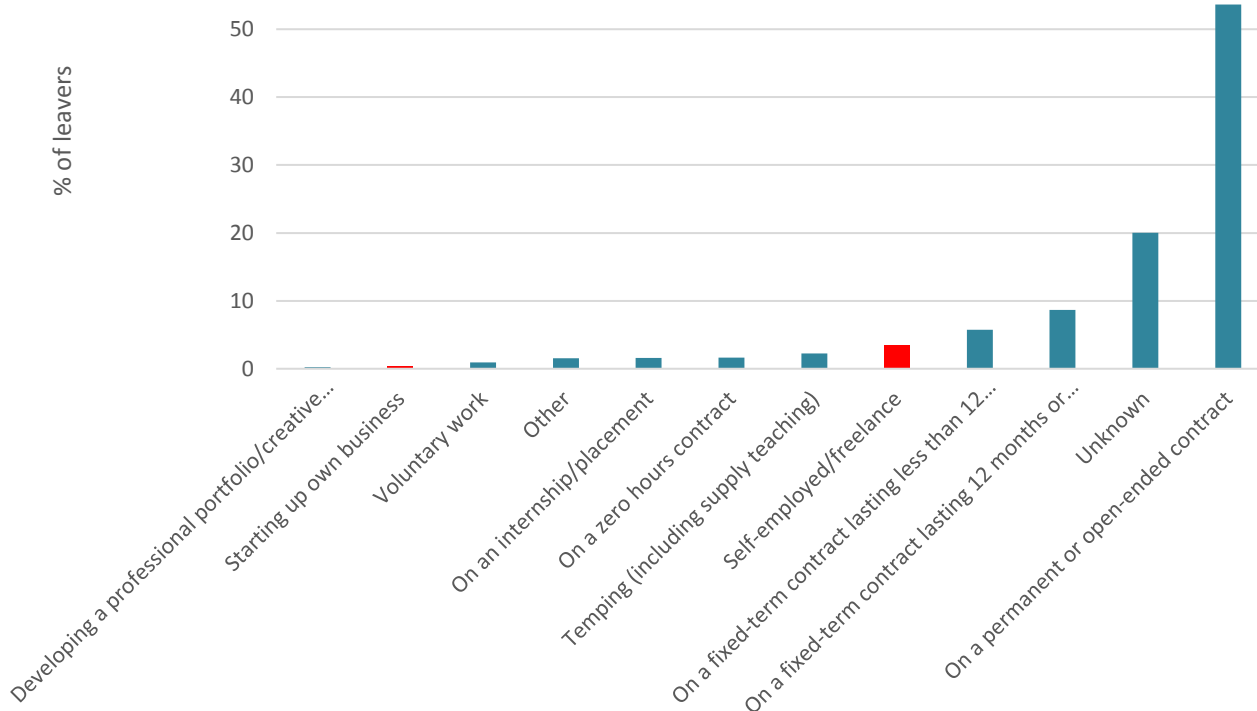
A special data request was made to HESA for DLHE 2015 responses on the 'employment basis' reported by MEU graduates. Chart 23 clearly shows that, for leavers from the 7 institutions combined, the largest share (53.6%) stated they were employed on a permanent or open-ended contract. After 'unknown'⁷, the next most frequent responses was employment in fixed term contracts (lasting 12 months or more, at 8.7% of responses, and less than 12 months, at 5.7%).

The 'employment basis' most clearly indicative of entrepreneurial activity, 'self-employed/freelance' or 'starting own business', accounted for a small and very small minority of responses respectively, at 3.4% and 0.4%. Out of the base of 25,800 leavers from the seven MEU institutions in 2015 who

⁷ As the base for this question is all respondents, not just those who had previously stated that they were employed, those who gave 'unknown' as their employment activity are likely to primarily be in further study or unemployed.

responded to this question, these responses accounted for just less than 900 and just over 100 individuals respectively.

Chart 23: Stated 'employment basis' of Leavers from MEU Institutions (% of all leavers), 2014/15

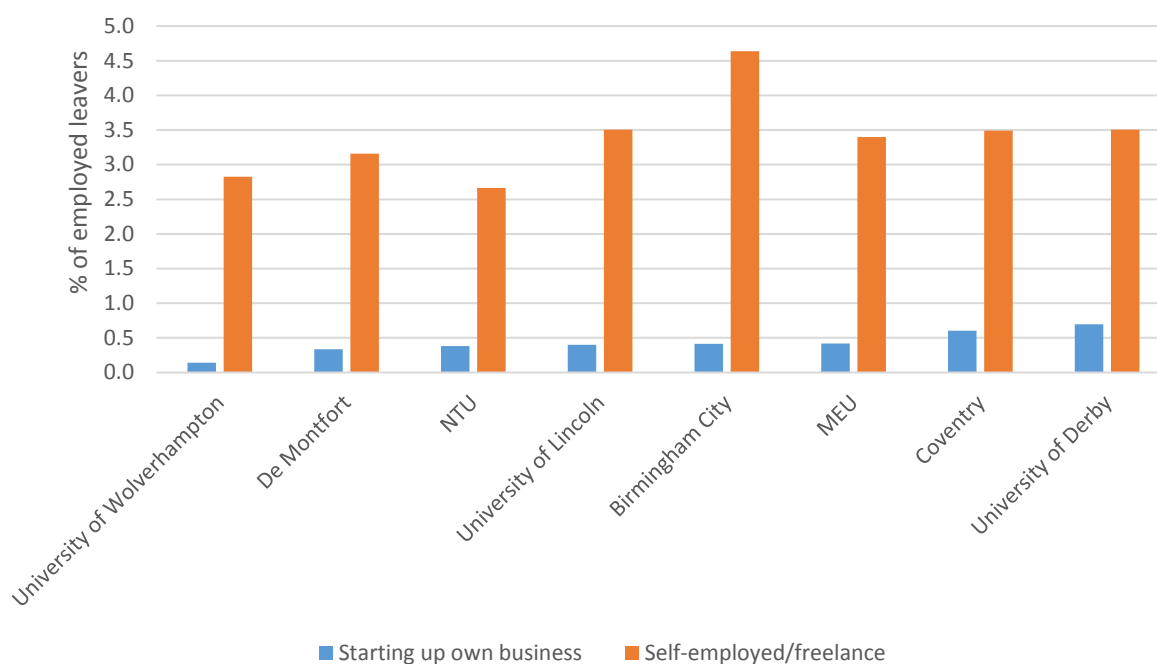


Source: HESA Destinations of Leavers from Higher Education, Data Enquiry 39740, UK and Other EU leavers from MEU Institutions, 2014/15

With such a small sample of graduates engaged in self-employed/freelance work or business start-up activity, it is problematic to make comparisons between the seven institutions. In several cases, the number of observations for either response is in single figures. Given the relatively high response rates usually achieved by the DLHE, the real extent of this activity is almost certain to be very low.

Furthermore, as Chart 24 shows, there is very little difference between leavers' responses across the 7 institutions, with Birmingham City having slightly more leavers identifying as 'self-employed/freelance', and the Universities of Derby and Coventry both having slightly more identifying as 'starting up' their own businesses.

Chart 24: Leavers by MEU Institution (% of all leavers) with 'Starting up own business' or 'Self-employed/freelance' as stated 'employment basis', 2014/15



Source: HESA Destinations of Leavers from Higher Education, Data Enquiry 39740, UK and Other EU leavers from MEU Institutions, 2014/15

The tables requested from HESA included industry (4 digit SIC) in which leavers were working. The distribution for 'self-employed/freelance' or 'starting up own business' across industries is highly dispersed, with a small numbers of responses (in most cases 1 or 2 individuals) within the majority of 4 digit SICs.

However, for those who were self-employed or freelancing, there is a clear bias towards the creative industries (see Table 3). In total, almost 30% of recent MEU graduates who stated that they were self-employed/freelancing were working in creative, art and design related sectors.

Conversely, the highest proportion starting their own businesses were working in a series of different sectors (with exception of 'specialised design activities', which accounted for 6% of both freelancers and leavers who had started their own businesses).

Multiple national and regional studies on the creative industries note the prevalence of freelancing across a range of sub-sectors, particularly in early career (e.g. Oxborrow, Elijah and Lawton, 2015, on the structure of the creative and cultural sector in the Derby, Derbyshire, Nottingham and Nottinghamshire Local Enterprise Partnership area).

Table 3: Sector (SIC) of employment for leavers from MEU Institutions who are ‘Self-employed/freelance’ or ‘Starting up own business’ (% total leavers by employment basis), 2014/15

SIC (4 digit) – Self-Employed/Freelance (base <900 responses, % rounded)	SIC (4 digit) – Starting up own business (base >100 responses, % rounded)
(7410) Specialised design activities – 6%	(4791) Retail sale via mail order houses or via Internet – 5%
(7420) Photographic activities – 5%	(5911) Motion picture, video and television programme production activities – 8%
(8559) Other education not elsewhere classified – 4%	(6201) Computer programming activities – 5%
(9001) Performing arts – 8%	(7410) Specialised design activities – 6%
(9003) Artistic creation – 9%	

Source: HESA Destinations of Leavers from Higher Education, Data Enquiry 39740, UK and Other EU leavers from MEU Institutions, 2014/15

In the case of those who had started their own business, an additional 5% were working in ‘retail sale via mail order houses or via internet’ and 5% in ‘computer programming activities’. Anecdotally (for example from Personal Tutorial discussions), many of final year undergraduate students on Business School courses in NTU who state that they want to start their own business after graduation, or are already trading during their studies, describe online retail of clothing and footwear, such as through ASOS boutiques. This is indicative of the low-risk ‘bedroom’ entrepreneurialism enabled by the internet (and, in particular, social media) that Lord Young refers to in his review.

The Longitudinal Education Outcomes (LEO) for leavers of Higher Education dataset, which draws on the DLHE alongside DWP benefits and HMRC employee contributions data (published as experimental statistics by the Department for Education in August 2016), confirms the picture of relatively small numbers of graduates going into self-employment or business ownership in their first few years after graduation:

- As is to be expected, the proportion of graduates in ‘sustained employment’ (working for at least 1 day in 5 for 6 months in the reference period) increases each year after graduation, from 55% one year after graduation to 69% ten years’ after graduation, whilst nominal median earnings also increase, from £16,500 in the first full financial year after graduation to £31,000 ten years after graduation;
- The LEO analysis matched DLHE responses of leavers from full-time courses from the 2012/13 academic year to tax and benefits data for the period 2013 to 2014, finding valid employment or out-of-work benefits records for 74% of DLHE respondents;
- Of the 285,210 leavers from full-time courses with a tax-benefits match, 11,185 were registered as self-employed – 3.9% of the total, significantly lower than the Labour Force Survey-based working age population estimate of self-employment for the same year (13.9% of all employed 16-64 year olds in 2014 in Great Britain as a whole); and
- For leavers of part-time courses where there was a tax-benefits match, the proportion who were self-employed was higher, at 4,095 out of 78,390, or 5.2%.

In addition to the LEO, the DLHE Longitudinal Survey of 2010/11 leavers collects information three and a half years after their graduation (HESA, August 2015). Unfortunately, published tables do not

include separate estimates of respondents who identified themselves as self-employed or running their own business (although this data is collected). Because of the small number of these respondents, they are combined within the all 'in employment' indicators in the published tables (of all 2010/11 leavers in from UK institutions at all levels, 73.1% were in full-time paid work and a further 7.9% were in part-time paid work three and a half years after graduation). However, the important additional insight that is available from the DLHE Longitudinal Survey relate to a question on the extent to which Higher Education prepared respondents for being self-employed or setting up their own business. Responses to this question can be disaggregated by type of course, subject area and HE 'mission group' (membership of provider groups extant in 2011, including the Russell Group of Universities, the 1994 Group, the Million + group of universities, the University Alliance, and the GuildHE Group). Data for this question is not available for individual institutions. Summary statistics for this question are presented in Chart 25 and described in more detail as follows:

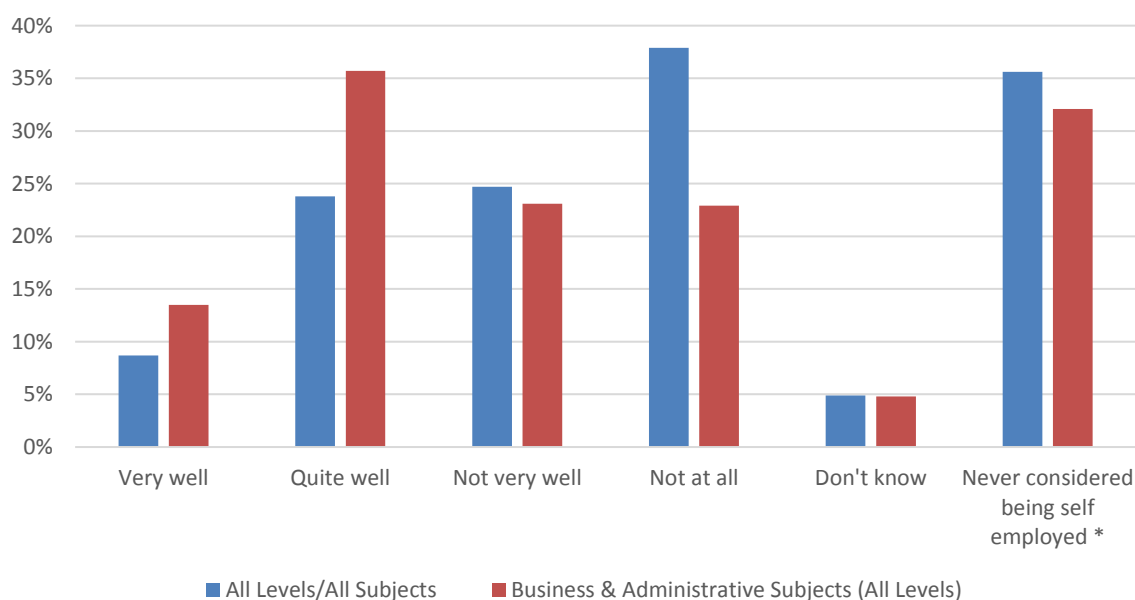
- In all cases, relatively high proportions of respondents to the DLHE Longitudinal Survey stated that they had "never considered being self-employed", consistent with the findings from the GEM and other international studies. For all levels of university leavers, 35.6% stated that they had never considered self-employment. This was higher for female leavers (38.5% compared to 31.2% for males). Leavers from Russell Group universities were also more likely to state that they have never considered self-employment (40.2%) whilst leavers from the University Alliance (including the MEU Universities of Coventry, Lincoln and Nottingham Trent in 2011) were in line with the average for all leavers (35.7%) and leavers from Million + Universities (including Wolverhampton in 2011) were significantly less likely to have never considered self-employment (29.2%); and
- In line with Table 3 above, only 17.3% of leavers from Creative arts & Design subject areas stated that they had "never considered being self-employed", with Architecture, building & planning also having a low proportion (23.7%). Leavers from science-related degrees were amongst the most likely to state that they had never considered self-employment, at 46% of leavers from courses in the Physical Sciences and 45.8% from courses in the Mathematical Sciences.

With those leavers who stated that they had never considered self-employment subsequently removed from the base, responses to the question "how well has your HE experience prepared you for being self-employed or setting up your own business" were on a 4-point scale from "very well" to "not at all", plus "don't know":

- A small minority in most cases responded "very well", with an average of 8.7% for all leavers at all levels (excluding those who had never considered self-employment). On average, the largest proportion responded "not at all" (37.9%). This was lower for first degree leavers (37%) but higher for postgraduates (38.8% for research PG courses and 39.7% for taught PG courses);
- There was little variation by HE provider group for those that responded "not at all", but there was more variation for those who felt their courses prepared them "very well" - with highest proportions for leavers from Million + universities (10.7%) and lowest for Russell Group leavers (6.2%);

- The subjects where leavers were most likely to feel that their Higher Education had equipped them poorly for self-employment or business start-up included Education (with 48.3% of leavers responding “not at all”), Medicine and Dentistry (47.8%) and Biological and Physical Sciences (44.3% and 44.1% respectively) (remembering that respondents who stated they had never considered self-employment or business start-up are discounted). The subjects where leavers were most likely to feel very positive about their course preparing them for some form of entrepreneurship included Business and Administrative Studies (with 13.5% of leavers responding “very well”), Education (10.9%, interesting also a subject where respondents were more likely to feel negatively) and Combined Studies (9.7%);
- Respondents who felt their courses had prepared them “quite well” or “not very well” were evenly balanced, at 23.8% and 24.7% respectively for all leavers at all levels, with greater skewing towards the more negative response from leavers from Russell Group universities (with 27.9% stating “not very well”, in addition to the 38.3% who stated “not at all”); and
- Leavers from courses in Business and Administrative Studies were also the most likely to feel their course prepared them “quite well” for self-employment or business start-up (35.7%, in addition to the 13.5% who responded “very well”). This could be a consequence of the tendency for enterprise and entrepreneurship education to be delivered mainly or exclusively within Business Schools rather than across Higher Education courses, as observed in both the Young Review and the 2013 BIS evaluation. The differences in responses between leavers from all courses and from those in Business Schools are illustrated in Chart 25.

Chart 25: DLHE Longitudinal Survey (2010/11 Leavers) – Extent to which respondents feel their HE experience prepared them for self-employment or business start-up



*Respondents who answered that they had “never considered being self-employed” are excluded from the percentage calculations for the other answers.

Source: HESA, 2015. *DLHE Longitudinal Survey: Table 21 - Destinations of UK domiciled leavers 2010/11 by level of qualification obtained, sex, HE provider mission group, HE provider tariff group, subject area, activity and view of HE experience*, accessed 4th July, 2017.

In addition to the question on preparedness for self-employment and entrepreneurship, the DLHE Longitudinal Survey also includes a question on how far the “HE experience prepared you to...”: “be innovative in the workplace”; “solve problems in your work”; “make good decisions in your work”; and “take initiative and personal responsibility in your work”. These are consistent with a range of factors associated with being intrapreneurial within an existing employer and/or characteristics required for immediate or later entrepreneurship, in line with the wider, qualitative, pedagogical or cultural benefits of enterprise and entrepreneurship education identified by the policy and literature reviewed in Sections 2 and 3.1. The vast majority of leavers gave positive responses to these questions, as follows:

- On the extent to which their HE experience had enabled them to be “innovative in the workplace” (a key factor in an intrapreneurial skillset), 57.1% of all leavers (all levels) replied “to some extent” and 24.8% replied “to a great extent” on a three point scale, with only 13.9% replying “not at all” (plus 2.5% “don’t know”);
- For solving problems at work, 29.5% answered that their HE experience had helped “to a great extent” and 54.8% replied “to some extent”;
- On the extent of the contribution made by their HE experience in enabling them to make “good decisions” at work, 30.2% of leavers replied “to a great extent” and 54.2% replied “to some extent”; and
- In taking initiative and personal responsibility in their work, 42.4% of leavers felt that their HE experience had helped “to a great extent” and 44.5% felt it had helped “to some extent”.

The findings from the LEO and DLHE Longitudinal Survey, that there are relatively small numbers of graduates engaging in entrepreneurship within either 3 or 10 years of graduation, but that large proportions feel that their Higher Education supported their development of key attributes required for with entrepreneurship, is in line with the literature reviewed in Section 3. A broad range of studies, UK and international, have found that the principal benefits of enterprise and entrepreneurship education in HE relate to the establishment of an environment conducive to entrepreneurship, rather than significant, quantifiable increases in enterprise activity. In addition, these studies identify broad pedagogical benefits related to active learning, with outcomes such as improved problem solving and decision-making, strongly supported by the above responses from the DLHE Longitudinal Survey. It is also recognised in the policy literature (e.g. the Smith Institute, 2007) that quantifiable enterprise activity can be increased at the top of the conceptual pyramid if there is a sustained increase in the wider population who have both the skills relevant to business start-up and positive perceptions of entrepreneurship. In turn, these skills, values and aptitudes - ‘enterprise capabilities’ (Davies, 2002) - are important for resilience, lifelong learning and innovation and adaptation in the workplace, the ‘intrapreneurialism’ advocated by Lord Young.

4.5 Higher Education and Business and Community Interactions

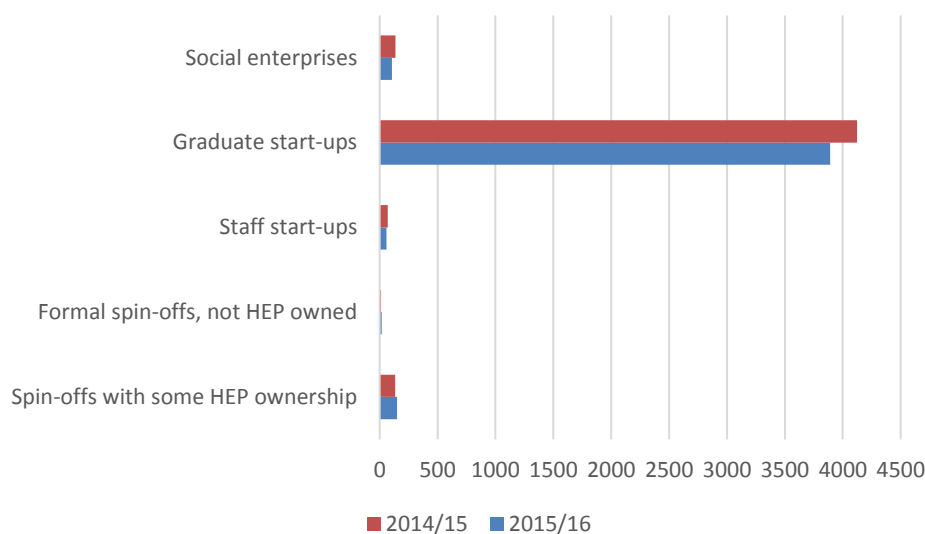
The Higher Education Business and Community Interaction (HEBCI) survey is the main vehicle for measuring the volume and direction of interactions between UK higher education providers and business and the wider community. HEBCI data is collected from all higher education providers in the UK. The 2015/16 HEBCI included responses from 162 HE providers (132 in England, 8 in Wales, 18 in Scotland and 4 in Northern Ireland). This includes data on two areas of interest to this study:

- The creation of formal 'spin-off' enterprises (where the university has acquired formal intellectual property rights and then set up a new company in order to generate financial returns from that innovation). A 'spin off' is therefore a company established to exploit IP originated from within the university. HEBCI includes information on spin-offs wholly owned by a HE provider and those in which the university continues to have partial ownership, in addition to spin-offs based on IP that originated within a university but where the institution has released all ownership (e.g. through the sale of share and/or the IP); and
- The outcomes of wider business support, incubation and enterprise/entrepreneurship education activities, which include start-up activity of graduates and staff and supported social enterprise. These include: start-ups set up by active (or recent) HE staff, but not based on IP that originated from the university; start-ups by recent graduates (within two years of graduating) regardless of where the IP originated but only where there has been formal business support from the university, and; start-ups by staff or students that have clear social, community or environmental objectives and are thus social enterprises.

This activity is shown across all 162 HE providers in Chart 26, and for the seven MEU institutions in Chart 27. Across all providers, Chart 26 shows that there were 3,890 graduate start-ups in 2015/16 (which is equivalent to a rate of 0.6% of all 670,780 HE leavers in the target population of the 2015/16 DLHE), along with 150 spin off companies with some HE provider ownership, and 106 new social enterprises.

In terms of total stock of spin-offs and start-ups (not shown in the chart), there were over 13,500 new and existing spin-off and start-up companies active during 2015/16 employing over 44,000 people. Chart 25 shows that, across most measures (with the exception of formal spin-offs with some HE ownership), there was a fall in start-up activity between 2014/15 and 2015/16.

The Royal College of Art (London) had the greatest number of graduate start-ups, at 300, in 2015/16, and Kingston University (London) had the greatest number in 2014/15, at 371 (followed by the Royal College of Art at 350).

Chart 26: Start-up and Spin-off activity across all UK Higher Education providers, 2014/15

Source: HESA, 2017. *Higher Education-Business and Community Interaction Survey, 2015/16*, Table 4b – Intellectual Property (IP) – spin-off activities by HE provider (HEP) (accessed 13th June, 2017 under the Open Government License 2.0).

For the seven MEU institutions, Chart 27 shows a similar pattern as that reported nationally, also with a fall in most indicators between 2014/15 and 2015/16. Graduate start-ups account for by far the largest numbers of starts, at a total of 391 across the 7 institutions in 2015/16 (down from 454 the previous year), whilst spin-offs with some HE ownership increased from 5 to 8 over the same period. The number of Social Enterprise start-ups increased more markedly across the MEU institutions, from 18 to 27 (with the University of Coventry accounting for by far the largest numbers in both years).

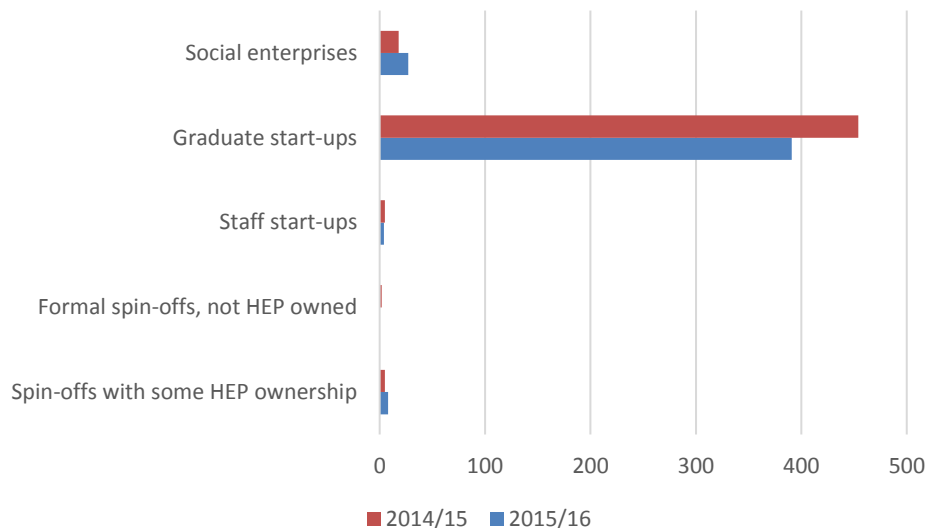
In terms of ranking amongst the 162 providers nationally, the MEU institutions have achieved notable numbers of start-ups on a number of the measures indicated:

- The University of Derby had the 8th highest number of graduate start-ups (at 117) in 2015/16 and the 5th highest (at 205) in 2014/15;
- The University of Lincoln had the 14th highest number of graduate start-ups (at 88) in 2015/16 and Coventry and NTU had the 24th and 25th highest numbers respectively in the same year;
- The University of Wolverhampton had the 3rd highest number of staff start-ups (at 4 in 2015/16);
- The University of Coventry had the highest number of social enterprise start-ups out of all 162 providers in the 2015/16 HEBCI; and
- Coventry is also notable for the number of graduate start-ups still active which have survived 3 years, with the 6th highest proportion out of the 162 institutions (NTU has the 8th highest survival rate).

It is important to note that the specialist arts/performing arts institutions (e.g. the Royal College of Art) make up a large proportion of the 'top 10' institutions with the highest numbers of graduate start-ups and surviving start-ups, which is likely to be connected to the high proportion of graduates in the

creative industries that start entrepreneurial careers shortly after graduation. These institutions are also relatively small in terms of student numbers, and overwhelmingly concentrated in London - making it notable that the comparatively large MEU institutions, all with broad portfolios of degree specialisms, account for some of the largest numbers of starts nationally according to the HEBCI survey.

Chart 27: Start-up and Spin-off activity across the seven MEU institutions, 2014/15



Source: HESA, 2017. *Higher Education-Business and Community Interaction Survey, 2015/16*, Table 4b – Intellectual Property (IP) – spin-off activities by HE provider (HEP) (accessed 13th June, 2017 under the Open Government License 2.0).

Section 4 Summary - Contextual Data Analysis

- The logic chain for investigating enterprise and entrepreneurship education recommended by BIS in 2013 identified high-level regional indicators including jobs created through start-up activity, changes in relative employment and self-employment, overall business start-up and survival rates, and the wider impact on the regional and local skills profile (including graduate retention). Many of these concepts can only be measured indirectly, and attribution to the outputs of MEU enterprise activity is not possible - but will be discussed qualitatively in Section 5.
- The recovery from the recession that started in the UK in 2008 has been described as 'jobs rich', with national employment rates currently at the highest on record. However, this varies significantly between the MEU areas, with the highest rate of employment in Lincoln (74.1% in 2015) and the lowest in Birmingham City (61.4%). Employment rates are generally higher in the East Midlands compared to the West Midlands. Employment rates tend to be lower in the larger city Local Authorities (e.g. Birmingham and Nottingham).
- Data that directly measures entrepreneurship is limited. Self-employment rates are an imperfect proxy measure of individual entrepreneurship, as not all self-

employment is consistent with the understanding of entrepreneurship underpinning this study. In 2015, self-employment varied between 12% and 14% of total employment across the MEU areas, with little to indicate a rise in 'necessity' or 'involuntary' self-employment, although this has been identified in national analysis from the ONS and the TUC.

- The size of the business stock (the number of businesses registered for VAT or PAYE) varies significantly across the MEU areas, from more than 37,000 enterprises in Birmingham City to just under 12,000 in Leicester. Business birth rates have increased in all MEU areas over the period, with birth rates generally higher in the West Midlands compared to the East Midlands.
- The GEM survey captures the different stages of entrepreneurial activity, but is only available at a national level. Since 2002, there has been an increase in the proportion of people who know someone who has started a business and who feel that there are good opportunities in their areas (although the latter declined following the onset of recession in 2008). Fear of failure is the principal barrier preventing potential entrepreneurs to actively pursue business start-up.
- Consistent with observations made in both the research literature and the policy context, the GEM suggests that younger people have the lowest rates of entrepreneurship - with a TEA of 3.9% for 18 to 24 year olds compared to 9% for 35 to 44 year olds. Studies of entrepreneurship that utilise the GEM data suggest that young people face barriers related to resources and skills; but are more likely to respond to emerging economic trends and opportunities; be more active in high growth sectors; hire other young people; and are typically better educated than older entrepreneurs.
- Student population data shows that the seven MEU universities are all relatively large institutions, particularly in the contexts of their local labour markets.
- The proportion of working age residents qualified to a degree or above has grown significantly across the MEU areas. It exceeds the UK average in the Nottingham Primary Urban Area, but is below the UK average in all other PUAs. This is in line with the challenges identified by the Midlands Engine Strategy, in which a lower workforce skills profile and low graduate retention are evident across the Midlands (particularly when compared to London and the South East).
- A large number of graduates from full-time first degree courses leave the seven MEU institutions each year, with all except for Birmingham City attaining higher proportions in employment or further study than the UK average within six months of graduation.
- Detailed data from HESA suggests that both active entrepreneurs (those who describe themselves as having started a business) and self-employed/freelancers make up small proportions of first degree leavers, with the vast majority reporting fixed-term employment contracts as their employment activity in the Destinations of Leavers from Higher Education (DLHE) survey. Only 3.4% of leavers in the 2014/15 academic year reported that they were self-employed or freelancing, and just 0.4% had started their own business. This supports the observations made in the policy and academic literature that, although young people are more likely to have positive views of entrepreneurship, a small proportion actually go on to start a business.

- Those leavers from MEU institutions who reported that they were self-employed/freelancing or had started their own business were more likely to be in design, creative and cultural sectors. From a small number of observations across the seven institutions, the largest numbers were in design, photography, performing arts, motion picture and videography, or other artistic activities, with significant minorities of those who had working in retail via mail order or the internet and computer programming activities.
- This is confirmed by the LEO and the DLHE Longitudinal Survey, which suggests that, even 3 years after graduation, HE leavers across the UK are significantly less likely to be self-employed than the wider working-age population. However, the DLHE Longitudinal Survey suggests that large proportions of leavers feel that their Higher Education has equipped them with the skills associated with intrapreneurship and eventual entrepreneurship.
- Alongside the literature, these small numbers suggest that the greatest short-term impacts of enterprise and entrepreneurship education are likely to be indirect, through graduate entrepreneurs employing other young people (including in high growth sectors), and more widely in terms of skills for intrapreneurship and the establishment of an enterprise culture and enterprise aptitudes. In the long-term, this may result in increased business start-up later in graduates' careers.
- The Higher Education and Business and Community Interaction (HEBCI) Survey suggests that graduate start-ups make up the largest numbers of total start-up activity associated with HE, nationally and for the MEU institutions (significantly exceeding both spin-off activities and staff start-ups).
- MEU institutions account for some of the highest levels of activity amongst the 162 UK institutions that responded to the 2014/15 HEBCI Survey. The University of Coventry had the highest number of social enterprise start-ups of all UK institutions, whilst the University of Wolverhampton had the 3rd highest number of staff start-ups, and the University of Derby had the 8th highest number of graduate start-ups (and the 5th highest in the previous year). This is particularly notable given the tendency for smaller, generally London-based specialist arts and performing arts institutions to make up a large share of the other UK institutions with high levels of start-up activity. This suggests that the MEU institutions stand out nationally, in being outside London with large student populations and diverse degree portfolios.

5. Summary to Inform Report 2

From the relevant literature and policy, the benefits and objectives of enterprise and entrepreneurship education and support in Higher Education could include:

- Contributing to increased entrepreneurial activity (i.e. business start-up), including by students, graduates, staff and the wider population; in order to contribute to local, regional and national growth through increased productivity, the introduction of new technologies, skills acquisition and deployment, and a more efficient allocation of resources. Graduate entrepreneurs are more likely to employ other graduates, so may increase graduate retention and contribute to a mutually supporting cycle of enterprising cities attracting more enterprising people;
- Encouraging a more enterprising culture at a local, regional and national level - where entrepreneurship is more positively perceived as a career option and 'role identity';
- Increasing and sustaining employability, through the development of skills, knowledge and values conducive to both entrepreneurship and innovation, creativity and problem solving within existing employers (intrapreneurship);
- Enabling young people to develop fulfilling, meaningful and diverse careers (including 'portfolio' careers), particularly in light of current concerns around the precariousness of modern employment and challenges experienced by recent graduates in accessing quality work; and
- Facilitating pedagogical benefits, including greater use of active and experiential learning and teaching strategies, such as case studies, problem-based learning and sustained interaction with entrepreneurs, SMEs and larger employers and civic stakeholders.

However, converting many of these broad, qualitative outcomes into measurable increases in active entrepreneurship, particularly in the short- and medium-term, faces a number of systematic barriers and challenges. On both a UK and an international basis, there is limited evidence that enterprise and entrepreneurship education results in a significant increase in graduate entrepreneurship, especially when controlling for factors such as a selection bias (students who are already positively predisposed to entrepreneurship are most likely to enrol on dedicated degree courses or choose elective modules, assessment tasks and CPD). These challenges include:

- Although young people are significantly more likely to state that they want to start a business or enter freelance employment, they are significantly less likely than average to actually do so;
- Young people have had less opportunity to develop the human and financial capital and networks to start an effective business venture;
- Some evidence suggests that familiarity with the challenges of entrepreneurship, such as through completing a course in Higher Education, can reduce entrepreneurial intent;
- Although UK policy (such as the Young Review) emphasises graduate entrepreneurship in knowledge-intensive, science-based activities, including spin-off activity with staff, the largest volumes of graduate start-up and freelance activity are in the creative and cultural sectors - whilst enterprise and entrepreneurship education in UK Higher Education remains overwhelmingly concentrated within business schools; and

- Exacerbated by an uneven recovery from the recession, graduate retention - and therefore the number of potential graduate entrepreneurs - has fallen in most cities other than London.

In this challenging context, the data analysed in this report suggests that the MEU institutions have a number of assets and indicators of success, including:

- All seven institutions are comparatively large, with diverse course portfolios. The student populations of all MEU institutions account for significant proportions of the working age population in their wider local and sub-regional economies, meaning that marginal increases in start-up activity amongst students, graduates, staff and the wider population can have very significant impacts on the employment, skill base and productivity of these areas;
- All seven institutions have notable success in graduate employability. Employment can be an important potential precursor for future entrepreneurship, as it enables the accumulation of financial and human capital and the establishment of broad networks and sector-specific expertise;
- The graduate population in all MEU areas has increased significantly over time, although it remains lower than the national average in all urban areas other than Nottingham;
- Although entrepreneurial activity amongst recent graduates (within six months of course completion) accounts for relatively small numbers across the UK, self-employed/freelance activity is above average for leavers from Birmingham City University, and start-up activity is higher for recent leavers from Derby and Coventry Universities; and
- MEU universities have amongst the highest levels of graduate, staff and social enterprise start-ups of the 162 universities that responded to the 2014/15 HEBCI, with Coventry University having the highest number of social enterprise start-ups of all UK universities.

The literature suggests that, in order to identify potential best practice across the MEU institutions in Report 2, the research team should be mindful of any activity that takes advantage of the wider cultural and pedagogical benefits of enterprise and entrepreneurship education - particularly delivery that is *'for'* rather than *'about'* entrepreneurship (and focusses on active and experiential learning: *'how'* the content is taught). Although the Young Review identified best practice in these terms nationally, this is in the context of a tendency amongst the wider population of UK Higher Education institutions to favour traditional, didactic learning and teaching (e.g. lectures, traditional assessments such as exams) rather than active and experiential learning (according to the BIS audit in 2013). The BIS review also identified the concentration of this activity within business schools rather than across courses and departments. Therefore, Report 2 will also be mindful of examples of cross-institutional delivery, both embedded within the curriculum and as elective, CPD opportunities.

To facilitate this review, this report concludes with a revised taxonomy of delivery and an amended version of the logic model proposed by BIS (2013), incorporating insight from the data analysis and literature and amending key indicators accordingly.

5.1 A Taxonomy of Enterprise and Entrepreneurship Education

Figure 4 classifies the different kinds of enterprise and entrepreneurship education and support likely to be provided by the MEU institutions, ordered by how ‘embedded’ they are in the curriculum, drawing on the QAA review of the ‘ecology’ of enterprise and entrepreneurship education in the UK (Section 2), amended in light of the literature and data. This provides an initial framework against which to assess the MEU activity in Report 2.

These classifications are illustrated with examples of current practice within the research team’s experience of Nottingham Business School (NTU) and is drawn from discussions with colleagues and review of course documentation. This will be expanded across all seven institutions in Report 2.

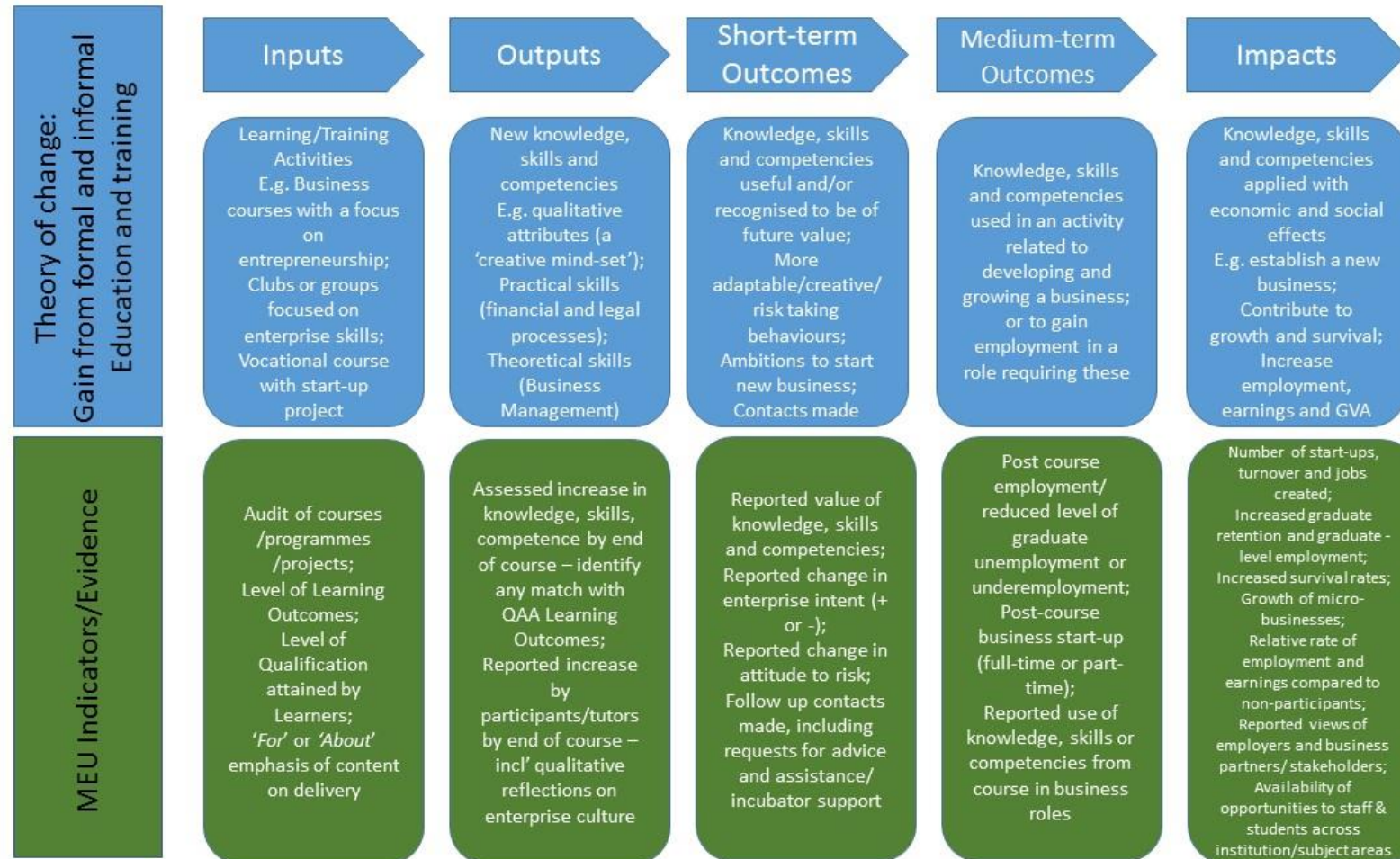
Research into employability (e.g. Mason et al, NIESR, 2012) suggests that the most embedded interventions have the greatest impacts, which seems to be supported by some of the findings of the BIS meta-review (2013). However, in these cases, students are more likely to be ‘self-selecting’ (students who already have entrepreneurial ambitions may opt to study dedicated enterprise-related courses) thus the additional value added in the outcomes needs to be handled carefully.

Figure 4: Taxonomy of Enterprise Education and Support in HEIs (with examples from NTU practice)

Extent Practice is Embedded within the Curriculum	Classification of Enterprise Education, Training, Advice, Support or Development Activity	Examples of Practice in Nottingham Business School, NTU	Comments for Evaluation
1	Dedicated Enterprise/Entrepreneurship Courses or Modules	MSc in Enterprise; BA Business Management joint honours with Entrepreneurship and dedicated Modules (taught to all BA Business Management and BA Business students) such as Level 1 Enterprise & Business Development	Candidate self-selection; issues for estimating additionality/ value added Note whether course materials suggest a ‘for’ or ‘about’ focus (Johnson and Muir, 2012; QAA, 2012)
2	Enterprise Projects or Assessments within other courses/modules – e.g. a given assessment or case study environment; approach to learning & teaching; entrepreneurs delivering guest lectures; feedback and Mentoring	Level 3/Final Year Undergraduate Research Projects that include reflections on impact of course on individual propensity to start-up; Postgraduate ‘Applied Consultancy Projects’ including evaluation of enterprise incubators; evaluation of Enactus projects	Provides opportunities for qualitative ‘best practice’ case studies and wider experiential learning; Note whether assessment materials suggest a ‘for’ or ‘about’ focus
3	Options and Opportunities within the Course	Undergraduate Half Year 2 ‘Enterprise Opportunity’ – a 16-	Candidate self-selection; note BIS (2013) identifies

		18 week placement within the Hive to set up a new business	significant benefits for learner skill development, self-efficacy etc.
4	CPD outside the Course	A wide range of CPD opportunities are providing (Level 1 and 2 students must undertake 20 hours CPD, increasing to 25 hours at Level 3). Includes business challenges, such as the IoD £10 challenge; the Universities Business Challenge; the Hong Kong Polytechnic University Entrepreneurship Student Challenge; Enactus International Social Entrepreneurship projects; the Brussels Management Challenge; and the 'Thinkubator' (a half-day series of facilitated business challenges)	Candidate self-selection; note BIS (2013) identifies significant benefits for learner skill development, self-efficacy etc.
5	Support for Independent Pursuit of Entrepreneurial Ideas/Projects	Students can engage with enterprise support by choice/alongside their studies. The Hive provide support accessible to all NTU students and graduates, and residents of Nottingham and Nottinghamshire. Also work with partners such as Nottingham City Council and the University of Nottingham, with support opportunities such as 'Thirsty Thursdays' and 'First Tuesdays' clubs network and listen to inspirational talks from entrepreneurs.	Challenges in identifying a control/counter-factual; Note analysis of HEBCI identifies small but significant levels of activity in staff start-up and social entrepreneurship; Identify any monitoring data on survival, employment and turnover.

5.2 Adapted Logic Model for Reviewing MEU Enterprise & Entrepreneurship Education and Business Support



Adapted from: ICF/GHK and behalf of BIS, 2013. 'Enterprise Education Impact in Higher Education and Further Education', p. 21

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Annex 1: Primary Urban Areas and HEIs

PUA	Local Authorities	HEIs
Birmingham	Birmingham, Dudley, Sandwell, Solihull, Walsall, Wolverhampton	Aston University, Birmingham City University, The University of Birmingham, University College Birmingham, Newman University, The University of Wolverhampton
Coventry	Coventry	Coventry University, The University of Warwick
Nottingham	Broxtowe, Gedling, City of Nottingham, Rushcliffe	The University of Nottingham, Nottingham Trent University
Lincoln	City of Lincoln	The University of Lincoln, Bishop Grosseteste University
Leicester	Blaby, City of Leicester, Oadby and Wigston	De Montfort University, The University of Leicester
Derby	City of Derby	The University of Derby

Source: Centre for Cities, 2016. *Defining Cities: List of Primary Urban Areas*, and HESA, 2017