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Local creative industries may be more global than we think: A study of tenants based at Baltic Creative, Liverpool

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LOCAL CREATIVE INDUSTRIES MAY BE MORE GLOBAL THAN WE THINK explores the extent of international trade amongst a group of UK-based, micro-enterprises and SMEs (small-and-medium sized enterprises) classed as "creative industries." The UK government's 2018 *Industrial Strategy: Creative Industries Sector Deal* aims to increase UK creative industry exports by 50 per cent within 5 years, arguing there is a "great deal of untapped potential in the sector." It also identifies small company size as a particular challenge to creative industry exports. The Department for Digital, Culture, Media and Sport (DCMS) maintains that in 2016 only 18 per cent of creative industries businesses engaged in international trade (DCMS, 2018a). Our research challenges these assumptions. At least one creative industries hub is already deeply entwined in global trade. In Liverpool's creative and digital hub Baltic Creative, 69 per cent of tenants export. Furthermore, these exporters are highly dependent on their overseas income. Over one-third of exporters earn more than 50 per cent of their annual income from exports. Our research also finds that company size had not acted a deterrent to international trade. Rather company owners report concerns about access to global markets after Brexit, which had already resulted in significant financial losses for some. Our study reveals that even the smallest micro-enterprises are exporting not by way of strained or concerted efforts, but simply because they are operating in an open, digital, global environment where international trade is integral to their business.

Keywords: creative industries, international trade, Brexit, uncertainty, exports, policy, Creative Industries Sector Deal

1 Introduction

2018b). In 2015, they account for 6 per cent of UK jobs and an impressive 9.4 per cent of the UK's total services exports (DCMS, 2017).

Nevertheless, policy-makers are concerned that the creative industries are not sufficiently engaged in global markets. The government's 2018 *Creative Industries Sector Deal* aims to increase exports by 50 per cent before 2023 because the sector still offers a lot of "untapped potential" with many firms not yet exporting (BEIS, 2018). The Department for Digital, Culture, Media and Sport (DCMS) maintains that only 18 per cent of creative industries businesses engage in international trade (DCMS, 2018a).

Creative firms are seen as having industry-specific barriers to international trade, in particular small company size (BEIS, 2018). The average creative company size is 3.3 full-time employees (FTE) and 34 per cent of creative sector workers are self-employed, which is more than double the UK average (Bazalgette, 2017). The *Creative Industries Sector Deal* states that micro-companies lack the "absorptive capacity" to undertake extra export duties such as identifying useful information and translating it to commercial ends (BEIS, 2018).

This paper calls many of those assertions into question. In at least one creative industry hub – Baltic Creative in Liverpool – even the smallest one-man-band is already deeply engaged in the global economy. Creative industry firms in this cluster are exporting at much higher rates and with more economic impact than government figures suggest. Contrary to reports such as Sir Peter Bazalgette's 2017 *Independent Review of the Creative Industries* and Frontier Economic's 2016 *Absorptive Capacity: Boosting Productivity in the Creative Industries*, small company size does not affect their ability to export.

Our research suggests that official statistics may be underestimating the true value of exports to the creative industries. On the one hand, the number of businesses exporting and the financial impact of these exports are cause for celebration. On the other hand, the existing extent of international trade may limit the ability of creative industries to further increase exports by another 50 per cent as the *Creative Industries Sector Deal* aims to do. Furthermore, undervaluing international trade takes too lightly the prospective negative effects of a significant break with the UK's existing and hitherto successful international trading system.

2 Methods

Our research was conducted at Liverpool's Baltic Creative Community Interest Company - a commercial property landlord providing space specifically designed for the creative industries. In May 2018, we asked company owners and freelancers, all based out of Baltic Creative, to complete an online questionnaire about their international trade. Our *International Trade Survey* consisted of 16 quantitative and qualitative questions. We sent the survey to 75 tenants of which 59 responded. Each question in the online survey left room for a supplementary, open-ended reply. Many respondents used this space to clarify their responses.

From June to October 2018, we also conducted almost a dozen semi-structured, personal interviews both in person at Baltic Creative and over Skype. The interviews included owners of companies that both trade internationally and those who do not. Some quotes mentioned in this paper are from the personal interviews and others are from the open-ended replies in the Export Survey.

In addition, we cross-referenced the our *International Trade Survey* with data from Baltic Creative's *2018 Business Owners Output Survey*. Here, each year Baltic Creative's tenants are asked to provide key figures including questions on annual turnover, number of employees, annual growth and expected growth. In 2018, 71 company owners responded to this survey. We used this data to arrive at figures such as median company size, annual turnover, and per-employee GVA of both exporters and non-exporters.

In summary, 43 company owners/freelancers responded to both surveys, 16 responded only to our *International Trade Survey*, and 30 only responded to Baltic Creative's annual *Business Owners Output Survey*. In total we have data from 89 companies and freelancers. We took all available data to come up with the "average" Baltic Creative tenant, but since the sample size of 89 is relatively small, we have used "median" figures rather than "the mean". A very small number of firms at Baltic Creative have turnovers well in excess of £1m and employ over 50 workers, which would significantly distort the mean of a small sample. By using the median we have arrived a more accurate snapshot of the "average" firm based at Baltic Creative.

While official DCMS statistics state that almost 18 per cent of creative industries firms traded internationally in 2016 (DCMS, 2018a), this study has found that 69 per cent of Baltic Creative tenants export. Of the 30 per cent who do not trade internationally, one-third would like to start exporting in the near future, as shown in figure 1.

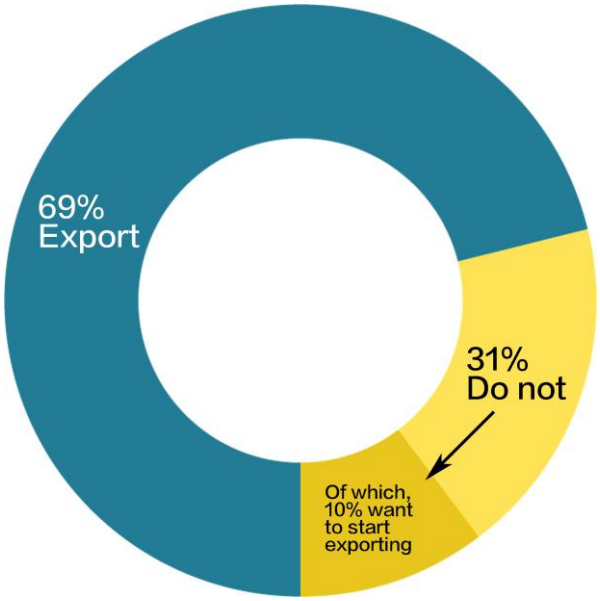

Figure 1. Proportion of Baltic Creative tenants that export. Source: CM Patha.

Isolating the exporting firms from the whole of Baltic Creative, henceforth "exporters," we found that most trade in services with 70 per cent trading only in services, 15 per cent trading in both goods and services, and another 15 per cent trading in goods only, as demonstrated in figure 2.

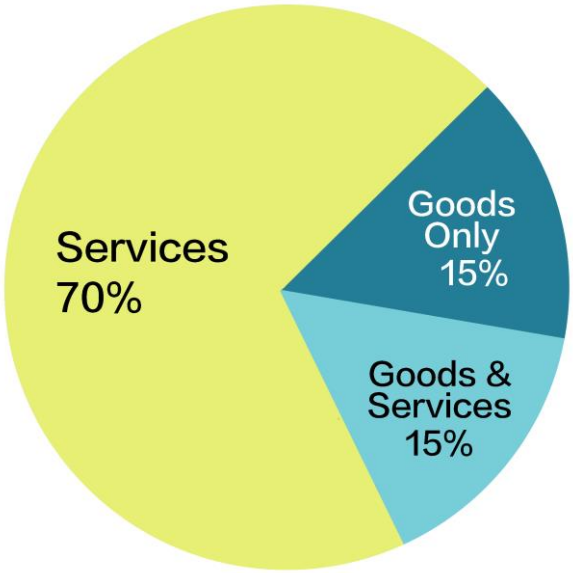

Figure 2. What Baltic Creative "exporters" export. Source: CM Patha.

Baltic Creative's exporters make a significant share of their income from overseas, as shown in figure 3; 35 per cent of firms make over 50 per cent of their total income abroad, 37 per cent make

between 10 and 50 per cent of their total income abroad, and 29 per cent make under 10 per cent of their total income abroad.[1]

Figure 3. Baltic Creative's "exporters" rely heavily on their international income. Source: CM Patha.

Exporting is only half of the story. Baltic Creative exporters also import goods and services from abroad. Only one firm imported a small amount without exporting. Some exporters did not import, but most did, as demonstrated in figure 4. While 21 per cent spent of exporters spent no money abroad, 38 per cent spent up to 10 per cent of their total expenditure abroad, 22 per cent spent between 10 and 25 per cent abroad, and 19 per cent spent a significant 25 per cent or more of their expenditure abroad.

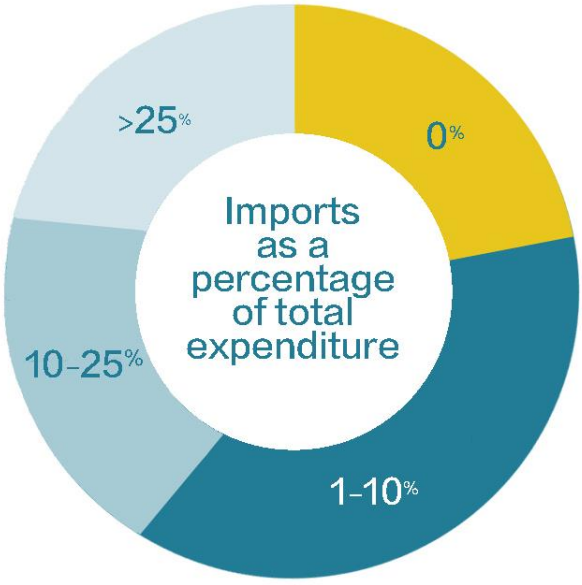

Figure 4. Percentage of total expenditure made abroad ("imports"). Source: CM Patha.

[1] Detailed foreign income breakdown: 15 per cent of exporters earn over 75 per cent of their income from abroad; 20 per cent earn between 50 and 75 per cent of their income abroad; 15 per cent of exporters earn between 25 to 50 per cent of their income from abroad; 22 per cent earn between 10 to 25 per cent of their income abroad, and 29 per cent earn under 10 per cent of their income abroad.

Both exporters and non-exporters perceived the same major barriers to international trade, as shown in figure 5. The main concerns are finding clients and building relationships, access to knowledge and skills related to international trade, language and cultural issues, and the cost of doing business abroad. Interestingly, one would expect seasoned exporters to be less anxious, but exporters in fact are more worried about customs procedures, delivery, tariffs and duties than non-exporters.

Figure 5. Perceived international trade barriers. Source: CM Patha.

During our interviews, tenants often voiced a concern about the UK's referendum resolution to leave the European Union (EU), so-called Brexit. The EU is a key export destination with 90 per cent of exporters at Baltic Creative trading with the EU, 63 per cent trading with North America, and 51 per cent trading with Asia. Of all the companies we surveyed and interviewed, only one had managed to profit from Brexit: "So far, Brexit has been good to us because the pound has weakened to the dollar and 65% of our income is in US dollars. We've consciously spent aggressively to acquire more US customers while the pound is weaker." The rest of the companies were either apprehensive about the effect of Brexit on their future business or had already faced significant losses since the June 2016 Brexit referendum. One SME owner admitted, "We are retrenching all international business and making teams redundant to increase productivity. Because of Brexit, we've lost 7 major contracts in the last 12 months, a risk we cannot afford to make again."

Baltic Creative houses a selection of freelancers, micro-enterprises employing fewer than 10 people, and a small number of companies employing between 10 and 50 people. Only one company in 2018 employed more than 50 people. The median company size at Baltic Creative in 2018 was 2.5 fulltime employees (FTE). The median company turnover was £127,000. The median turnover per employee was £50,500.

3 Discussion

3.1 Company size and intra-hub analysis

A year after the Brexit referendum, in which UK voters decided to leave the European Union, the UK government launched its 2017 *Industrial Strategy.* Intending to bolster Britain's global leadership in industries of the future, the *Industrial Strategy* announced "Sector Deals" between the government and selected high-impact, high-potential industries. The aim of the sector deals is to increase productivity through government investment, thereby cementing the UK's position as global leader in the selected industries. In 2018, the government rolled out the *Creative Industries Sector Deal*, prioritising the "scaling-up" of creative companies in order to raise productivity and increase exports (BEIS, 2018).

The *Creative Industries Sector Deal* borrows heavily from the 2016 Frontier Economics report *Absorptive Capacity: Boosting Productivity in the Creative Industries.* The report contends that the prevalence of micro-enterprises (firms employing fewer than 10 people) is hampering the creative industries because they are "less productive, innovative, and growth-oriented than are larger businesses" (Frontier Economics, 2016). This is because micro-enterprises lack "absorptive capacity," which is the ability to identify and assimilate relevant new ideas, use them to transform internal practices, and finally, generate higher returns (Frontier Economics, 2016). The report's solution to increasing productivity in creative industries, then, is to help firms grow, or "scale-up."

With 95 per cent of creative industry firms employing fewer than ten people, the *Creative Industries Sector Deal* identifies company size as a particular challenge for engaging in international trade. It argues that micro-companies lack the "absorptive capacity" to undertake "extra" export duties (BEIS, 2018). Sir Peter Bazalgette's *Review of the Creative Industries* also points to this Achilles Heal: "Many would-be creative clusters face issues linked to business size. They lack modern leadership, commercial confidence and acumen to realise their growth potential so that they can take on more lucrative ventures, including exports." (Bazalgette, 2017). Even contemporary trade theory concurs stating that, "exporting firms are larger, employ more workers, use more capital, pay higher wages, use more skilled workers, and are more productive"(Marrewijk, 2017).

This could be a cause of concern for the UK's creative industries where 35 per cent of workers are self-employed compared to an average of 14 per cent across all industries (DCMS, 2017). The average UK creative company size is the equivalent of 3.3 FTE and shrinking (Bazalgette, 2017). In fact, creative industries firms in 2007 were 15 per cent larger than in 2014 (Bazalgette, 2017). If smaller companies have a harder time exporting, the creative industries are indeed headed for trouble.

Luckily this is not what our research finds. The mean company size of exporters at Baltic Creative is 3.2 FTE, in line with the national creative industries average of 3.3 FTE. Of the 20 freelancers at Baltic Creative who responded to the 2018 *Annual Business Owners Survey*, eight responded to our International survey. Of those eight freelancers, six export. Five of the six exporters make more than 50 per cent of their income through exports. Their median annual income is £70,000.

We must insert a caveat here. The freelancers and companies based at Baltic Creative are a self-selecting sample. Baltic Creative is not a charity, nor does it offer young companies "seed funding" like an accelerator or incubator might. All of the tenants at Baltic Creative are paying market rates for rent. It's possible, therefore, that these tenants are more successful than their average creative

industry colleagues. They can afford to pay rent rather than working from cafés. Then again, working in a creative hub may, in-turn, make them more productive and economically viable.

Consequently, it's important to undertake an intra-hub analysis, measuring Baltic Creative tenants against each other to see if any of the rules of international trade theory apply. Are these exporting firms "larger, [do they] employ more workers, use more capital, pay higher wages, use more skilled workers, and are more productive"? (Marrewijk, 2017).

On the three measures we can calculate, exporters at Baltic Creative do in fact employ more workers, have higher turnover, and have higher per-worker turnover than the average company at Baltic Creative.

If we look at all the companies at Baltic Creative, the median number of employees in 2016-2017 was 2.5 FTE with a projected 3.5 FTE in the following financial year. Meanwhile, exporters at Baltic Creative had a higher median employment rate of 3.2 FTE, expected to rise to 4.5 FTE in the coming financial year.

The median company turnover of all firms in 2016-2017 was £127,000, projected to increase to £180,000 in the next financial year. Exporters median turnover was significantly higher at £200,000 in, expected to rise to £240,000 in the following financial year.

In terms of productivity, exporters at Baltic Creative in 2016-2017 had a higher turnover per employee at £60,000 as compared to the median turnover per employee of £50,500.

So comparing all the tenants within Baltic Creative to each other, the exporters do indeed exhibit traits predicted by international trade theory: they employ more workers, have higher turnover, and have higher per-worker GVA than the average Baltic Creative company.

These findings, however, show that small company size *per se* is not a barrier to international trade. Whether exporting or not, the median Baltic Creative company is still a micro-company employing between 0-9 workers. The *Creative Industries Sector Deal* is concerned about micro-companies since they account for 95 percent of creative industries firms (BEIS, 2018). That sounds like a rather shocking figure. In fact, it is completely in line with the UK average – 96 per cent of all UK companies are micro-businesses (Rhodes, 12 December 2018).[2]

Our study finds many more micro-companies conducting international trade – and with more economic significance – than official statistics indicate. While official figures point to only 18 per cent of creative industries trading internationally (DCMS, 2018a), our study finds that 69 per cent of Baltic Creative tenants trade internationally. Their trade is also economically significant with over 70 per cent of Baltic Creative exporters making more than 10 per cent of their annual income from exports.

How can our figures differ so significantly from official reports? No standard deviation can account for the gross disparity between our figures and those presented by the DCMS. Why are Baltic Creative tenants exporting at much higher levels than conventional theory or statistics would expect? Are Baltic Creative tenants exceptionally good at international trade? Are they engaged in more international trade than other random samples around the country? Several factors offer an explanation for the difference.

3.2 Clustering and Scaling-up (without Hiring More Employees)

Our entire survey sample is located at Baltic Creative, a creative industries hub. These are not atomized freelancers and companies working from their kitchen tables. Baltic Creative occasionally hosts events to foster interaction and a sense of community amongst tenants. It regularly offers free

[2] The UK government produces conflicting figures. The DCMS report *Sectors Economic Estimates 2016: Business Demographics* states that 89.2 per cent of UK businesses in 2016 employed fewer than 10 people. It's unlikely that the number jumped from 89.2 in 2016 to 96 per cent in 2018.

business advice seminars to tenants, on-site and at convenient times. The management at Baltic Creative is on a first-name basis with almost all tenants. Micro-enterprises are well positioned in such an environment to "punch above their weight." They have access to other experts within their own business environment, which they can hire on a needs-be basis rather than employing full-time staff. Indeed, Baltic Creative's Annual Business Owner's 2016-2017 survey has found that 72 per cent of tenants collaborated in some form.

Clusters have long been viewed as a driving force for businesses growth (Porter, 1990). A key ingredient to the growth is "knowledge spillover" created when industries are located in a geographically dense area. Michael Porter argues that similar industries compete locally, which drives innovation. Only the strongest firms and innovators survive this competition, thereby driving a globally competitive hub such as Silicon Valley (Porter, 1998). Others argue that clusters work mainly by drawing a pool of researchers, company founders and talented potential employees into a particular geographical region such as the Cambridge IT cluster (Huber, 2012). In some cases, employees may physically "spillover" information and innovation from one company to the next by switching jobs, as in the high-profile case of a key engineer moving from Google's self-driving car unit to Uber – resulting in a lawsuit about the theft of trade secrets. Whatever the mechanism, many economists point to clusters of specific or multiple industries as a driver of innovation and growth.

While the Internet has provided access to global specialists all over the world, clusters still have their advantages. One Baltic Creative company owner and exporter told us,

> *"I recently hired a Google ads expert. I looked all over the Web to find somebody and there's plenty of companies or agencies that will do it. The problem with agencies and companies is that you don't get good value for your money. It's so much better if you can find an individual to work with… In the end, I found a Google ads expert at Base Camp [a co-working space within Baltic Creative]. He is a real specialist and he sits next door. When you're in this online business everything is done by e-mail and it is a refreshing change to speak to somebody and express what you need in person instead of doing it backwards and forwards through e-mail…The first thing I do now is look to Base Camp."*

This company employs only 4 people, but earns between 50 and 75 per cent of its total income from exports. Rather than hiring a full-time employee to do the job, this micro-enterprise hired a neighbouring freelancer to increase exports.

In terms of exporting, however, none of the interviewed firms increased their exports directly via the assistance or insight of their neighbours at Baltic Creative. One micro-enterprise owner, nonetheless, saw spillover benefits from locating at Baltic Creative: "We co-habit [our office] with another company, and they asked, "Why don't you claim for R&D tax credits? We do." The micro-enterprise owner had been unaware of the UK's Research & Development Tax Credit scheme. His unplanned, serendipitous conversation ended up saving his company thousands of pounds. Serendipity is an important benefit of clustering and it's countless opportunities for face-to-face contact (Storper and Venables, 2004).

Interestingly, these two examples of increased productivity resulted – not from scaling-up – but rather from clustering micro-enterprises into one shared location. No interviewees saw a direct positive impact of clustering on their exports, but the benefits of clustering at Baltic Creative may be increasing their productivity, which if the theory is correct, may be expanding their ability to export. Clustering micro-enterprises may be a more economically viable and efficient way of helping them "scale-up" – by expanding the network and knowledge base - without actually having to increase employee numbers.

Scaling up does not always have advantages. At least one company owner cited worries about increased risks with scaling-up. Hiring more full-time staff required certainty of increased turnover. In an era of instability marked by Brexit, this micro-enterprise owner was unwilling presently to take that

risk and preferred to hire freelancers on a case-by-case basis. While some economists point to the failure of many attempts at active clustering – for example, where business parks are set up, but no interaction between tenants results (Wadha, 14 July 2011) – clustering may be a key to the success and sustainability of the micro-businesses and freelancers that increasingly characterise the creative industries. Businesses employing more than 10 people may indeed not require the serendipity and peer support that clusters offer because, as they grow, they hire specialised staff members and develop their own internal logic. But micro-enterprises and freelancers may benefit from the spillover effects and peer support that clusters such as Baltic Creative offer.

Clustering, however, is not enough. Innovation may spring from the serendipitous chance encounters afforded by clustering or it may result from active, intentional planning by company managers (Fitjar and Rodríguez-Pose, 2017). In today's globally interconnected world, face-to-face encounters may spurn some innovation, but international encounters are crucial to the process. A large-scale study in Norway reveals that companies maintaining ties only with players in the same cluster or region are four times less likely to innovate than companies that are globally connected (Fitjar and Rodríguez-Pose, 2011). Silicon Valley is also a globally connected cluster where international information sharing and risk-taking are cultural and entrepreneurial norms. (Wadha, 14 July 2011). It's important to view the export success of Baltic Creative tenants not only in the context of their cluster, but also the internationally connected environment in which they operate.

3.3 Business as Usual: International Trade in the Digital Economy

The *Creative Industries Sector Deal*, the Frontier Economics and Sir Peter Bazalgette reports all contend that the micro-enterprises lack the "absorptive" capacity to increase exports. These reports, however, do not look deeply enough at the digital economy, which has – in less than two decades – dramatically reduced trade barriers for both large and small creative industries firms.

For an increasing number of creative industries firms, international business is not extra business: it's just business. One micro-enterprise owner told us, "We never set out to export. It's just the nature of the Internet to unlock that kind of potential without thinking you're starting a global business." This business creates YouTube content and over 75 per cent of its income is earned through overseas viewers and the associated advertising sales. The owner started the YouTube channel as a side project and now the firm employs 4 staff and 15 freelancers. "YouTube is a global platform. The videos took-off and then last year, I focused on it full time. Now it is my full-time [job]."

This business is part of a growing trend. YouTube is already one of the UK's biggest content exporters according to *The True Value of Creative Industries Digital Exports*, a major joint report by the Centre for Economics and Business Research (Cebr), the Creative Industries Council and the Creative Industries Federation. The vast majority of all videos uploaded in the UK – 78 per cent – are watched by viewers in foreign countries (Cebr et al., 2018). The report argues that official figures are likely not capturing many cross-border transactions, particularly underestimating creative digital services. A creative digital service – such as a tutorial on YouTube from a crafts company on how to make a ceramic bowl – "may not be registered as a service export…due to difficulties capturing data for business models such as those offering free content and based on advertising revenue" (Cebr et al., 2018). Even in the case of saleable digital products, such as apps, it may be difficult for digital intermediaries to track down the origin of sale or purchase (Cebr et al., 2018). Using a combination of official DCMS government figures, interviews and survey results, the report determines that that creative industries export £46bn in goods and services – 24 per cent higher than the official figure. They put this discrepancy down to the underestimation of digital services in the creative industries by a whopping 40 per cent. The report argues that, "We live in an era where the methods we currently use to trace trade flows are losing their relevance and ability to depict an accurate picture of trading realities" (Cebr et al., 2018).

The current methods for measuring trade are becoming obsolete because the digital environment is rapidly and spectacularly transforming the way we do business. "In 2005, or whenever it was, Google

came up with this thing called Adsense. Overnight [my website] went from just [sitting on] the Internet somewhere to making more money than I made working full-time in the NHS." Sensing the growing potential of the Internet, this Baltic Creative tenant left his job, and with a partner, started a home-study company in 2008. Using a website as their marketing tool, their company sold DVDs. "We started off essentially as an exporter," he said. "We chose to price in dollars very early on because it's [the main] currency in the world. People in the UK are more comfortable paying US dollars than people in the US… paying in British Pounds." When the UK post-office privatized in 2013, postal prices increased so the firm decided to stop selling physical DVDs, restricting sales to online streaming only. The move to a purely digital online service increased international sales. His company makes approximately 70 per cent of its annual income from exports and spends between 25 to 50 percent of its expenditure abroad (imports). In 10 short years, the Internet transformed this micro-entrepreneur's career and business. The owner concluded, "If you are an online business and you are selling digital products, I think it's fairly standard that you are more of an exporter than…a domestic company because the cost of delivery is not there and the cost of fulfilment doesn't exist. So it makes sense to open your borders from day one."

It's not only digital creative services that benefit from this borderless global trade. Goods also have witnessed dramatic reductions in barriers to trade. In fact, the UK has unique and significant advantages over other exporting nations – its national language is the *lingua franca* of international business and its cultural outputs are readily accepted by consumers in foreign countries. "When we launch a product, we press release it [around the world]" another micro-enterprise owner told us. "As a result, it gets picked up by press and blogs in the US, UK and Europe. Our products are about film, music or literature…popular culture…that's why our customer base is so international. This micro-enterprise is mainly consumer-facing with 95 per cent of sales direct to the customer. Between 50 and 75 per cent of income is from foreign sales. So far this firm has not translated its website into foreign languages nor has it priced goods in foreign currencies, although it is currently looking to do so. UK businesses may increase their sales by setting up websites in US Dollars or Euros, but the case study above proves that only one English-language website where products are charged in GBP can still result in significant foreign sales. This would not be possible for Polish, Lithuanian or German creative industries firms where at least translating websites or products into English is a basic, necessary extra delay and cost to exporting.

3.4 Small Data?

These examples, however, still do not answer the fundamental question: Why do the export figures in our study differ so spectacularly from those mentioned in DCMS statements, the *Creative Industries Sector Deal* and the Bazalgette and Frontier Economics reports? These reports all rely heavily on the reliable figures provided by the Office for National Statistics (ONS). What if some of these reliable statistics are…unreliable?

As some economists argue, we are facing significant gap in our understanding of how exports and common statistics like GDP work (Coyle, 2015). On the one hand, we have more "big data" than ever before. On the other hand digitisation means many economic indicators simply are not getting factored into national statistics (Coyle, 2015).

One might expect the ONS to employ cutting-edge digital strategies and to exploit data from other government departments such as HMRC and to arrive at its statistics. In fact, the ONS arrives at creative industries trade figures in the exactly same manner as our study – via surveys. For example, every quarter, the ONS requests 2,200 businesses to fill in the *Quarterly Survey of International Trade in Services* (ITIS). ITIS data "are based solely on survey data" (ONS, 2019c). The businesses that receive the survey are legally obliged to complete it. The ONS selects firms that employ more than 100 people because their business is so significant to their specific industry. It also selects "some small and medium businesses," rotating them from time to time, noting that their view is important because their trading patterns are often very different to large businesses (ONS, 2019b).

The ITIS survey monitors 52 different types of services by country of origin and destination. That means that if all things are equal, roughly 42 businesses in each type of service are monitored. Service types include business services, financial services, research and development services, insurance, medical services, agricultural and mining services, legal services, and many other areas that do not fall into our field of study. We can assume that only a small segment of the companies surveyed actually fall into the creative industries sector. Given that the ONS admits most of the businesses surveyed employ over 100 people, it is likely that ITIS figures are overrepresented by larger companies and do not accurately reflect the experience of the micro-companies and freelancers that largely characterise the creative industries.

The government is not blind to this fact. In an effort to modernise statistics, it commissioned a report by Professor Sir Charles Bean of the London School of Economics. The 2016 *Independent Review of UK Economic Statistics*, also known as the "Bean report" contends that the ONS methodology of heavily relying on regular surveys as the source of economic statistics is "expensive and outdated" (Bean, 2016). Furthermore, the methodologies are not accurately reflecting the UK's true economic landscape. "Because large companies make up the bulk of economic activity, a comparatively small number of responses can produce headline figures," he argues (Bean, 2016). The ONS' *Annual Business Survey* is a particular cause of concern: "the sample is only made up of a small proportion of businesses means that it lacks sufficient granularity if the sample needs to be stratified finely by size, industry or region" (Bean, 2016). Given the use of big data to monitor everything from consumer preferences to physical movements via mobile phones, it's surprising that more technologically advanced approaches are not currently used by the ONS or that anonymised data are not shared across government departments. The Bean report contends that, "relatively little use is made of administrative data, such as that held by Her Majesty's Revenue and Customs (HMRC) and still less of other (and growing) sources of big data." In 2017, the ONS launched a Data Science Campus in an effort to modernise its methodology by applying innovative techniques from the field of data science. One can expect more robust statistics to emerge in the coming years.

3.5 Caveats of our Study: Firm Heterogeneity

A limiting factor of our research is that it is based on a small, geographically isolated sample of companies based in one location. Our study cannot claim to represent a broader snapshot of creative industries in the UK. Indeed, economics research has found that the differences between individual firms are so astoundingly large, so-called "firm heterogeneity," that they call into question the viability of generalising from case studies at all (Marrewijk, 2017).

That said, while Baltic Creative is certainly as heterogeneous as any other industry hub, it is by no means an outlier. It operates within a creative industries cluster that is neither a super-performer nor an under-achiever. For example, the government's *Creative Industries Sector Deal* identifies Liverpool as a cluster of high growth, but not high concentration (BEIS, 2018). Also, Liverpool's digital tech GVA in 2017 was smaller than almost any other one of the 30 digital clusters identified by TechNation (£456k)[3] and turnover by employee was far below any other digital cluster in the report (only £76,000)[4] (Tech Nation, 2018). Still, digital companies seem to do well in the relatively small digital cluster of Liverpool. TechNation ranks the North's Top 100 Fastest Growing Tech Companies and in 2018, 4 are based in Liverpool, placing Liverpool as one of the top digital destinations just behind Manchester (30 firms), Leeds (13 firms), and Newcastle (6 firms) (TechNation, 2018). The tech sector bears mentioning here because, while it is only one of nine sectors that make up the

[3] GVAs of digital industry clusters in Northern UK in order of size: Manchester £3.4b, Leeds £1.3b, Newcastle £1.3b, Leicester £895m GVA, Liverpool £456m, Dundee £205m (Tech Nation, 2018a)

[4] Turnover per employee in a sample of UK digital industry clusters: London £201k, Hull £133k, Sheffield £120k, Dundee £115k, Leeds and Leicester £113k each, Manchester £105k, Glasgow, Liverpool £76,000. (Tech Nation, 2018a)

creative industries, it is by far the largest sector in terms of GVA.[5] The companies based at Baltic Creative provide a better snapshot of ordinary creative firms than those based in other, higher-or lower-performing clusters.

Nonetheless, it will be critical to expand our research beyond one location to see if the export experience of tenants at Baltic Creative holds true for other freelancers and businesses or even other creative industry clusters. We are indeed undertaking further research with other creative industries hubs. Moreover, we will revisit Baltic Creative in 2019 and 2020 to assess the impact of Brexit on tenants' international trade.

4 Conclusion

What is key to the export success of creative industries, then, is not company size or scaling-up, as the *Creative Industries Sector Deal* suggests. Our study reveals that even the smallest micro-enterprises at Baltic Creative in Liverpool already export and that they are highly dependent on their exports for their total turnover. Indirectly, clustering at Baltic Creative may increase our cohort's productivity and this may in turn partly account for their export success. Another important factor in their export success is the global, open, digital economy where international trade is integral to their business. Increasing exports in the creative industries, then, requires seamless – or at least consistent – access to global markets and this is the greatest challenge that our cohort faces in the uncertain era of Brexit. Our findings are important because if creative industries are as financially reliant on exports as this study suggests, major disruptions to their international trading environment are potentially far more wide-ranging on this set of businesses than official reports might indicate.

[5] IT, Software and Games is the largest sub-sector in the creative industries at £34,704m GVA, more than double the second largest sub-sector Film & TV at 15,361m GVA (CISD, 2018).

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