

Innovation & Growth Think-Tank Limited

¾ Falcon Gardens,
Edinburgh,
Scotland,
EH10 4AP,



To the Productivity commission, ,
NIESR,

Wednesday, 13 October 2021

Subject: Evidence submission for ‘ Sizing the productivity problem: International, national, regional and sectoral’

I am the founder of the [Innovation & Growth Think-Tank](#) , which started up in Feb 2020, aiming to provide SMEs and Institutions with Frontier know-how on Innovation & Growth to enable disruptive innovation to be a source of growth and help scaleup our SMEs – a key weakness that structurally contributes to the UK’s lower productivity levels. My prior background was in high-tech industry for a Dutch MNC, leading innovation for Asian markets and scouting differences between European and South East Asian innovations. Intrigued by how the newly emerging economies countries were outpacing innovation in other economies, I undertook a radical career change, to study initially Development Economics and thereafter a doctorate in Economics of Innovation, Productivity and Growth, in order to understand how policies were being developed that could perhaps explain these differences.

Although my work at present is not focussed on the analysis of the productivity conundrum, a significant part of my doctoral research explored some of the very questions on productivity that the commission aspires to explore. I am not sure how relevant it is, but perhaps the fact that I tried to bring industry understanding of innovation and productivity into economic analysis imparts it some value, as it is rooted in crossing the realities on the ground with theoretical understanding.

In case it is of value, I thought I would provide a short answer here in this letter and should your commission find this of help – I have referred to the relevant research chapters of my published Thesis (at Glasgow University), which provides more in-depth explanations and further references to databases and sources.

So, to answer in short:

The query on the scale of the UK’s productivity problem, and how has this changed since 2008 is best answered by recognizing that problem is not just a productivity growth drop since 2008, the fact is that UK’s productivity levels have dropped since 70’s amongst the G7 economies¹, seeming to indicate a deeper structural problem. To date , most productivity analysis has looked to solve productivity problems through the lens of impaired resource allocation and reduced investment.

This basically led to two camps of thought : the first one centred on distortions, which hinder capital investment flows and the consequent impact on skills shortage ²; while the second camp targeted the time lag or slow diffusion of technology adoption as an explanation for slower resource reallocation ³The core focus remained on identifying constraints or distortions in credit and labour market - the removal or reduction of which could encourage resource reallocation. However, an analysis of the underlying structures that channel these resources was missing.

My research⁴ focussed on analyzing the impact of firm- structures on productivity, as firms have long been recognized by Schumpeter⁵ as the structural vehicle of resource allocation – both for skills and investment. Specifically of importance, as UK’s large firm density started to drop since ‘70s⁶, similar time as the start of the drop of UK’s productivity. Although my research was across EU economies, the analysis revealed that indeed firm

¹ (Harari, 2016; Harari, 2017)

² (Bannerjee & Duflo, 2005; Hsieh & Klenow, 2009)

³ (Tunzelmann, 2000; Klenow & RodriguezClare, 2005; Caselli & Feyrer, 2007).

⁴ (Bradley N. , 2020a)

⁵ (Schumpeter, 1934)

⁶ (Bradley N. , 2020c)

structures do impact productivity and in particular, large firm share in the economy. While there has been prior research to show that moving resources to higher productive firms increases a sectors productivity⁷, there was no prior research to demonstrate that the type of firm structures, in particular, large firm structures influence country level productivity. Without wishing to overestimate my contribution, I do believe that looking at the importance of the types of firm structures in our landscape and their share in the economy is of deep relevance. There is no silver bullet, but a more holistic approach that looks structurally would complement current focus on impediments to resource allocation and hopefully yield better solutions.

My research did not delve deeper, but there is well documented research⁸ that while generally smaller firms are nimble innovators, larger firms have the deeper pockets for R&D & skills development to maximize returns from innovations and channel resources. ECB corroborated similar findings , finding large firms have x330 higher valued added than SMEs⁹ , while BEIS figures reflect large firm turnovers to be roughly x 600 larger than SMEs (BEIS, 2020). This is however a generalization, there are particular sectors where SMEs may have higher productivity¹⁰.

To place the UKs' large firm-share in perspective to other economies, it is noteworthy that UK's share of large firm density is roughly a factor 6-7 lower than the US large firm density as a share of GDP¹¹. More so, our firms don't last the distance as reflected by OECD research¹² . This is practically evident in the large number of innovative UK SMEs seen to be potential tech-giants, that seem to sell up despite access to finance and skilled people. So impediments to resource allocation does not provide the answer to many a failure to grow in practice.

My research into this scaleup problem¹³ is what led to our current Think-tank. Based on both my research and my own understanding of innovation and firm growth, having worked in Europe and South East Asia – I believe a part of the problem lies in lack of disruptive innovation process and organization know-how , but also a deeper connection of the triangular relationship between industry, academia and policy makers¹⁴ .

One more point, which may be of help – investigating beyond Porters agglomeration theory, research has shown that geographic proximity and customer proximity were not significant when assessing innovative firms using concepts of National Innovation systems and growth theories¹⁵. Intra-firm connections based on people who have moved around seemed to explain the linkages better for innovative firms, in contrast to supplier-client networks.

I hope this is of help, I am happy to explain further if needed or share any of our work with the Productivity commission, should it be of help. If needed I may be able to participate in limited research, although that would be very limited as I am really stretched with our Think-tank work at present.

Wishing the Productivity commission and NIESR the best for this initiative,

Best

Dr Nasira Bradley,

Founder and MD,

[Innovation & Growth Think-tank Limited](#)

Works Cited

Achs, Z., & Audretsch, D. (1987). Innovation, Market structures and Firm Size. *Review of Economics and Statistics* , 69, 567-574.

Bannerjee, A. V., & Duflo, E. (2005). Growth Theory through the lens of Development Economics. In P. Aghion, & S. Durlauf, *Handbook of Economic Growth* (pp. 473-52). Amsterdam: Elsevier- Science.

BEIS. (2020). *BEIS population estimates* . Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/923565/2020_Business_Population_Estimates_for_the_UK_and_regions_Statistical_Release.pdf

Bradley. (2018). Why does the UK not have its own Google, let alone a new ARM - does firm independence matter?. *Working paper, University of Glasgow*.

⁷ (Olley & Pakes, 1996; Griliches & Regev, 1995)

⁸ (Pack & Westphal, 1986; Achs & Audretsch, 1988; Brown et al., 1990)

⁹ (ECB, 2013)

¹⁰ (Snodgrass & Biggs, 1996)

¹¹ (Bradley, pp 122, 2020b)

¹² (Crisuolo, Gal, & Menon, 2014)

¹³ (Bradley, 2020b)

¹⁴ (Bradley, Dekkers, Perman, & Stokes, 2019)

¹⁵ (Romijn & Albadejo, 2002).

- Bradley. (2020b). Chapter 4: Why does the UK not have its own Google, let alone a new ARM - does firm independence matter?. In N. Bradley, *Economics of Innovation, Productivity and Growth - PhD Thesis*. Glasgow University.
- Bradley, N. (2014, May). What are the drivers of Innovation and does policy target them? *working paper*, .
- Bradley, N. (2020a). Chapter 3: Are Firm sizes important for country level Productivity? In N. Bradley, *Economics of Innovation, Productivity and Growth - PhD Thesis*. University of Glasgow.
- Bradley, N. (2020c, May). Chapter 2 : What are the drivers of Innovation and does policy target them? In N. Bradley, *Economics of Innovation, Productivity and Growth - PhD Thesis*. Glasgow University.
- Bradley, N., Dekkers, R., Perman, R., & Stokes, R. (2019). *Why does UK not have a new ARM or its own Google - Policy Roundtable Report* . Univesity of Glasgow .
- Brown, C., Medoff, J., & Hamilton, J. (1990). *Employers: Large and Small*. Cambridge, MA: Harvard University Press.
- Caselli, F., & Feyrer, J. (2007). The marginal Product of Capital. *Quarterly Journal of Economics*, 122(2), 535-568.
- Criscuolo, C., Gal, P., & Menon, C. (2014). The Dynamics of Employment Growth. *OECD Science, Technology and Industry Policy Papers No.14*.
- ECB. (2013, July). *ECB monthly Bulletin*. Retrieved from https://www.ecb.europa.eu/pub/pdf/other/mb201307_focus06.en.pdf
- Harari, D. (2016, April 8). Productivity in the UK - Briefing Paper. *Commons Library*.
- Harari, D. (2017). *Productivity in the UK*. House of Commons Library.
- Hsieh, C., & Klenow, P. (2009). Misallocation and manufacturing TFP in China and India. *The Quarterly Journal of Economics*, 124(4), 1403-48.
- Klenow, P., & RodriguezClare, A. (2005). Externalities and Economic growth, chapter 11. In A. Aghion, & S. Durlauf, *Handbook of Economic growth* (Vol. 1). Amsterdam: Elsevier.
- Pack, H., & Westphal, L. (1986). Industrial strategy and Technological change: Theory versus Reality. *Journal of Development Economics*, 22, 87-128.
- Romijn, H., & Albadejo, M. (2002). Determinants of innvoation capability in small electronics and southwest firms in southeast England. *Research Policy*, 31, 1053-1067.
- Schumpeter, J. (1934). *The Theory of Economic Development: An inquiry into profits, Capital, Credit, Interest and the Business Cycle*.
- Snodgrass, D., & Biggs, T. (1996). *INDUSTRIALIZATION AND THE SMALL FIRM PATTERNS AND POLICIES*. San Francisco,, CA: A copublication of the International Center for Economic Growth and the Harvard Institute for International Development.
- Tunzelmann, G. V. (2000). Technology generation, technology use and economic growth. . *European Review of Economic History* , 4(2), 121-146.