

Developing 'superstar' exporters in the UK: A review of the evidence

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Executive summary

Superstar exporters, selling 10 or more products in 10 or more overseas markets, are the engines of national exports in many countries. For policy makers concerned with growing the value of exports, it makes sense to think about how to encourage the growth of new superstars, specifically by supporting existing exporters to scale up and diversify their export operations.

The available empirical evidence offers insights for policy on how this goal might be achieved, shedding light on how firms exporting a range of products to a range of markets emerge and behave, and assessing what we know about the efficacy of export support and promotion initiatives.

What do superstar exporters look like and how do they emerge?

Superstar exporters are different to other exporters on a range of measures. They are typically larger and more productive, and are more likely to be foreign-owned. This implies that broader business and industrial policies directed at helping firms to scale up and become more productive can deliver more specific benefits for exports. Being open to foreign capital also appears to be vital.

While a handful of top exporters in a country are born global and large, the evidence suggests that it is typical for superstars to start off exporting a few products, typically those already sold at home, to a few markets, and expand from there.

Superstars appear to be highly responsive to their markets. The product range they export differs subtly across destinations, and firms frequently add new products and drop existing ones. This is likely to underline the importance of market-specific knowledge, and the case for supporting exporters to obtain it.

The evidence also reveals barriers to introducing new products for export. Production ability is one important factor; firms are most competent at producing a small sub-set of products, and competence declines the further they move outside this. This suggests that diversification by the firm should be into similar products, and where there is a desire to export very different products, there are advantages to purchasing these in finished form from other firms. Competition and productivity are also salient barriers to product diversification. Firms facing more competition export a narrower product range, while more productive firms export more products. This implies that measures to help firms to become more productive and stronger competitors in international markets are important.



Another important finding is that innovation in export markets is risky. Introducing new products for export requires upfront investment in new technology and capital, justifying policy that supports and incentivises investment among exporters. Trade policy can also influence innovation and the adding of new products to the extent that it enables access to a wider range of imported inputs and intermediate goods.

Helping firms to become superstar exporters doesn't just benefit those firms, or national export performance. There is also evidence that it delivers wider benefits, as when exporters grow and add new products they don't produce them all themselves. This creates valuable opportunities for smaller firms (located locally, nationally or internationally) to begin exporting indirectly through their supply chains.

How can policy help to increase the number of superstar exporters in the UK?

The good news is that robust evaluations consistently find that export promotion and support works – in terms of both improving the export performance of firms accessing support and strengthening their overall business performance. There are also indications that providing support for exporters delivers aggregate economic benefits, including an increase in aggregate productivity, rather than simply motivating a redistribution of activity from one group of firms to another.

While growing the number of superstar exporters has not been an explicit aim of export support and promotion policy, there is evidence that it does contribute to this goal. Findings indicate that export support helps firms to enter new markets, expand their range of products and grow their export volumes. Additionally, smaller firms seem to benefit more than their larger counterparts from support, indicating that support is particularly helpful at the early stages of the export journey, before 'superstar' status has been obtained.

There is more limited evidence on the specific forms of support that are most effective at helping firms to expand and diversify their exports. Evaluations find positive effects of services designed to help firms enter new overseas markets, but in general there is a lack of clarity about which services are most effective, and whether this varies according to the characteristics of the firm or the stage of exporting they are at. We do know though that using multiple services (concurrently or sequentially), tends to be associated with better outcomes than the one-off use of support. This strengthens the case for encouraging sustained engagement by firms with export support providers.

It is also important to note that firms are not equally likely to access support. Firms that choose to utilise support tend to be larger, more productive and more innovative. This may make sense if these firms are more likely to be able to compete internationally, but this self-selection problem also makes it difficult to establish the causal effects of export support on outcomes.

Use of support also differs substantially across the regions of the UK and across industries. Although London is home to a large proportion of UK businesses and economic activity, the region is comparatively under-represented in terms of export support. Conversely, regions including the North East, North West and Yorkshire and the Humber are over-represented, indicating that export support does flow to areas struggling economically. Manufacturing is also over-represented in export support compared with other sectors.

Introduction

‘Superstar’ exporters, firms that export 10 or more products to 10 or more markets (1), are the engines of national exports in many countries. In Germany, almost 40% of exporters meet the criteria of a ‘superstar’, and these firms are responsible for over 90% of the total value of exports (1). In France, they account for 11% of exporting firms and a little more than three quarters of the value of exports (1), while in the US these figures are in the region of 15% of exporting firms and 90% of US export value (2). The UK is similar to France in that 14% of exporters can be considered superstars, earning 76% of the UK’s export revenues (1).

The point is that world trade is dominated by ‘superstar’ firms exporting multiple products to multiple destinations (2). As well as their direct contribution to national exports, superstars also yield more diffuse benefits, drawing smaller firms into their supply chains to enable indirect exporting and generating spillovers in their local and national economies (3). These firms can also experience benefits themselves arising from their expansion and diversification into related production (4, 5). For policy makers intent on boosting exports, it therefore makes clear sense to focus on how to support the development of new superstar exporters (6), most fundamentally by encouraging the expansion of existing exporters.

In this paper, we assess the evidence around two questions pertinent to policy makers looking to nurture the superstar exporters of the future:

1. What do superstar exporters look like and how do they emerge?
2. How can policy help to increase the number of superstar exporters in the UK?

We conducted specific, targeted reviews of the literature to establish the state of knowledge around each of these questions. The key findings are presented in the sections that follow.

Question 1 findings: What do superstar exporters look like and how do they emerge?

Our review of the literature has sought to draw out insights on four central questions related to the characteristics and behaviour of superstar exporters:

1. What are the characteristics of superstar exporters and of their exports?
2. How do superstar exporters emerge?
3. What factors influence the exporting decisions of export superstars (including export product and market choices, and the volume of exports)?
4. What drives innovative activity (adding new products and entering new markets) by superstar exporters?

Given the relative lack of empirical work looking specifically at superstar exporters as we define them (firms exporting 10 or more products to 10 or more markets), we draw on several closely-related areas of research. These include studies of multiple product and multiple destination exporters (also called multi-product and multi-destination), as well as the smaller body of research on the top exporters (top 5, top 1%, top 5%) in a country, which is another way in which ‘superstar’ exporters are sometimes defined. The cross-over between the firms that are studied in these bodies of literature and the definition of superstar exporters we use here is not perfect; multi-product exporters do not necessarily sell in multiple destinations and vice versa (7), and some will of course sell fewer than 10 products in fewer than 10 markets. Important too is that not all firms that export 10 or more products to 10 or more markets would be included among the ‘top’ firms in the country in which they are based. However, we believe these bodies of work still provide useful insights into how our superstar exporters emerge and what determines the range of products they export and the markets they sell to.

The key insights from our review of the available literature are outlined below:

1a. The characteristics of superstar exporters

Superstar exporters are typically larger, more productive and more likely to be foreign-owned than other firms.

Exporting more products and to more markets are both strongly associated with higher total exports (2, 8, 9). More diversified exporters are therefore typically also bigger exporters. Andersson makes the argument that multi-product exporters benefit from

economies of scope, giving them a cost advantage over other firms and the ability to enter more markets and sell to more customers (8). Other work has concluded that more diversified exporters are also bigger firms, as measured by employment and value-added (10).

Another robust relationship observed in the data is between the number of products exported and markets served and firm productivity (typically measured as labour productivity) - more diversified firms are also more productive (10, 11). This isn't simply a question of higher average productivity; there is evidence that firms that export more products and to more markets are more productive across the whole productivity distribution (9). While we are not able to determine the direction of the relationship between export diversification and productivity from these simple correlations, a substantial body of research has addressed the relationship between productivity and exporting and concluded that more productive firms are more likely to select into exporting (12, 13).

Switching focus from the whole population of multi-product, multi-destination exporters to the top handful of exporters in a country sheds more light on the characteristics of superstar exporters. Looking at data on 10 countries, Freund and Pierola find that the top 5 exporters in a country tend to produce their own goods rather than trade in output produced by others, and are more likely to have foreign ownership (14).

These findings suggest that policies aimed at helping the whole business population to grow and become more productive, and that create a welcoming environment for foreign capital, can support the development of more superstar exporters.

1b. The exporting patterns of superstar exporters

Multi-product firms' exports tend to be dominated by a single product.

Although superstar exporters export a range of different products, the evidence suggests that a single product tends to dominate their export sales. Looking at data on over 10,000 Brazilian manufacturing firms exporting multiple products, Arkolakis and Muendler find that 70% of firms' export sales to a destination are of their best-selling product (15). Similarly, Amador and Oromolla observe that the top-selling product accounts for the majority of exports in all but the largest firms in their Portuguese sample (7).

Looking beyond the top product reinforces the picture that export revenues are highly concentrated. In a study of Hungarian manufacturing exporters, Gorg, Kneller and Murakozy find that, on average, just five products are responsible for 1% or more of the firm's total export revenues (16).

There is evidence of a similar pattern, though less pronounced, for the firm's top export destination, and that sales of the top product tend to be concentrated in the top destination (7).

Exporters are more competent at producing and exporting some of their products than others.

One way of understanding the behaviour of multi-product firms is through the core competencies model. This is based on the idea that firms have an aptitude for the production of a certain variety, and while they are able to produce a wider range of products, the further they are from this 'core competence', the less efficient they are at producing them and therefore the higher their costs of production (17). The idea that the products produced by a firm can be ranked in terms of their distance from the core product is also supported in the data (18).

The higher margins on the firm's core products also mean there is a greater incentive to invest in their quality, therefore it is ambiguous whether higher or lower prices are charged for core products than more peripheral ones (19). Eckel et al. address the question of which effect dominates using longitudinal data on Mexican firms (19). They find that exporters operating in sectors where products are more differentiated choose to compete on quality, charging higher prices for core products. Those selling undifferentiated goods instead tend to compete on price, so charge lower prices for their core products.

Looking at data from China, Manova and Zhang find that a firm's core competence is in its highest quality product, which is also its most expensive and top-selling export (20). The rest of the firm's products can be ranked according to quality, with firms concentrating on their highest-quality core competencies in markets where they sell fewer products. For the authors, these findings imply that improving product quality should be the focus of policy efforts to boost exports, rather than driving down costs of production (20).

The idea of core competencies indicates that there are important barriers to export product diversification, specifically the firm's production abilities. Possible policy responses might therefore involve trying to broaden and strengthen firms' technological capabilities and skills to enable them to build their competence in a wider range of products. An alternative way around this may be for firms to export more but not necessarily produce more; existing exporters can draw smaller producers that may not export directly into their supply chains, delivering benefits to these firms and widening their own exported product range without compromising their core competencies.

The set of products exported by superstars isn't the same across markets, although a common 'core' of exports does exist.

Superstar exporters don't necessarily sell the same set of products in each of their overseas markets. Looking at data on French and Italian manufacturing firms, Fontagne, Secchi and Tomasi observe a high level of variation in the product mix exported to different destinations (21). At the same time, however, they identify a sub-set of products that is more commonly exported across markets and accounts for a significant proportion of export revenues. These core products are more likely to be sold in markets where demand is higher and where competition is more intense and not all the products in the core are sold in large quantities; some may be sold for strategic purposes or to complement other products (21).

The product mix exported by superstars changes frequently, with new products added and existing ones dropped.

Another feature of the product range sold by multi-product exporters is how frequently it changes, with both adding of new products and dropping of existing ones taking place simultaneously (22). Data from Slovenia indicates that the average exporter adds 7.9 products each year and drops 7.5 (21), while in Hungary, almost 90% of manufacturing exporters added one or more products to their export mix in 2000, and a similar proportion dropped one or more products (16). Not all products are equally subject to churn; products that are more important to the firm's export revenues are less likely to be dropped, while products that are further from the firm's core competency at greater risk of being dropped (16, 23).

These findings indicate that superstar exporters are highly responsive to their export markets, selling subtly different product ranges in each market and frequently churning their exported product mix. This hints at the importance of market-specific knowledge and an awareness of customer preferences, and may point to the value of export support initiatives that help firms to obtain this knowledge.

Not all the firm's exported product mix is produced by the firm itself.

Not all the products sold by firms exporting multiple products are produced by the firm. Bernard et al. term these additional exports 'carry-along trade (CAT)', and the amount of CAT in which the firm is engaged is increasing strongly with firm productivity – more productive firms export more products, and this is largely driven by increases in CAT, rather than own-produced products (24). CAT is not a major contributor to firms' export revenues, but does seem

to be an important way for firms to meet customer demand, enabling them to supply products that complement their own-produced goods (24).

This is an important finding in terms of understanding how superstar exporters interact with other firms in the economy, and have the potential to deliver positive spillovers in their local area and nationally. Encouraging existing exporters to expand and diversify (and supporting them to become more productive to do so) can therefore draw more firms into their supply chains, and enable firms that may not otherwise be able to sell overseas to export indirectly.

2. How superstar exporters emerge

Superstar exporters are likely to start off exporting a few products to a few markets and expand over time, though the most successful firms do seem to be large from birth.

The limited evidence available suggests that multi-product, multi-destination exporters typically start small, exporting a handful of products to a handful of markets and expanding in terms of both the volume of exports and the number of exported products and destination markets over time (25). Expansion is far from guaranteed; looking at data on Portuguese manufacturing exporters, Amador and Opromolla find that while over half of new exporters start off exporting one product to one market, only a quarter of these firms still surviving a year later expand their range of products or export destinations (7). These findings are reinforced by Alborno et al.'s model of sequential exporting, verified with Argentinian firm level data. They conclude that new exporters either quickly drop out, or increase and diversify their exports if they find that their initial foray into exporting is profitable (26).

Iacovone and Javorcik observe that firms typically start exporting products already sold at home (23, 25). They characterise this as a response to uncertainty; firms cannot be sure of demand for their product overseas, so are reassured that they will still be able to sell the output domestically if the export venture doesn't succeed (23).

Looking at the biggest and most successful exporters in 40 countries, Freund and Pierola find that the top exporters tend to be born large, with just 5% of firms in the sample emerging from the bottom half of the firm-size distribution (14).

It therefore doesn't seem to be essential that firms be born global or exceptionally large to attain superstar status, unless they want to be among the biggest exporters in the country. Small, domestic firms have the potential to become superstars if given appropriate support to grow and diversify.

3. Factors influencing the exporting behaviour of superstar exporters

Firms' exporting behaviour can be expressed as decisions about two margins of trade; the intensive margin and the extensive margin (1). The extensive margin refers to the scope of exports; the number of products exported and the number of markets exported to. The intensive margin meanwhile looks at scale – the volume of exports sold of each product and in each market (1). The literature identifies several influences on superstar exporters' intensive and extensive margins:

More intense competition forces exporters to focus on their top products.

The extent of competition faced by multi-product exporters has been found to affect their exports at the intensive margin. In two separate studies of data on French manufacturing exporters, Mayer, Melitz and Ottaviano (27, 28) find that more intense competition in an overseas market causes firms to skew their export sales towards their best-performing products, though they may not necessarily narrow their product range. The extent of competition is proxied by the size of the destination market and its geographic location, with more foreign firms likely to be competing in larger and more centrally-located destination markets. This reallocation of resources towards a firm's top products also drives productivity improvements at the firm level, as these tend to be the products it is most competent at producing (28).

Competition therefore represents another barrier to diversification. Helping firms to become more competitive in international markets, either by raising the quality of their output or driving down their costs of production, may assist them in overcoming this barrier.

Trade policy to increase access to export markets does not clearly encourage firms to export more products or a higher volume of exports, though access to imports may be important

The impact of trade policy changes on the number of products exported and the overall volume of exports is mixed. Bernard, Van Beveren and Vandenbussche observe in Belgian data that lower trade costs with a given market lead to more firms exporting to that market and each firm exporting a wider range of products (10). Berthou and Fontagne look at the impact of the introduction of the Euro, which reduced the costs of trade between countries that adopted the single currency. In contrast, they find evidence of only a small increase in average exports per firm and no significant change in the number of exported products among firms in affected countries (29). The authors

suggest that the lack of a more substantial effect could be because the reduction in trade costs associated with the introduction of the Euro also caused an increase in market competition.

Developing a model of multi-product exporter behaviour from data on Brazilian firms, Arkolakis and Muendler suggest that the costs of entering foreign markets simply may not have an important influence on the product range of firms that export many products, as they already face relatively low barriers to entry. Instead, their production abilities may be the binding constraint, with their competency declining with every additional product they decide to add to their range (15).

Research by Damijan, Konings and Polanec implies that trade policy to increase access to imported inputs (both capital and intermediate goods) may help firms to expand their range of exported products. Using data on Slovenian exporters, they observe that firms with more churn in their mix of imported inputs (more frequent adding and dropping of imported input varieties) export a wider range of products (22). In the assessment of the authors, "churning in imported varieties is far more important for firms' productivity growth and increased export product scope than the reduction[s] in tariffs and import prices" (pp. 1484).

Finally, recent research points to the influence of uncertainty in trade policy on firms' export decisions. Crowley, Exton and Han find that the uncertainty created by the UK's vote to leave the European Union has deterred firms from introducing new products into EU markets and encouraged others to stop exporting to the EU entirely (30).

The message for policy makers emerging from these findings is that trade policy may be most important in the development of superstar exporters in the extent to which it enables access to imports, rather than provides access to overseas markets for finished products. Predictability of trade policy is also highly valued, and helps to facilitate the export of a wider range of products.

Export taxes influence the range of products exported.

Just one study reviewed looks at the impact of tax changes on the export behaviour of multi-product firms. Tan, Han and Ma assess the consequences of the Chinese government's decision in 2004 to reduce the level of their export tax rebate (ETR), concluding that firms reduced their product scope in response to the change. Products experiencing greater ETR reductions, and those accounting for a smaller share of export revenues, were found to be more likely to be dropped (31).

Shifts in the real exchange rate motivate firms to reallocate exports across products and markets.

It makes intuitive sense that the real exchange rate should exert an influence over the exporting decisions of firms selling a range of products to a range of destinations, given its impact on the competitiveness of a firm's output. The evidence suggests that exporters adjust along both the intensive and extensive margins in response to a change in the level of an exchange rate. Looking at Brazilian firm-level data over a period characterised by significant currency fluctuations, Chatterjee, Dix-Carneiro and Vichyanond find that firms increase their range of exported products, and skew export sales away from core products, in response to a real currency depreciation (32). Similarly, Xu, Mao and Tong find that a real RMB appreciation causes Chinese multi-product exporters to narrow their product scope, as the appreciation results in some previously-profitable products becoming marginal or unprofitable (33). The dropping of peripheral product varieties that are no longer profitable causes the firm's export sales to become skewed towards their best-performing products (core competencies).

The results of Moxnes and Ulltveit-Moe's analysis of the impact of the real appreciation of the Norwegian Krone in 2001 challenge these findings to some degree. They find that while the appreciation reduced the churn in exported products among firms more exposed to the shock (specifically reducing the rate at which firms added new products), there was no overall reduction in the number of products exported (34).

There is also evidence of adjustment in firms' exports across markets in response to fluctuations in the real exchange rate. Looking at French customs data, Hericourt and Nedoncelle conclude that multi-destination exporters respond to exchange rate volatility in one market by reallocating exports away from that market and towards ones offering greater currency stability (35). In this way, firms manage their own exposure to exchange rate risk, and mitigate the effects of currency shifts in destination markets on aggregate export volumes.

Financial constraints on the firm do not appear to have a big effect on the decision to enter new export markets.

Looking at data on the financial position and exporting decisions of French manufacturers, Askenazy et al. find evidence that financial constraints on the firm reduce the probability of entering new export markets and increase the probability of exiting from existing ones (36). However, the observed effect is only small, implying financial or credit constraints are not a major determinant of the choices of multi-product exporters.

4. The drivers of innovative activity by superstar exporters

Introducing new products for export is risky, and requires increased investment on the part of the firm.

While we know that firms typically begin exporting products already sold in the domestic market as a way of reducing the risk they face (23), findings from other research stress the importance of the introduction of new (to the firm) products for export growth (7). Iacovone and Javorcik identify frequent export discoveries, the addition of products not previously exported from the country, in their Mexican dataset, and find that experienced and new firms, domestic and foreign are equally likely to make export discoveries (25).

However, it has also been observed that innovation in exporting is a risky business – many export discoveries are quickly discontinued, reflecting firms' uncertainty about the exporting opportunities available to them (23). Additionally, it typically doesn't take long for the firm's export discoveries to be imitated by other exporters, representing an additional disincentive to innovation (23, 25).

In terms of what stimulates this innovation and diversification, there is only limited insight from the literature. Iacovone and Javorcik observe that investment in new technology and physical assets by the firm typically precedes the introduction of new export varieties (25). This might imply that policy measures to stimulate investment and technological diffusion can support firms to expand their exported product mix.

Question 2 findings: How can policy help to increase the number of superstar exporters in the UK?

In reviewing the literature on the contribution of policy in helping to develop exporting superstars, we sought to address several relevant questions:

- What are some export support and promotion initiatives that have been trialled and evaluated in the UK or in Germany? What were the stated aims of these programmes?
- What do existing evaluations of export support and promotion initiatives conclude about their effectiveness?
- Is there evidence on whether locally or nationally delivered initiatives are associated with better outcomes?

- Do any initiatives specifically seek to develop superstar exporters? What is known about their effectiveness?

We searched for studies conducted in either the UK or in Germany. The UK is of obvious interest given that the focus of our research is on developing superstar exporters in the UK – it is therefore important to establish what initiatives have already been trialled in the UK and what is known about their effectiveness. We included Germany in the review given its success in developing superstar exporters – there may be learning from the German context that is transferrable to the UK in terms of helping exporters to scale up and diversify. We do not touch on the provision of export credit in this review due to time constraints.

UK export promotion and support: the national context.

The UK has initiated a range of export promotion and support policies in recent years, typically motivated by the identification of market failures that limit firms' export performance (37). Information asymmetries and market entry costs have been identified as major barriers to increasing international trade from the UK; underestimating the benefits of exporting can lead firms to shy away from entering international markets, and difficulty in accessing staff with knowledge and experience of selling overseas poses a direct barrier to entry for many firms (38).

The UK government has sought to help firms overcome these barriers in various ways, including by supporting firms to accurately estimate export benefits, helping them to access appropriate social networks and facilitating entry into overseas markets (38). According to Rincón-Aznar et al., between 2005 and 2010 the most popular export support and promotion services were (39 pp. 8-9):

- Post Significant Assists: “one-to-one support provided by staff at British embassies/consulates overseas.”
- English Regions Trade Advisors: provision of “support and/or advice given by international trade advisors working in the English regions.”
- Tradeshow Access Programme (TAP) group: “[g]rant support for eligible SME firms to attend trade shows/fairs overseas.”
- Overseas Market Introduction Service (OMIS): advice “provided to firms about a market (e.g. analysis of possible market entry strategies, identification of possible business partners).”

- English Regions' Events: “[e]vents arranged by UKTI's regional teams to provide advice on business opportunities overseas.”
- Inward Missions: “[m]eetings in the UK with overseas businesses.”
- Passport to Export: a scheme “aimed at helping businesses who are either new to exporting or fairly inexperienced exporters (readiness assessment and an export plan, services aimed at helping firms to research and visit prospective overseas markets.”

Given the prevalence of small and medium-sized enterprises (SMEs), comprising 99.9% of businesses in the UK (40), government export support and promotion has tended to concentrate on this group (37). This focus might also be motivated by evidence that SMEs underperform in export markets; slightly less than 30% of the value of UK goods exports in 2016 came from SMEs according to HMRC data (41), despite them accounting for 51% of private sector turnover in the UK (40).

Until very recently, the delivery of export support and promotion was the responsibility of UK Trade and Investment (UKTI), but in July 2016 this was subsumed within the new Department for International Trade (DIT) (42). DIT has taken on UKTI's responsibilities as part of a broader remit centred around the development, coordination and delivery of a new trade policy framework as the UK withdraws from the European Union. The new department also sponsors UK Export Finance, the UK's export credit agency. Given that DIT has only recently assumed responsibility for export support and promotion, where evaluations are available they relate to policies developed and implemented under UKTI.

Below, we outline the key insights from our review of the available literature. Looking at the evaluation of policies implemented in the UK, we place particular emphasis on three comprehensive evaluations of UKTI programmes; Rincón-Aznar, Riley and Rosso; Breinlich, Mion, Nolen and Novy; and Rogers and Helmers (39, 43, 44). The findings of these studies are supplemented with results from other relevant papers identified through our search of the literature. Unfortunately, no comparable German studies were identified. There may be a range of reasons for this, but it seems likely that language of publication will have played an important role – German policy evaluation studies are likely to be published in German, excluding them from our review.

1. The impact of UK support programmes on firm-level export performance

Generally, firms receiving support export more, export a wider range of products and export to more markets.

Mion and Muùls find that receiving trade support is positively correlated with export activity; supported firms export a greater total volume of goods to more overseas markets than non-supported firms (45). Export growth associated with UKTI support appears to arise mainly from access to more overseas markets, indicating that trade services facilitating access to new markets are particularly beneficial for UK firms. Supported firms are more likely than non-supported firms to trade with the EU, Brazil, China, India, Russia, the United States, the OECD and the rest of the world in the year in which they receive support and two years later (45). When controlling for a range of firm-level characteristics, supported firms are also found to export a greater range of products than their unsupported counterparts.

Building on this, Rincón-Aznar et al. found that use of UKTI services was associated with an increased likelihood of growth in international sales, growth in the proportion of overseas turnover as a share of total turnover, and the tendency to report positive turnover in the year following use of UKTI services (39). The latter result indicates that UKTI services facilitate entry into overseas markets, a finding robust across different sub-samples. (It should be noted that these observations are limited to those firms in the sample that report information on overseas turnover, information which is missing for many entries).

Assistance to enter overseas markets is related to growth in export turnover.

Breinlich et al. look specifically at the impact of UKTI assistance to firms to enter overseas markets and compare it with a bundle of other UKTI services (43). They find that use of the Overseas Market Introduction Service (OMIS) is associated with higher export turnover growth, although OMIS was not found to lead to increased export growth per se. Although this finding is somewhat counterintuitive, it builds upon a body of research indicating that growth in exports and export turnover are not necessarily associated (see for example Harris and Li (46)). Programmes like OMIS can improve competitiveness by promoting innovation, provide access to new contacts, and produce other effects which enable an increase in sales in both domestic and overseas markets. This is borne out in UKTI client surveys in which more than half of firms utilising UKTI services report increases in both domestic and overseas sales (47).

Studies focused on older data, such as Bonner and McGuinness (48), demonstrate the positive long-term effects of marketing grant assistance interventions on firms' export revenue growth, particularly SMEs already active in export markets or involved in product development.

Overseas trade missions can increase the likelihood that firms start and continue exporting to a new market.

Overseas trade missions (roughly covering a range of UKTI programmes supporting business travel) have been linked to an increased propensity to export through the development of overseas market knowledge and the facilitation of relationships between buyers and sellers. Spence has shown that the development of general export knowledge has a significant positive impact on export sales and firms' perceptions of their own export competence (49). Market-specific UKTI support has been found by Mion and Muùls to enable firms to both start and continue exporting in that market (45). This leads the authors to conclude that supporting both current and prospective exporters provides a balanced export support policy.

Additionally, Mion and Muùls find that market-specific UKTI support has a similar effect on export performance to non-specific support, reinforcing for the idea that trade support policies impact exports beyond the specific market for which support has been obtained (45).

The above evidence points clearly to the effectiveness of export support in the UK, a finding that chimes with those of a similar literature review assessing the effectiveness of export promotion agencies conducted by the What Works Centre for Local Economic Growth (50). While developing superstar exporters has not been an explicit aim of these interventions, receiving support does appear to be successful in helping firms to grow and diversify their exports.

Interventions that help firms to gather information on new markets seem to be particularly effective, though there is a lack of evidence comparing the relative impact of different interventions. It may be that further, programme-specific evaluations are necessary to identify which forms of support are most conducive to the development of superstar exporters, and to guide the allocation of scarce public resources.

2. The impact of UK support programmes on firm-level performance and the aggregate economy

Business performance, particularly annual turnover, improves after receiving export support.

In the most comprehensive impact evaluation available, a study of 32 services offered by UKTI between 2005 and 2010 by Rincón-Aznar et al. (39), business performance across a range of indicators was found to improve after receiving UK trade support. The most significant impact was seen in firm turnover, while labour productivity growth was more modest. Using an established econometric specification employed in previous studies, and after excluding the largest firms, the authors found an average *increase* in annual turnover of £1.4 million against an average annual turnover of £35 million for firms utilising UKTI services. When a more sophisticated statistical methodology was deployed, increases in average and median turnover persisted, albeit at reduced levels, but positive impacts on employment were found to be negligible (39). Nonetheless, improvements in turnover resulting from use of UKTI services is a robust finding across various econometric specifications.

An earlier study by Breinlich et al. focused only on OMIS produced similar findings: participation in this programme was associated with increased growth rates of total assets, employment, turnover and labour productivity (43). Impacts on employment and turnover were particularly marked: two years after using OMIS, the average firm saw the creation of seven new jobs and £1.5 million in new turnover, while the median firm saw three jobs created and around £600,000 in new turnover. Rogers and Helmers identified similar relationships for Passport: service-using firms experienced higher growth (in total assets) than comparator firms, between 3-6% annually (44).

These findings on turnover provide reassurance that support for exporters does not simply cause firms to redirect sales from the domestic market to overseas markets, but is associated with an increase in total sales (50).

Receiving support is related to increased innovative activity.

More broadly, receipt of trade support has been correlated with improvements in spending on research and development, with UKTI support associated with an increase of around 15% in firm-level R&D expenditure. Driffield et al. indicate that policy interventions aimed at innovation can have even greater effects where support for entry to export

markets or to expand an existing market presence is also provided (51).

Firms utilising UKTI services are more likely to survive than non-UKTI firms.

Both Rincón-Aznar et al. and Breinlich et al. find that supported firms are more likely to remain in business than non-supported firms: the former finds UKTI service use is associated with a 1.6% increase in the likelihood of survival in the year following service access compared with non-service-using firms (39, 43). Rogers and Helmers found that firms participating in Passport were 6% less likely to exit the market (44).

There may be benefits to the aggregate economy resulting from the provision of export support.

According to Rincón-Aznar et al., there is evidence of benefits to the aggregate economy resulting from a combination of changes within the group of service-using firms and between service-using and non-service-using firms (39). While the analysis is just indicative, it suggests that increases in labour productivity resulting from UKTI support lead to a reallocation of market share towards supported firms. In tandem with an increased propensity for firm survival, the UK economy likely experiences an increase in aggregate productivity resulting from UKTI service provision. Whether support is provided to prospective or current exporters doesn't seem to make a difference to these national economic benefits; Mion and Muùls note that aggregate growth over time generated by prospective and current exporters is roughly equal, so there is no benefit associated with favouring one group over the other in trade support policy (45).

This is an important finding from a policy perspective, contributing to a long-running debate on whether supporting exporters yields aggregate benefits or simply redistributes market share from one group of firms to another, with no overall increase in jobs or output (see for example (52-54)). As Lederman, Olarreaga and Payton emphasise though, the evaluation of export promotion initiatives on economic welfare grounds is a "difficult if not impossible" undertaking (55 pp. 258), underlining the challenge of establishing concretely the overall economic impact of export support.

3. The impact of using multiple trade support services on export and wider business performance

Evidence for the benefits of multiple use of trade support services (including using multiple services at the same time or sequentially, and using the same service multiple times) is mixed. However, the most recent studies covering the widest range of services conclude that use of multiple services can enhance export and business performance.

Firms using multiple services appear to have better business performance.

Rincón-Aznar et al. find that firms using multiple services are generally larger, more productive and have a greater probability of engaging in intellectual property-production than one-off users of support services (although one-off users are more productive than non-service-using firms) (39).

Despite the strong evidence reported earlier of improvements in a range of business performance measures due to accessing export support services, there is little robust evidence that multiple use is better than one-off use when looking at improvements in firms' turnover growth, employment or asset growth (39).

Firms using multiple services appear to have better export performance.

Looking at export performance, Mion and Muùls find that multiple use UKTI firms export a greater volume and range of products to more markets than one-off service users (45). However, they find little difference in long-term export performance between multiple use and one-off service-using firms (irrespective of whether they were initially exporting or non-exporting). Despite some questions about statistical robustness, Rincón-Aznar et al. reach similar conclusions: participation in multiple UKTI schemes can lead to greater improvements in firms' export performance, particularly for those participating more than five times (39). Multiple participation is associated with an increased chance of reporting entry into overseas markets, positive overseas turnover, and an increase in the proportion of overseas turnover against total turnover.

Breinlich et al. find that there was no evidence that use of OMIS in combination with other UKTI services offered enhanced benefits in terms of business or export performance (43). On the contrary, some evidence suggested that multiple use weakened the effects of OMIS. However, in line with other ambiguous findings, this is not necessarily evidence that multiple use has a detrimental effect – firms may select programmes for participation based on a range of

'unobserved' factors that are not captured in the data available. Furthermore, reporting issues consistently hamper the development of a complete picture, highlighting the need for further research in this area.

In general, the evidence suggests that the use of multiple support services by exporters should be encouraged to maximise their effectiveness. This might involve placing more emphasis on providers of support developing longer-term relationships with firms, or providing services as a more 'personalised' package of support tailored to the needs of individual firms.

4. The effect of firm-level characteristics on outcomes following the provision of support

Smaller and less innovative firms seem to benefit more from export support.

While firms of all sizes are found to benefit from trade support service use, smaller companies (under fifty employees in Rincón-Aznar et al.) appear to experience greater benefits in terms of increased turnover and asset growth than larger companies (39). Breinlich et al. identify a similar trend, noting that the impacts for small firms are larger than for large firms. An additional finding is that IP-active firms (firms producing intellectual property) benefit considerably less from OMIS than non-IP-active firms – a difference the authors ascribe to significant heterogeneity in non-IP-active businesses (43).

The finding that export support is particularly good at helping small firms to grow strengthens the case that it contributes to the development of superstar exporters, promoting the scale-up needed to diversify products and markets.

Whether or not a firm already exports matters for outcomes, in different ways.

Breinlich et al. find that OMIS produces greater benefits for non-exporting firms, perhaps indicating that overcoming the initial barriers to exporting is the biggest challenge for firms and hence requires the most support (43). This finding is consistent with the wider literature (see for example Iacovone and Javorcik (56) and Spence and Crick (57)).

The effectiveness of providing information to firms on the benefits of exporting, with the intention of encouraging more firms to export and to export more, may also depend on the firm's current export status. A recent study by Breinlich et al. finds that non-exporters hold substantially more negative beliefs about the costs and benefits of exporting compared with firms that already export (58). Moreover, when provided with information concerning the benefits of



export, the perceptions of non-exporting firms became increasingly negative. By contrast, firms with export experience became more optimistic. These results suggest that export promotion policies should be better tailored to account for influence of perceptions at the firm level, and the potential for confirmation bias to affect how firms respond to them (58).

Overall, the differential impact of export support according to the characteristics of the firm demonstrates the potential failings of a 'one size fits all' approach to policy in this area. It also serves to highlight gaps in current knowledge. As Love and Roper emphasise, there is a lack of clarity around the mechanisms through which export support impacts on export development, particularly in SMEs (38). This is despite clear evidence pointing to the value of selective assistance and the importance of firm-level characteristics in export performance improvement (48).

The message emerging for policy makers is that the export support offering needs to be more targeted and personalised. Firms with different characteristics and at different points in the export journey can respond to the same intervention in different ways. Other robust reviews have concluded though that there is a lack of clear evidence on whether and how different types of firms respond to different interventions (50). It would therefore be helpful to know more about which interventions are most effective for firms with different

characteristics and at different stages of export development.

5. Utilisation of UK trade support

Firm-level characteristics are related to the likelihood of accessing support.

A persistent finding across multiple studies is that firms receiving UK trade support are not a random sample of UK companies. Rincón-Aznar et al. found that supported firms tend to be larger (in terms of both total assets and employment), older, more productive and more intensively engaged in international and intellectual property-producing activities than non-users (39). This finding is in line with both Breinlich et al. and Rogers and Helmers (43, 44).

However, this aggregate pattern obscures significant variation between services. For example, Breinlich et al. find that firms using UKTI services other than OMIS tend to be younger, smaller in terms of total asset holdings, have fewer employees and lower annual turnover, export less, are less likely to be IP active and are less likely to be part of a UK multinational (43). Rogers and Helmers meanwhile note that 74% of Passport firms are classified as micro-firms, 25% as SMEs and 1% as large firms (44). These results highlight that, while trade support service users are on average larger and older, for certain services younger and smaller companies are over-represented.

These findings pose a challenge for researchers aiming to establish the causal effects of receiving export support. Given that firms choosing to receive support have very different characteristics compared with each other *and* firms that do not seek support, it is exceptionally difficult to establish whether any differential outcomes are the result of receiving support, or supported firms' distinct underlying characteristics.

Firms receiving trade support are unevenly distributed across the country.

Firms receiving support appear to be concentrated in London and the Greater South East. Between 2005 and 2010, almost 37% of all UKTI-supported firms were in London and the South East, compared to around 2% in the North East and Wales respectively and 1% in Northern Ireland (39).

On first look it might appear that access to export support is disproportionately concentrated among firms in the comparatively prosperous London and the South East, with firms in the less economically-successful regions of the UK missing out. However, these figures do not take account of the fact that many more businesses are located in London and the South East than in other regions. So while London businesses make up a sizeable chunk of supported businesses, they also make up a disproportionately large section of unsupported businesses – around 30%. This indicates that there is a much lower concentration of supported firms in the capital (39). Almost all other regions are over-represented in the set of supported firms (39), allaying concerns that firms in struggling areas are being excluded from support.



Region	Region's average annual contribution to UK gross value-added (2005–2010) ¹ (59)	% of firms receiving UKTI support located here (39)	% of unsupported firms located here (39)
London	21.0	23.2	29.7
South East	14.9	19.2	19.1
East of England	8.8	7.4	7.1
South West	7.7	6.0	6.1
West Midlands	7.4	9.6	7.6
East Midlands	6.0	6.4	5.4
Wales	3.6	2.2	2.7
North West	10.0	7.7	7.0
Yorkshire and the Humber	7.1	8.0	6.4
North East	3.2	2.3	1.8
Scotland	8.1	6.7	5.6
Northern Ireland	2.3	1.2	1.4

¹ Percentages in column 2 calculated from available ONS data on gross value-added (GVA) by region for the period 2005 to 2010.

Firms receiving trade support are unevenly distributed across sectors of the economy.

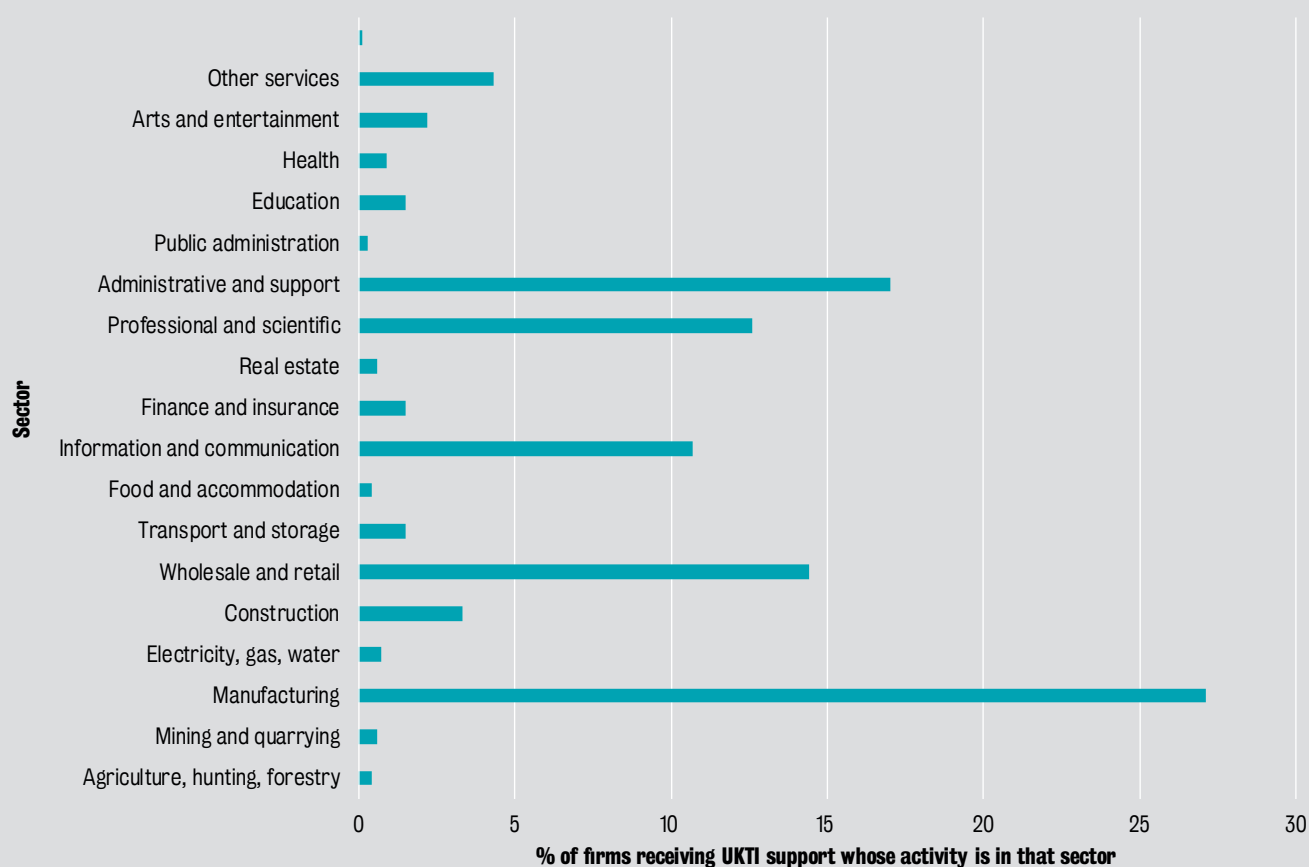
In terms of sectoral breakdown, most trade support recipients operate in the manufacturing, administrative and wholesale and retail sectors. Knowledge-intensive firms such as professional and scientific companies and information and communication firms are also well-represented, albeit somewhat less than their manufacturing counterparts. Non-manufacturing production sectors are weakly represented, with agriculture, hunting and forestry, mining and quarrying, and electricity, gas and water each representing under 1% of supported firms (39).

The most striking finding here is that, in a reduced high-resolution sample of UK firms, UKTI-supported firms in manufacturing account for 40% of the total number of supported firms, whereas they account for only 13% of unsupported firms, demonstrating a strong bias in favour of the manufacturing sector (39).

The sector of origin is closely linked to trade support programme preferences. Service sector firms disproportionately favour the Outward Missions, Post Events, HQ events, Market Visa Support UKTI programmes, each of which represents under 3% of the total trade support records. Conversely, service sector firms are least represented in Gateway to Global (58%) and ECR (57%), whereas manufacturing firms have a higher weight (39%) (39).

It would be interesting to establish why certain sectors are so strongly over-represented in their use of export support overall and specific services. Part of the reason may be that firms in these sectors are much more likely to engage with exporting— 45% of manufacturing firms export, compared to 4% of construction firms (60). It is also not uncommon for firms, especially service firms, not to realise that they are, or could be, exporting and therefore not to consider seeking support (61). Awareness of export support may also be higher in some sectors than in others.

Firms receiving UKTI support according to sector of activity, 2005–10



Source: Rincón-Aznar et al.

Methodology

Our evidence review set out to assess the state of knowledge around two distinct, but related, questions:

1. What do superstar exporters look like and how do they emerge?
2. How can policy help to increase the number of superstar exporters in the UK?

Rapid evidence assessment

We utilised literature review techniques to assess the large body of evidence around these questions. Due to time constraints, we undertook a rapid evidence assessment (REA) as opposed to a full systematic review, which involves setting some limits on the literature to be reviewed. Specifically, we restricted our search to empirical studies (therefore excluding

purely theoretical papers or descriptive/comment pieces), published in English in the 20-year period between June 1998 and May 2018. In the case of the first question, we did not impose any restrictions on the country context from which the evidence could be drawn. For the second question, we restricted the review to include only studies conducted in the UK (or any of its constituent nations or regions) and Germany.

We searched two major journal databases in business and the social sciences, EbscoHost Business Source Complete and EconLit, for relevant papers. The search terms used are given in the table below. We supplemented these more systematic searches with additional searches in Google and Google Scholar, and obtained relevant references via snowballing. This approach was taken to reduce the likelihood of omitting relevant studies.

Search string	Database	Restrictions	Hits
Question 1: What do superstar exporters look like, and how do they emerge?			
Ti,ab((Export*) AND (multi-product OR multiproduct OR multiple-product))	EconLit	Published in English Published between 1 June 1998 and 31 May 2018 (20 years)	99
AB (export*) AND AB (multi-product OR multiproduct OR multiple-product)	EBSCOHost	Published in English Published between June 1998 and May 2018 (20 years)	42
TI (export*) AND TI (multi-product OR multiproduct OR multiple-product)	EBSCOHost	Published in English Published between 1 June 1998 and 31 May 2018 (20 years)	12
Ti,ab((Export*) AND (multi-destination OR multidestination OR multi-market))	EconLit	Published in English Published between 1 June 1998 and 31 May 2018 (20 years)	52
AB (export*) AND AB (multi-destination OR multidestination OR multi-market)	EBSCOHost	Published in English Published between June 1998 and May 2018 (20 years)	11
TI (export*) AND TI (multi-destination OR multidestination OR multi-market)	EBSCOHost	Published in English Published between 1 June 1998 and 31 May 2018 (20 years)	4
Ti,ab((Export*) AND (superstar* OR super star))	EconLit	Published in English Published between 1 June 1998 and 31 May 2018 (20 years)	9
AB (export*) AND AB (superstar* OR super star)	EBSCOHost	Published in English Published between June 1998 and May 2018 (20 years)	7
TI (export*) AND TI (superstar* OR super star)	EBSCOHost	Published in English Published between June 1998 and May 2018 (20 years)	2

Question 2: How can policy help to increase the number of superstar exporters in the UK?			
Ti,ab((export*) AND (promotion OR assistance OR support OR credit OR program* OR advice) AND (impact* OR evaluation OR performance OR evidence OR activit* OR effect*)) AND (UK OR United Kingdom OR "Great Britain" OR Britain OR British OR England OR English OR Wales OR Welsh OR Scotland OR Scottish OR "Northern Ireland" OR "Northern Irish"))	EconLit	Published in English Published between 1 June 1998 and 31 May 2018	79
AB(export*) AND AB(promotion OR assistance OR support OR credit OR program* OR advice) AND AB(impact* OR evaluation OR performance OR evidence OR activit* OR effect*) AND AB(UK OR United Kingdom OR "Great Britain" OR Britain OR British OR England OR English OR Wales OR Welsh OR Scotland OR Scottish OR "Northern Ireland" OR "Northern Irish"))	EBSCOHost	Published in English Published between June 1998 and May 2018	191
Ti,ab((export*) AND (promotion OR assistance OR support OR credit OR program* OR advice) AND (impact* OR evaluation OR performance OR evidence OR activit* OR effect*)) AND (Germany OR German))	EconLit	Published in English Published between 1 June 1998 and 31 May 2018	67
AB(export*) AND AB(promotion OR assistance OR support OR credit OR program* OR advice) AND AB(impact* OR evaluation OR performance OR evidence OR activit* OR effect*) AND AB(Germany OR German))	EBSCOHost	Published in English Published between June 1998 and May 2018	81

Suitable papers for inclusion in the review were identified via a three-stage process. First, all papers identified through the database searches were downloaded into reference management software, and duplicate results removed. Second, an initial sift, screening papers for relevance by title and abstract, was conducted. Finally, remaining references were subjected to a full text review to assess their relevance for inclusion in the study. 26 papers were identified for the first question via this approach, and 7 for question 2. A further 12 papers meeting the inclusion criteria for question 2 were identified via separate searches and snowballing.

Question 1: What do superstar exporters look like, and how do they emerge?	Studies identified via database searching: 238
	After removing duplicates: 121
	After sift 1: 43
	After sift 2: 26
	Additional studies from snowballing: 0
Total number of studies for review: 26	
Question 2: How can policy help to increase the number of superstar exporters in the UK?	Studies identified via database searching: 418
	After removing duplicates: 326
	After sift 1: 21
	After sift 2: 7
	Additional studies from snowballing: 12
Total number of studies for review: 19	

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