Response to the Industrial Strategy Consultation from the Enterprise Research Centre

ERC Report

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The Enterprise Research Centre is an independent research centre which focusses on SME growth and productivity. ERC is a partnership between Warwick Business School, Aston Business School, Imperial College Business School, Strathclyde Business School, Birmingham Business School and Queen's University School of Management. The Centre is funded by the Economic and Social Research Council (ESRC); Department for Business, Energy & Industrial Strategy (BEIS); Innovate UK and the British Business Bank. The support of the funders is acknowledged. The views expressed in this report are those of the authors and do not necessarily represent those of the funders.

The Enterprise Research Centre (ERC) welcomes the opportunity to input to the consultation relating to the Industrial Strategy. ERC is a collaborative research centre focussed on innovation, growth and productivity in small and medium sized enterprises (SMEs). It is led by Warwick and Aston Business Schools in partnership with Imperial, Strathclyde, Birmingham and Queen's Universities. Funding for the ERC is provided by the ESRC, BEIS, InnovateUK and the British Business Bank (BBB). The views expressed in this response are those of ERC alone and do not necessarily represent the views of the funding organisations.

Our response draws on our own research and data analysis and related academic studies. We focus on those areas in which we as a Centre have specific expertise. Our hope is that the evidence we cite is useful in developing a robust and evidence-based White Paper. We would be very pleased to provide any further information if this would be useful. Key contacts at the Centre are Professor Stephen Roper (Stephen.roper@wbs.ac.uk), Professor Mark Hart (Mark.Hart@aston.ac.uk) and Dr Vicki Belt (Vicki.Belt@wbs.ac.uk).

1. **Does this document identity the right areas of focus: extending our strengths; closing the gaps; and making the UK one of the most competitive places to start or grow a business?**

2. **Are the ten pillars suggested the right ones to tackle low productivity and unbalanced growth? If not, which areas are missing?**

While we strongly support the broad and positive aspirations expressed in the Green Paper, and think the 10 pillars are the right ones, our view is that clearer objectives are necessary if policy interventions are to succeed. The evidence on business growth suggests, for example, that those firms which experience high growth episodes are unlikely to be the same firms which contribute most strongly to productivity growth. At the same time, firms which make the largest contribution to productivity growth are unlikely to be

those growing jobs most rapidly[1]. Both points highlight the complex and perhaps contradictory relationship between productivity and jobs growth, and suggest the need for clear and transparent policy objectives at both local and national level in both areas. We need to be clear which specific 'gaps' we are trying to close, and how we envisage different policy initiatives contributing to performance and growth.

3. **Are the right central government and local institutions in place to deliver an effective industrial strategy? If not, how should they be reformed? Are the types of measures to strengthen local institutions set out here and below the right ones?**

We welcome the recognition in the Green Paper of the valuable role that public institutions can play in shaping growth and prosperity. This view is strongly supported by the research literature which – particularly in areas such as innovation and eco-system development – emphasise the positive role of institutions in 'creating value'[2]. This is particularly the case in situations where new technologies are emerging and markets are therefore small and demand is uncertain[3].

[1] Du, J (2016) Growth heroes and their wider economic impact", presentation at the ERC's Annual State of Small Business Britain Conference, November 2016 https://www.slideshare.net/enterpriseresearchcentre/jun-du-growth-heroes-and-their-wider-impact-erc-conference-30112016; Hart, M (2016) "UK's Local Growth Dashboard 2016", presentation at the ERC's Annual State of Small Business Britain Conference, November 2016 https://www.slideshare.net/enterpriseresearchcentre/mark-hartpresentation-to-the-erc-conference-30112016

[2] Asheim, B. T., et al. (2011). "Constructing Regional Advantage: Platform Policies Based on Related Variety and Differentiated Knowledge Bases." Regional Studies **45**(7): 893-904. Hewitt-Dundas, N. and S. Roper (2011). "Creating advantage in peripheral regions: the role of publicly funded R&D centres." Research Policy **40**(6): 832-841.

[3] van Alphen, K., et al. (2009). "The performance of the Norwegian carbon dioxide, capture and storage innovation system." Energy Policy **37**(1): 43-55.

A key element in institution-building is longevity, and the Industrial Strategy offers a valuable opportunity to establish a stable support system for business innovation, exporting and growth in England. Stability is important in helping firms to access appropriate support – overcoming potential market failures[4]. Evaluation evidence on the Scottish Account Management system – which has remained largely unchanged since the early-2000s – suggests that stability is important in helping firms to understand the support system[5], and that such stable systems can deliver significant productivity benefits[6]. It is too early to assess whether the still fledgling LEP Network in England can deliver the support required by the private sector to engage in the key drivers of growth and productivity – namely, innovation and internationalisation. It is clear, however, that going forward LEPs and their Growth Hubs will be expected to play a key role in ensuring the range of initiatives emanating from the 10 pillars at the national level have an impact locally. Therefore, adequate resourcing of the LEPs based on a robust evidence base is crucial.

4. **Are there important lessons we can learn from the industrial policies of other countries which are not reflected in these ten pillars?**

The ten pillars provide a useful framework within which to develop targeted policy initiatives. Recent research has, however, stressed the value of systemic approaches to policy development, stressing the potential synergies between areas of policy development and the potential for 'bottlenecks' where some aspects of a business eco-system are under-developed. Such 'bottlenecks' may be either local or national, constraining either local or national growth[7]. Releasing such bottlenecks can generate significant local benefits by allowing the utilisation of under-used assets.

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[4] Hewitt-Dundas, N and Roper, S (2017) 'Exploring market failures in open innovation', International Small Business Journal, forthcoming.
[5] Upper Quartile (2013). Evaluation of Scottish Enterprise Engagement with Account Managed companies. Glasgow Scottish Enterprise.
[6] https://www.enterpriseresearch.ac.uk/directors-blog-may-2016/
[7] Acs, Z. J., et al. (2014). "National Systems of Entrepreneurship: Measurement issues and policy implications." Research Policy 43(3): 476-494.

We strongly support initiatives such as the Productivity Council which will hopefully take a cross-cutting perspective on how the ten pillars influence productivity. Similarly, the Industrial Strategy needs to ensure that the range of policies and initiatives underpinning the 10 pillars do not get diluted through a lack of prioritisation and co-ordination across national, regional, local and sectoral institutions.

6. Which challenge areas should the Industrial Challenge Strategy Fund focus on to drive maximum economic impact?

There is little direct evidence on the specific sectoral effects of public innovation funding or support. This is an area where future research is necessary. Key to any support decisions, however, should be both the direct and indirect effects of policy. The direct (and to some extent the positive spillover benefits) are captured in standard cost-benefit models. Much weaker, however, is existing consideration of potential indirect effects. These may be positive or negative. Positive effects may include demonstration effects, halo effects or the generation of localised clusters.

Innovation can also have strong labour market effects which may not be so desirable. Innovation in modern production processes can lead to a loss of semi-skilled or unskilled jobs. More complex products and services may also increase the demand for employees with strong ICT skills at the expense of the less skilled. As Bent Brynjlofsson and Andrew McAfee argue in the 'Second Machine Age', both mechanisms mean that accelerated innovation can lead to greater inequality in opportunity and earnings, a trend which may be exacerbated by public policies which promote innovation.

The way public support for innovation is allocated may also exacerbate inequalities in competitiveness between firms. Public support for innovation awarded through competitions or challenges tends to reward the best projects and the best companies. Our own recent research suggests that this leads to some leading-edge firms attracting a disproportionate share of public support for innovation. Success breeds success in this respect with the potential to increase the gap in competitiveness between the winners

and losers in these Challenges[8]. Recent OECD research has also made a similar point, emphasising the growing gap between high productivity, leading edge companies, and less innovative low productivity firms[9].

This has led to recent discussion of 'inclusive innovation' or what Amos Zehavi and Dan Breznitz have called 'Distribution sensitive innovation policies' or DSIPs[10]. The objective here is to target innovation policy measures to actively reduce inequalities and at the same time stimulate advances in growth and/or productivity. In their research they describe four very different DSIPs adopted in Israel which may guide innovation policy:

- Measure 1 was funding to support R&D in traditional, low-tech industries where productivity lags Israel's rapidly growing high-tech sector.
- Measure 2 also funded R&D but in the relatively under-developed Galilee and Negev regions of Israel.
- Measure 3 was a pre-competitive procurement scheme aimed to stimulate innovations which would enable disabled individuals to live and work independently.
- Measure 4 was a group of initiatives targeted at promoting inclusion among Arab-Israelis, a group which has experienced high levels of unemployment. It included subsidised recruitment by high-tech firms, training subsidies and incubator development in predominantly Arab areas.

This does not suggest which specific areas the IS Challenge Fund should be targeted at, but does suggest that this targeting should take into account both national growth *and* the ambition to promote distributed 'growth for all' highlighted in the Industrial Strategy Green Paper.

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[8] Becker, B; Roper, S and Love, J H (2017) "The effectiveness of regional, national and EU support for innovation in the UK and Spain". ERC Research Paper No 52, January.

[9] OECD (2015) 'The future of productivity', Paris.

[10] Zehavi, A. and D. Breznitz (2017). "Distribution sensitive innovation policies: Conceptualization and empirical examples." Research Policy 46(1): 327-336.

For example, there may be scope to implement regionally or locally differentiated support mechanisms for R&D and innovation along the lines of Zehavi and Breznitz's Measure 2? Levels of R&D grant or loan support could be varied between areas to promote R&D investment in lagging UK regions. Pre-competitive procurement policies such as SBRI could also be explicitly targeted at developing products or services to enhance the productivity and well-being of those who find it difficult to work (see Measure 3 above).

7. **What else can the UK do to create an environment that supports the commercialisation of ideas?**

9. **How can we best support research and innovation strengths in local areas?**

There is a need to differentiate here between supporting new to the market, leading edge innovation which is the preserve of a few leading edge businesses, and the diffusion of new-to-the-firm innovations, or best practice, which can influence the success of a large group of businesses. Recent ERC research suggests the support relevant to each type of 'innovation' is rather different. In particular, comparisons with Spain have highlighted the value of local or regional innovation supports in supporting new-to-the-firm innovation in firms' process and organisational activities: national support measures – such as competitions or challenges – are more effective in supporting novel, new-to-the-market product or process change.

In recent years we have weakened the support for new-to–the-firm innovation and best practice adoption in England with the closure of services such as the Manufacturing Advisory Service (MAS). EU withdrawal also threatens much of the business improvement activity currently supported by ERDF funded programmes at local level. As the Green Paper notes, take up of robotics is already lower in the UK than in many of our competitors and we need to put in place mechanisms which can support best practice diffusion more effectively through the population of firms. Evidence from a recent (2012) evaluation of Scottish MAS suggested a 13:1 benefit-cost ratio by year 10 which provides a strong

indication of the potential value of such initiatives[11].

There is now broad evidence on the benefits of co-operation for innovation – so called open innovation. Such linkages may occur at local, national or international level and involve two corporate partners or a firm and university, for example. Recent ERC research suggests, for example, that working with a university can significantly increase the probability that firms of all sizes can introduce new-to-the-market innovation. It also suggests, however, that while small firms can benefit significantly from local university collaboration, there remain barriers to effective commercialisation of new products/services by small firms. This suggests the potential value of support for the initial commercialisation of radical new products by smaller firms.

Issues – market failures – also arise, however, in smaller firms' ability to identify potential partners and develop collaborative relationships [12]. Organisations such as Interface in Scotland (http://www.interface-online.org.uk) provide useful help linking smaller firms to universities while Enterprise Europe Network (EEN) and organisations such as the Central Technology Belt (http://www.centraltechnologybelt.com) can provide independent brokering services between potential innovation partners. Both provide useful models for potential interventions in other parts of the UK.

22. What are the barriers faced by those businesses that have the potential to scale-up and achieve greater growth, and how can we address these barriers? Where are the outstanding examples of business networks for fast-growing firms which we could learn from or spread?

It is a matter of record that the UK has now a larger number of start-ups than ever before and they outperform all their European competitors. Yet what is less well known is the proportion, if they survive, that go on to grow.

[11] EKOS Ltd (2012) Strategic Evaluation of SE Efficiency Support (including the Scottish Manufacturing Advisory Service), Glasgow.
[12] Hewitt-Dundas, N and Roper, S (2017) 'Exploring market failures in open innovation', International Small Business Journal, forthcoming.

Since its launch in 2013 the ERC research programme has emphasised the importance of small business growth to the objective of driving economic growth and re-balancing the UK economy.

According to the OECD, the UK has historically one of the poorest records internationally of the proportion of its business population that grow[13]. The UK creates many 0 employee firms with limited growth potential and aspiration and has the highest proportion of micro-enterprises (i.e., 1-9 employees) who do not 'break-out' to employ more than 10 employees. The most recent data from the ONS indicate that this continues to be the case[14]. The problem is not new and has been the focus of public policy for decades without any impact on the headline indicators despite the success of many of our UK-owned small businesses.

The ERC's recent review of a range of business growth metrics has underlined the fact that, irrespective of the measure adopted, there are very few firms in the UK which can be categorised as 'high-growth' or 'scaling'[15]. We also know that this small group of firms, whether start-ups scaling or more established businesses growing rapidly for the first or second time, have had a disproportionate impact on job creation. They are crucial to the growth of the UK economy and the re-balancing of the economy away from London and the South East. It is also important to note that a large proportion of this job creation occurs in the first 5 years after start-up[16].

'Scaling' is an important dynamic to nurture in the UK economy. But, it needs to be deployed across each stage of the 'growth pipeline':

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[13] OECD DYNEMP Project.

[14] ERC UK Local Growth Dashboard (2017) https://www.enterpriseresearch.ac.uk/uk-local-growth-dashboard-2017/; Bravo-Biosca, A (2016) "Firm growth dynamics across countries: Evidence from a new database", Nesta Working Paper No. 16/03. https://www.nesta.org.uk/sites/default/files/wp16-03_firm_growth_dynamics-17.pdf

[15] ERC UK Local Growth Dashboard (2017) https://www.enterpriseresearch.ac.uk/uk-local-growth-dashboard-2017/

[16] Anyadike-Danes, M and Hart, M (2017) "High performing firms and job creation: a longitudinal analysis (1998-2013)", ERC Insight Paper, April 2017. https://www.enterpriseresearch.ac.uk/our-work/publications/?type=insight

- Nascent entrepreneurs or start-ups growing
- Accelerating the growth of businesses already showing signs of ambition and growth
- Getting scaled businesses to scale again and more quickly

ERC research shows that leadership and management skills are holding back the growth of SMEs in the UK[17]. Enhancing these skills will create the foundations for the key levers we know are associated with growth to function more efficiently – finance, skills and growing domestic and international markets.

Alongside the upgrading of L&M skills is the need to challenge owner-manager mindsets and develop and/or deepen a growth ambition[18]. How best to do this has been a matter of international concern but it is important to develop a private and public business support framework based on robust evidence[19].

One UK example of such a business growth initiative is the Goldman Sachs *10,000 Small Businesses* Programme which has been the subject of a recent economic impact assessment with contributions by researchers in the ERC[20]. It is a comprehensive programme of business development and leadership support for small businesses with high growth potential, designed to help them achieve that potential in a peer-learning environment. The programme has led to significant behavioural impacts in

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[17] Hayton, J (2015) "Leadership and Management Skills in SMEs: Measuring Associations with Management Practices and Performance" BIS Research Paper No. 211, March 2015

[18] Theodorakopoulos, N., Hart, M., Stephan, U., Burke, G., Braidford, P., Allinson, G., Houston, M., Jones, S. (2015). Sociology of Enterprise. Department for Business Innovation & Skills (BIS) Research Paper No. 238, August 2015.

[19] Roper, S and Hart, M (2013) "Supporting Sustained Growth among SMEs". ERC White Paper No 7. (October) https://www.enterpriseresearch.ac.uk/wp-content/uploads/2013/12/ERC-White-Paper-No-7-Roper-Hart-Supporting-sustained-growth-2.pdf

[20] See "Building Small Business Britain" report: http://www.goldmansachs.com/citizenship/10000-small-businesses/UK/news-and-events/building-small-businesses.html; Hart et al (2015) Unlocking UK Productivity: Internationalisation and Innovation in SMEs".(co-authored with Goldman Sachs and the British Business Bank) https://www.enterpriseresearch.ac.uk/wp-content/uploads/2015/11/Internationalisation-and-Innovation-Report-web-pages-.pdf

terms of the ways in which the leadership and management skills of the business leaders on the course were enhanced. These strategic changes have led to increased performance and faster growth. The analysis shows that participants create 17% more jobs and generate 19% higher revenues than they would have without the programme.

Alongside the national Goldman Sachs *10,000 Small Businesses* programme there are a range of other small business growth programmes run in various parts of the UK which are enabling business engagement and impact of the UK HE sector. Many of these are delivered by Business Schools who have achieved accreditation under the Small Business Charter held by the Chartered ABS, a Lord Young initiative which has been flagged in the Green Paper. However, a large proportion are dependent upon ESIF/ERDF-funding in the current round and there needs to be an assessment of how many of these could be funded beyond 2019 from a blend of UK public and private funds if there is a robust evidence base to justify their continued support.

23. **Are there further steps that the Government can take to support innovation through public procurement?**

24. **What further steps can be taken to use public procurement to drive the industrial strategy in areas where government is the main client, such as healthcare and defence? Do we have the right institutions and policies in place in these sectors to exploit government's purchasing power to drive economic growth?**

We welcome David Connell's review of the Small Business Research Initiative (SBRI) and are hopeful that the review will lead to programme changes which help maximise impacts on innovation and across government departments. Our own evaluation of the programme conducted with Manchester Business School highlighted the strengths of the programme – engagement of firms, support during the lifetime of projects, the development of valuable new technologies – but also highlighted some of the tensions and gaps in provision. Engagement with the programme was uneven across departments, for example, with the potential for much

more significant innovation and public service effects. Refining and developing the scheme has significant potential for increased impact.

25. What can the Government do to improve our support for firms wanting to start exporting? What can the Government do to improve support for firms in increasing their exports?

Government support for exporters in the UK has traditionally involved removing information barriers through the work of UKTI, trade missions etc. While this is undoubtedly useful, a more comprehensive approach to export support, especially among SMEs, would acknowledge the crucial interdependence of innovation, exporting and firm growth.

In an analysis by ERC of the literature on SME exporting, innovation and growth[21] three key conclusions stand out. First, there is a strong positive association between innovation, exporting and SME performance. Second, innovation and exporting work jointly to improve performance: specifically, innovation without access to foreign markets does not seem to provide substantial performance benefits, and nor does exporting without suitably innovative goods and services for foreign markets. And third, there is strong element of interdependence in this process. This suggests that government support for innovation and exporting should be closely co-ordinated, with the emphasis on 'export readiness' both in terms of knowledge of foreign markets, but also in terms of support for SMEs to produce the innovative products required in overseas markets (see answers to questions 6 and 9 above).

[21] Love J H and Roper S (2015) 'SME innovation, exporting and growth: a review of existing evidence', International Small Business Journal, 33, 28-48.

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