Class of their own? - New Zealand's goods and services exporters

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The results in this paper are not official statistics, they have been created for research purposes from the Integrated Data Infrastructure prototype (IDI) managed by Statistics NZ.

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Access to the data used in this study was provided by Statistics NZ in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, business or organisation. The results in this paper have been confidentialised to protect individual people and businesses from identification. Careful consideration has been given to the privacy, security and confidentiality issues associated with using administrative data in the IDI. Further detail can be found in the Privacy Impact Assessment for the IDI available from www.stats.govt.nz.

Statistics NZ protocols were applied to the data sourced from the New Zealand Customs Service; the Ministry of Science and Innovation; New Zealand Trade and Enterprise. Any discussion of data limitations is not related to the data's ability to support these government agencies' core operational requirements.

Abstract

The small size of the domestic market constrains the extent to which New Zealand businesses can grow. Given this, international linkages are central to NZ's economic prospects. NZ has made some progress but NZ's performance has not kept pace with global changes. NZ's exports are well below the 40 – 50 percent of GDP for similar sized economies in the OECD. Recent growth in the New Zealand economy has been focused more in the non-tradable sectors than those parts of the economy that compete on the international stage. There are questions around how well NZ is adapting to the new business reality of global value chains. Against this backdrop, there is an imperative to try and identify export growth engines and the characteristics of high(er) performing exporting firms. Establishing this empirical data can assist policy discussions. This study looks at NZ exporters and identifies that, whilst only a small proportion of NZ exporters (3.9%) export both goods and services (GSE), it is these firms that appear to evidence above-the-line characteristics.

Key Points

The small size of the domestic market constrains the extent to which New Zealand businesses can grow. Given this, international linkages are central to NZ's economic prospects. NZ has made some progress but NZ's performance has not kept pace with global changes. NZ's exports of goods and services represent around 30 percent of GDP – within the OECD average but well below the 40 – 50 percent of GDP for similar sized economies in the OECD. Recent growth in the New Zealand economy has been focused more in the non-tradable sectors rather than those parts of the economy that compete on the international stage. There are questions around how well NZ is adapting to the new business reality of global value chains.

Against this backdrop, there is an imperative to try to identify export growth engines and the characteristics of high(er) performing exporting firms. Establishing this empirical data can assist policy discussions.

This study looks at NZ exporters and identifies that, whilst only a small proportion of NZ exporters (3.9%) export both goods and services (GSE), it is these firms that appear to evidence above-the-line characteristics. These GSE firms:

- **Are bigger in size, have higher value added, have a greater proportion of firms undertaking R&D and a higher proportion of firms with some levels of FDI**;
- Whilst they **have a weighting towards goods over services exports,** the **services component of those exports exceed that of 'service only exporters';**
- **The export markets these firms operate in is also more diversified with an average of 12 markets for their goods and 4 markets for their services.** This compares with an average of four markets among goods only exporters and three markets among service only exporters;
- **Largely feature in the wholesale industry group (31.3 percent of all GSE firms)**. Firms in this industry group largely purchase and on-sell goods without major transformation to other businesses. Other key industry groups with a relatively high proportion of goods and services exporters include business services (20.0 percent); and machinery, and equipment (8.9 percent).
- **Mostly have logical good and services pairs.** For example the most prevalent service type among firms exporting a wide range of goods in the wholesale industry includes commission agent's services fees and management fees between parent and subsidiary. The goods associated with GSE firms in the business services industry were manufacturing related and the services associated with these firms were largely high value added services such as IT, design and development services; engineering and consultancy services, research and development services and royalties and licence fees received for computer services. This is also the case with goods and services exporters operating out of the machinery and equipment manufacturing industry. **There are also, however, a few good and service combinations that are less obvious.**

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1. Introduction

The small size of the domestic market constrains the extent to which New Zealand (NZ) businesses can grow. Given this, international linkages are central to NZ's economic prospects. NZ has made some progress on this front. Since the 1970's NZ has successfully diversified its export markets and production. In 1970, Europe took 49 percent of our total exports. In 2011, only 13% went to Europe and a greater proportion of exports were directed to markets across Asia, the Middle East and Australia. NZ has also extended its export profile from the traditional agricultural base of wool, meat and dairy to include horticulture, wine, forestry, fisheries, aquaculture, tourism and education.

However, NZ's performance has not kept pace with global changes. NZ's exports of goods and services represent around 30 percent of GDP – within the OECD average but well below the 40 – 50 percent of GDP for similar sized economies in the OECD. Recent growth in the NZ economy has been focused more in the non-tradable sectors than those parts of the economy that compete on the international stage. There are questions around how well NZ is adapting to the new business reality of global value chains, where increasingly some of the activities undertaken to bring a good or service from design to consumers occur across borders.

Against this backdrop, there is an imperative to try to identify export growth engines and the characteristics of high(er) performing exporting firms. Establishing this empirical data can assist policy discussions.

Charteris and Saravanaperumal (2010) in their analysis of service exporters found that firms that export both goods and services were significantly larger and had higher performance levels than firms that exported only goods or only services.

This paper develops this initial work further, taking a closer look at this interesting group of high performing firms that export both goods and services (GSEs) and which, potentially, could play a critical role in lifting NZ's economic performance. The analysis:

- compares the characteristics of goods and services exporters against goods-only and services-only exporters to identify what is fundamentally different about goods and services exporters;
- investigates the split between goods and services export receipts for firms exporting both goods and service;
- investigates the export markets that goods and services exporters tend to concentrate on
- considers the types of goods and services exported by these goods and services exporters and the relationship between the two;
- suggests areas for further research.

The services covered in this analysis exclude tourism, education, transport, government services and insurance. What it covers is commercial services such as computer services, engineering, royalties and licence fees, accounting and legal services. Also included in this category are lesser-known services, such as management fees between related parties[1] and merchanting.[2]

The data for this study comes from Statistics NZ's prototype Longitudinal Business Database (LBD) which is a complex relational database linking a variety of administrative and survey data. A key component of the LBD, which is central to this study, is the International Trade in Services and

[1] Management fees between related parties captures the situation where a business has an ownership stake in a subsidiary and provides/purchases services such as managerial and administrative services, accounting, computer services, and charges for royalties, to/from the subsidiary.

[2] Merchanting captures transactions where a NZ enterprise buys goods abroad and then on-sells them to another overseas party - the goods do not enter NZ.

Royalty Survey (ITSS). The ITSS collects information on commercial services trade (imports and exports) by country and service category for the compilation of Balance of Payments and National Gross Domestic Product statistics. The survey is carried out on a quarterly basis and a census of service traders is carried out approximately once every five years. The census is the most comprehensive source of information on service traders. This analysis largely draws on the 2005 ITSS census results. We will shortly be able to examine the same data series using the recent 2011 ITSS census material. This analysis therefore, serves as base from which new trends can be examined and key results confirmed.

A follow-up study could explore whether these characteristics are inherently embedded in these conjoint ('good and services') exporters (GSEs); whether these types of firms permit a stronger reach into global value chains as a consequence (the new global business reality) and; whether the breadth of export markets of these GSEs (an average of 12 markets for their goods but only 4 markets for their related services) tells us something about the nature of restrictions to service exports vis-à-vis merchandise goods.

2. Literature Review

Numerous empirical studies have analysed exporter performance. However, the focus of these studies has almost always been merchandise goods exporters. With increased availability of firm level data and improved collection of services statistics, a few papers have started to venture into the area of services trade.

Some of the key results that have surfaced in the research to date include:

- just like goods exporters, services exporters are larger, more productive and more likely to have some foreign ownership than their non-exporting counterparts (Vogel 2009, Breinlich and Criscuolo 2008, Charteris and Saravanaperumal 2010).
- trade, employment, sales, value added, and profit is concentrated among a few service exporters (Breinlich and Criscuolo 2008, Charteris and Saravanaperumal, 2010).
- most firms just trade with a small number of countries and in a single service type.
- a small group of firms, however trade with many countries or in many service types. These firms account for a disproportionate share of total exports, employment, sales, and value-added (Breinlich and Criscuolo 2008, Charteris and Saravanaperumal, 2010).

Charteris and Saravanaperumal (2010) also found that the small group of firms that export both goods and services are significantly larger and have higher performance levels (sales, value added, and profitability) than firms that export only services and those that only export goods. Despite being smaller in number, firms that export both goods and services accounted for a majority of services exports.

The importance of this class of exporters could be a function of the new global environment where production moves to low cost producers and trade is increasingly fragmented along value chains. Exporters in NZ and in other developed economies are increasingly focusing on high value added, niche and differentiated exports. Combinations of merchandise goods with embedded services (for example training, maintenance, repair and other after-sales services) are becoming key methods of merchandise differentiation in the market and key methods of achieving higher overall value-add (ABAC 2011). The 2011 ITSS has revealed that commercial services has been a rapidly growing export sector in the past six years. This also adds impetus to the value of better understanding this goods and services sector.

3. Data Description

The dataset used in the analysis is drawn from the prototype Longitudinal Business Database (LBD). The LBD is built around government administered data collections (for example customs data and IRD data) and also includes a number of survey data sources, including the International Trade in Services and Royalties Survey (ITSS), which is the primary vehicle for collecting statistics on services trade.[3] The prototype LBD stands out for both its comprehensive coverage of firms and the variety of variables captured.

For the present analysis, all firms that were economically active in 2005 were selected. Despite the limited timeliness, the 2005 June year was chosen because the most recent ITSS census results for which we have corresponding other data available in the LBD relate to the 2005 June year and the ITSS census is the most comprehensive source on NZ's services trade with the rest of the world.

Service exporters were identified if they had a non-zero response to the 2005 ITSS census. Likewise, merchandise goods exporters were identified if they had a positive export value in the 2005 June year. From this firms were then classified as 'service only exporters' (SE) if they were observed to only export services, 'goods only exporters' (GE) if they were observed to only export goods, and 'goods and service exporters' (GSE) if they were observed to export both goods and services.[4]

To allow for comparisons between the different types of exporters the set of conditions that qualifies a firm to be a candidate for the ITSS survey were applied across all firms.[5] The sample is further restricted to "private for profit" firms. This excludes households, firms operating in the 'public administration and safety' industry classification, and firms located offshore.

For the purposes of this paper, a firm is defined by a common group structure. As such, it can represent a group of firms where there is some form of a parent-subsidiary relationship in place, rather than a single legal entity. Other papers using the LBD have not always merged firms in this manner (e.g., Fabling et al., 2008; Iyer et al., 2011a; Iyer et al., 2011b). However, since services export data is available only at the group level, this merging of firms is required.[6]

4. Goods and Services Exporters

4.1 Class of their own?

The summary statistics of exporting firms in the sample are outlined in Table 1. The vast majority of firms in the sample are GEs (81.0 percent). SEs account for 15.1 percent of firms while GSEs account for 3.9 percent of all exporting firms in our sample. Despite only accounting for a small share of all exporters in our sample, the GSEs have a number of distinct characteristics that set them apart from GE and SEs.

[3] The International Trade in Services and Royalties Survey collects information on "other commercial services", that is services exports excluding tourism, transportation, government services and insurance.

[4] There is likely to be an undercount of firms exporting goods and services since firms who exported goods/services outside the June 2005 reference year but did export services/goods during the reference year, will be tagged as goods only or service only exporter for the purposes of this analysis.

5 The ITSS candidates are identified in the Annual Frame Update Survey (AFUS) if the respondent indicates they export/import services greater than $20,000 per annum. Given this, the set of conditions that qualify a firm to be candidate for the AFUS survey are applied across all firms and a filter of exports greater than $20,000 per annum is applied to goods exporters.

6 This is important to note given that firms within groups account for a substantial proportion of total employment and value added in NZ (Fabling & Sanderson, 2008).

Just over 40 percent of the GSEs have some level of foreign ownership. This compares with just 13 percent of firms with foreign ownership among GEs and 19 percent among SEs. The proportion of firms undertaking research and development is also higher among GSEs (37 percent) than GEs (16 percent) and SEs (11 percent).[7] Average value added is also substantially higher among GSEs than the other types of exporters, as is the average employee count.

Table1: Summary statistics

Row Labels	Count of firms	Count of firms with FDI	Count of firms with R&D	Average Employment	Average Value Added ($)
Goods only exporters (GE)	2,898	378	462	42	4,332,485
Service only exporter (SE)	540	102	60	21	2,729,264
Goods and services exporter (GSE)	138	60	51	1,256	141,328,100
Grand Total	3576	540	573	85	9,377,131

Note: Firms counts have been randomly rounded
Source: Authors' calculation

The hypothesis that a small number of large firms are influencing the results is examined in Table 2, which breaks down the key measures by firm size. GEs and SEs are predominantly small, with over half of all GEs and 70 percent of SEs having an employee count of less than 10. The number of firms with greater than 250 employees is a very small share of the sample at just 2.1 percent of firms for GEs and 1.1 percent for SEs. GSEs on the other hand, are almost equally spread among the four firm size classes. They also have overwhelmingly the greatest proportion of firms with, more than 250 employees (29 percent). This result indicates that GSEs are inherently bigger in size. In addition, where the firm size is greater than 250 employees, the average employee count of GSEs is vastly higher (at 4,210) than is the case for large GE or SEs.

Table 2: Characteristics by firm size

Row Labels	Count of firms	Proportion of firms with RD	Proportion of Firms with FDI	Average Employee Count	Average Value added per employee (Value added/Employee Count)
Goods only exporters	**2,898**	**16.1**	**12.9**	**42**	**194,885**
less than 10	1,515	9.9	10.9	4	262,085
11-49	1,026	18.1	11.4	23	128,336
50-249	297	37.4	23.2	97	99,860
250+	60	35.0	40.0	1,032	105,955
Services only exporters	**540**	**11.7**	**19.0**	**20**	**682,422**
less than 10	378	7.9	14.3	3	885,651
11-49	120	15.0	27.5	19	237,199
50-249	33	36.4	36.4	117	124,233
250+	6	50.0	50.0	561	79,915
Goods and services exporters	**138**	**37.8**	**46.7**	**1,265**	**300,795**
less than 10	30	30.0	30.0	4	772,677
11-49	33	36.4	27.3	24	186,973
50-249	33	45.5	45.5	122	161,174
250+	39	38.5	76.9	4,210	144,176

Note: Firms counts have been randomly rounded
Source: Authors' calculation

7 The difference in the proportion of GSE exports vs. GSE and GSE vs. SE with FDI and RD is significant at the 1% level. See Table 8 in Appendix A.

Examining patterns of R&D across different sized firms, the proportion of firms undertaking R&D is concentrated among firms with over 50 employees for GEs and SEs. However, among GSEs the distribution of firms undertaking R&D is relatively more evenly spread across all four firm size classes. This indicates that R&D is relatively more prevalent among GSEs irrespective of size. FDI on the other hand is concentrated among the bigger firms across all three exporters.

The average value added per employee, a very crude measure of labour productivity, decreases with size for all three types of exporters. However, this measure does not account for capital and industry specific factors that might influence productivity.

4.2 Predominantly goods or services?

In general, GSEs earn nearly 90% of their export receipts from the goods they export, and only 10% of their receipts from services exports. Nonetheless, in aggregate GSEs services exports are a significant share of total NZ services export receipts. The export receipts from services by this small group of exporters exceed that of SEs by a factor of 1.5, despite there being five times more SEs than GSEs. The goods receipts of GSEs are not as significant relative to total goods receipts although at just under 70% of the export receipts of GEs this is still sizeable, especially if considering the number of firms in each group.

Table 3: Export receipts

Row Labels	Count of firms	Total Goods Export Receipts	Services Export Receipts	Total Export Receipts
Goods only exporters	2,898	8,106,166,362	-	8,106,166,362
Services only exporters	540	-	417,440,000	417,440,000
Goods and services exporters	138	5,539,462,048	641,750,000	6,182,387,885

Note: Firms counts have been randomly rounded
Source: Authors' calculation

The share of export receipts by firm size suggests that among GEs, the minority (2.1 percent) of firms (those with more than 250 employees) account for the majority of export receipts (54.2 percent) while the majority of firms (those with less than 10 employees, 52.2 percent) only account for 14.2 percent of export receipts. The small number of big firms accounting for a disproportionate share of exports receipts is also true for SEs, for example the 0.2 percent of all SEs with 250+ employees account for 5.0 percent of total services export receipts.

In the case of GSEs, firms with less than 10 employees are more service oriented with greater export receipts coming from services exports than goods exports. In contrast, larger GSEs (i.e. employees of 10 or more) are more oriented towards goods exports than services exports. The degree increases with size, to the extent where those GSEs with 250 or more employees earn less than ten percent of their export receipts from services. Overall, however, amongst GSEs (as with GEs) it is the 250 plus-sized firms that account for the majority of export receipts; 92.6 percent of goods exports and 72.8 percent of total services exports. The services export receipts from this sub-group of GSEs exceeds that of total SEs.[8]

[8] The averages also paint a similar picture.

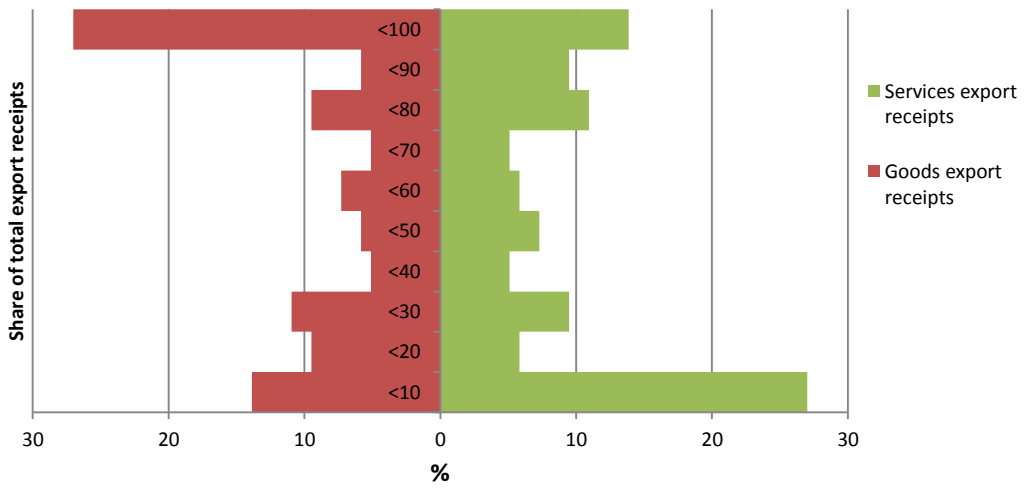
Table 4: Export receipts by firm size

Row Labels	Count of firms	Total Goods Export Receipts	Services Export Receipts	Total Export Receipts
Goods only exporters	**2,898**	**8,106,166,362**	**-**	**8,106,166,362**
less than 10	1,515	1,152,498,264	-	1,152,498,264
10-49	1,026	1,049,144,764	-	1,049,144,764
50-249	297	1,508,314,881	-	1,508,314,881
250+	60	4,396,208,453	-	4,396,208,453
Services only exporters	**537**	**-**	**417,440,000**	**417,440,000**
less than 10	378	-	139,957,000	139,957,000
10-49	120	-	94,018,000	94,018,000
50-249	33	-	162,728,000	162,728,000
250+	6	-	20,737,000	20,737,000
Goods and services exporters	**135**	**5,539,462,048**	**641,750,000**	**6,182,387,885**
less than 10	30	25,342,024	35,106,000	60,448,024
10-49	33	103,655,734	64,179,000	167,623,905
50-249	33	283,657,677	75,397,000	359,069,284
250+	39	5,126,806,613	467,068,000	5,595,246,672

Note: Firms counts have been randomly rounded
Source: Authors' calculation

For each of the 137 GSEs the share of total exports attributable to goods and to services can be examined. Figure 1 breaks down total exports of GSEs and reports on the proportion of firms with goods and services export shares falling within the specified range. This also confirms the conclusion that GSEs are predominantly goods oriented. As can be seen (Figure 1) a greater proportion (32.8 percent) of GSEs get 80 percent or more of their export receipts from goods than services exports. This compares with 23.4 percent of GSEs getting more than 80 percent of total export receipts from services exports. The average GSEs received 54.3 percent of the total export receipts from goods and the remaining 45.7 percent of export receipts from services.

Figure 1: Breakdown of total exports - Goods and Services Exporters



Source: Authors' calculation

4.3 Export markets

The 2011 ITSS census results suggested that the pattern of NZ's trade in commercial services is very different to that of goods exports. Goods exports in value terms were concentrated in Asia whereas services exports were relatively more focussed towards Australia, North America and the United Kingdom. According to a recent OECD report, the market for business services is concentrated in high-income countries where most firms operate and in particular have their headquarter activities. This could explain NZ's services export destination profile. It also reflects NZ's key investment relationships.

It is of interest to investigate whether GSEs are more likely to align to the pattern of NZ's overall markets for goods (given this is typically the vast majority of the export business those firms do) or align more with the overall pattern of services trade. Since the value of trade at the bilateral level by type of exporter was confidential, we report on the count of firms exporting to a particular destination. Figures 2 and 3 represent the proportion of firms exporting to a particular market. A firm can export to multiple markets in which case they would be counted multiple times. The destination markets for goods exports are obtained from the customs dataset while service destination markets are obtained from the ITSS census.

A greater proportion of GSEs than SEs are focused on Asian markets. Additionally, a greater proportion of GSEs export to Other Oceania, Africa and Middle East, and South America.

Figure 2: Export Markets – Services exports

Source: Authors' calculation

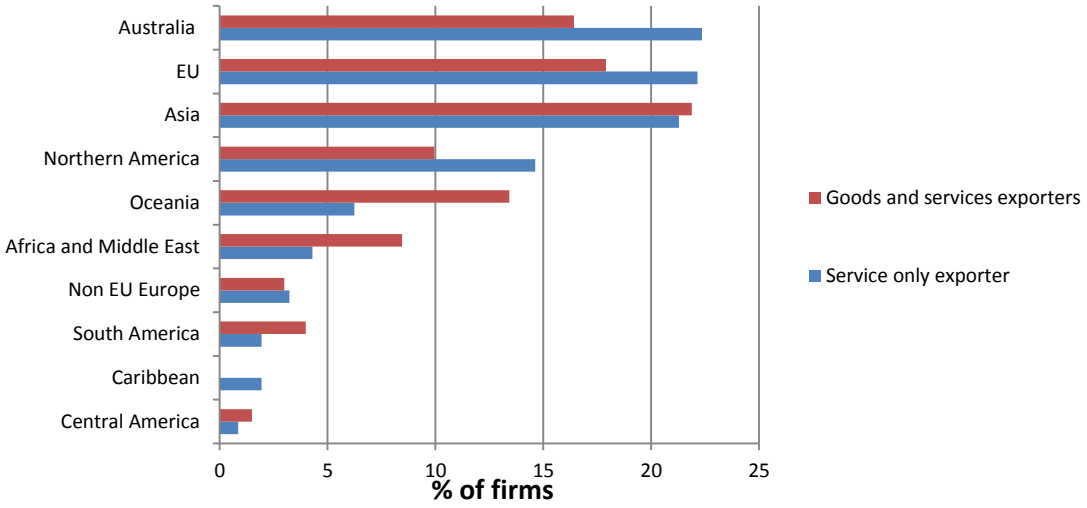
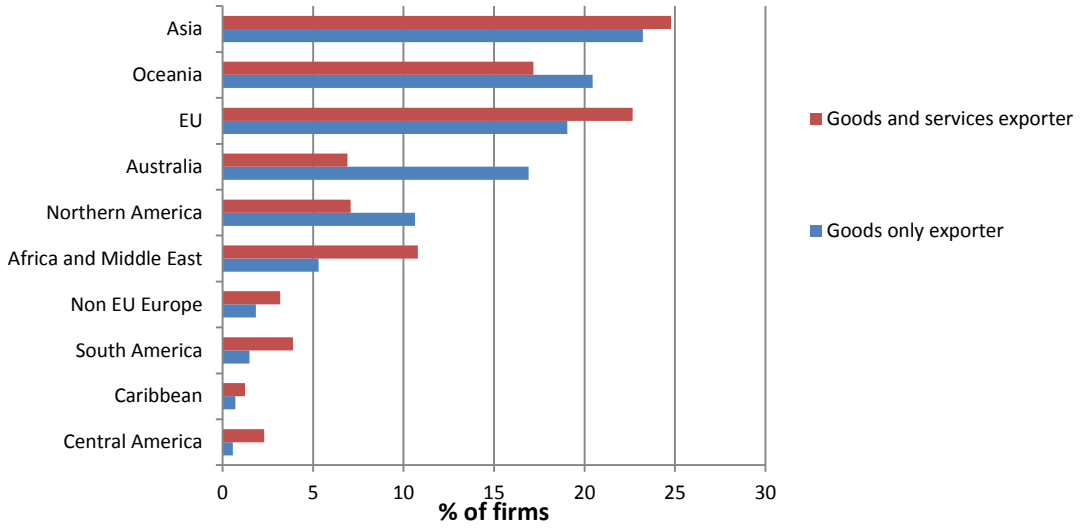


Figure 3: Export Markets – Goods exports



Source: Authors' calculation

Asia is once again a key goods target market among GSEs with a greater proportion of firms exporting to Asia than for GEs. The EU followed by Oceania, Africa and Middle East are other key markets for goods among GSEs. GSE exporters also have a relatively greater presence in smaller markets like Non-EU Europe, South America, Caribbean and Central America. This is also reflected in the average number of countries targeted by goods and service exporters.

Table 5: Average number of markets

Row Labels	Count of firms	Average number of countries targeted by goods exporters	Average number of countries targeted by service exporters
Goods only exporters	**2,898**	**4**	**-**
less than 10	1,515	3	-
10-49	1,026	4	-
50-249	297	7	-
250+	60	16	-
Services only exporters	**537**	**-**	**3**
less than 10	378	-	2
10-49	120	-	3
50-249	33	-	7
250+	6	-	8
Goods and services exporters	**135**	**12**	**4**
less than 10	30	4	3
10-49	33	6	3
50-249	33	8	3
250+	39	28	8

Note: Firms counts have been randomly rounded
Source: Authors' calculation

Table 5 summarises the average number of goods and services market targeted by the different types of exporters. An average GSE was found to export to 12 goods markets compared to just four markets by a GE. The substantial difference in the average number of markets is largely

driven by the firms with 250+ employees who export to, on average, 28 markets. The number of services markets targeted by this group of firms is, however, not considerably different to that of a SE i.e. four markets vs. three for SEs. The difference in the average number of goods and services markets targeted by GSEs could potentially reflect the nature of restrictions to service exports vis-à-vis merchandise goods.

Research looking at the choices merchandise goods exporters make about what to export and where to (Fabling, Grimes and Sanderson, 2008) found that a firm is more likely to introduce a new product to a market where they have an established trade relationship, i.e. sunk costs are an important determinant of export market entry. Depending on the nature of the goods and services bundle, the relatively slender presence of these exporters in service markets could also be capturing the existence of sunk cost to entry.

Or alternatively, it could be that GSEs provide services along with goods exports at the outset, only to outsource these activities to subsidiaries at a later stage i.e. they reduce the number of markets they directly provide services to overtime (Walter and Dell'mour, 2010). This particular analysis is not able to identify if out-sourcing of the service is an option, or if services exports are more likely to occur after goods exports (potentially after the firm has established a presence in the market). However, better understanding the industry that GSEs operate in, and the potential linkages between the goods and services bundle that they export, could be insightful.

4.4 Where do they belong?

It is of interest to understand the industry groups that exporters belong to in order to get a better understanding of their place in the economy.[9] Table 6 summarises the firm count by industry groupings, using the ANZSIC codes.

A considerable share of GEs (35.8 percent) belong to the wholesale industry grouping. This grouping captures firms that are mainly engaged in the purchase and on-selling of goods without major transformation to other businesses. Other key industry groups include machinery and equipment manufacturing (8.3 percent) and retail trade (7.5 percent). These three industry groups account for over half of all GEs.

The majority of SEs are in the business services industry (65.9 percent). Wholesale trade and cultural and recreational services are the second and third most important industries with 5.6 percent and 4.5 percent of all SEs covered in these industry groups.

The distribution of GSEs by industry is consistent with that of GEs and SEs: wholesale trade accounts for 31.1 percent of GSEs in our sample; business services, and machinery and equipment account for 20.0 percent and 8.9 percent respectively. Given the small number of firms across a number of industries, the value of exports by industry cannot be presented here for confidentiality reasons.

[9] The industry group is allocated based on employee count.

Table 6: Firm Count by Industry and Type of Exporters

Industry Groups	Count of firms		
	Goods only exporters	Services only exporters	Goods and services exporters
Wholesale trade	1,038	30	42
Business services	171	354	27
Machinery and equipment manufacturing	240	6	12
Construction	63	3	9
Cultural and recreational services	27	24	9
Retail trade	210	12	3
Structural, sheet and fabricated metal product manufacturing	123	3	3
Other food manufacturing	84		3
Services to transport	57	21	3
Printing, publishing and recorded media	54	6	3
Non-metallic mineral product manufacturing	21		3
Communication services	6	3	3
Mining and quarrying	6		3
Air transport	3	3	3
Electricity generation and supply and Gas Supply	-		3
Rubber, plastic and other chemical product manufacturing	129	6	-
Textile and apparel manufacturing	114		-
Furniture and other manufacturing	105	3	-
Wood product manufacturing	69		-
Beverage and malt manufacturing	39		-
Petroleum and industrial chemical manufacturing	18		-
Personal and other community services	15	-	-
Services to agriculture, hunting and trapping	9		-
Water transport	6	3	-
Dairy product manufacturing	6		-
Finance	3	9	-
Insurance		-	-
Transport equipment manufacturing	75	3	
Horticulture and fruit growing	45	3	
Other farming	24		
Meat and meat product manufacturing	21		
Basic metal manufacturing	18		
Equipment hire and investors in other property	15	6	
Accommodation, restaurant and bars	15	3	
Real estate	12	3	
Forestry and logging	12	-	
Paper and paper product manufacturing	9		
Health and community services	6	9	
Fishing	6		
Livestock and cropping farming	6		
Road transport	6		
Education	3	6	
Oil and Gas exploration and extraction	3	-	
Rail transport	3		
Services to finance and insurance	-	21	
Grand Total	**2,898**	**537**	**135**

Note: Firms counts have been randomly rounded
Source: Authors' calculation

4.5 Goods and Services Links

The emerging literature on goods and services exports (also referred to as embedded services exporters) often assumes that goods exports precede services exports (ABAC 2011). This cannot be verified using the LBD given the survey nature of the dataset. The data can, however, be used

to determine the primary services type by goods export, and primary goods export by service type, to learn more about the 'bundle' of goods and services that a goods and services exporter provides.

Table 7: Primary Goods export and Primary Service Export by Industry

Business services	Wholesale trade
Machinery	**Fruit**
IT design and development services	Management fees between you and any foreign parent or subsidiary
Engineering consultancy services	Management consultancy services
Royalties and license fees received for computer services	**Animals**
IT technical consulting and support services	Other royalty payments received/made
Management fees between you and any foreign parent or subsidiary	Commission agent services for trade in goods
Other Miscellaneous Services	**Wool**
Furniture	Commission agent services for trade in goods
Advertising and market research	**Machinery**
Accounting, tax, and auditing services	Repair or refurbishing services
Electrical Machinery	Management fees between you and any foreign parent or subsidiary
IT design and development services	IT technical consulting and support services
Royalties and license fees received for computer services	Hosting and IT infrastructure provisioning services
Research and development services	Other Miscellaneous Services
Books	IT design and development services
Other royalty payments received/made	Management consultancy services
Photographic	**Electrical Machinery**
Technical, testing and analytical services	IT design and development services
Engineering consultancy services	Management consultancy services
Chemical products n.e.c.	Advertising and market research
Research and development services	Internet access and telecommunication services
Misc. Metal Articles	**Aluminium && Articles**
Operational leasing services	IT technical consulting and support services
Beverages, Liquor	**Trees**
Consultancy services not elsewhere classified	Other royalty payments received/made
Machinery and equipment manufacturing	**Pharmaceutical**
Electrical Machinery	Technical, testing and analytical services
Other data processing	Commission agent services for trade in goods
Hosting and IT infrastructure provisioning services	**Photographic**
Other telecommunication services	Internet access and telecommunication services
IT design and development services	Advertising and market research
IT technical consulting and support services	Management fees between you and any foreign parent or subsidiary
Machinery	Commission agent services for trade in goods
Management fees between you and any foreign parent or subsidiary	Engineering consultancy services
Royalties and license fees received for computer services	**Oils, Cosmetics**
Construction and installation services	Warranty claims
Engineering consultancy services	**Stone**
Management consultancy services	Engineering consultancy services
	Oil Seeds
	Other Miscellaneous Services
	Plastic
	Management fees between you and any foreign parent or subsidiary
	Commission agent services for trade in goods
	Synthetic Fibres
	Management fees between you and any foreign parent or subsidiary
	Meat
	Commission agent services for trade in goods
	Misc. Vegetable Preparations
	Other royalty payments received/made
	Furniture
	Management consultancy services
	Books
	Commission agent services for trade in goods
	Toys
	Commission agent services for trade in goods

Source: Authors' calculation

For each GSE the primary good export is determined as the good that accounts for the majority of export receipts. Similarly, the primary service export is determined as the service that accounts for the majority of services export receipts. The industry, together with the primary good export and primary service export is summarised in Table 9 in Appendix A. The results for the top three industries (in terms of firm count) is summarised in Table 7.

In the case of wholesale trade, there is a wide range of goods and services bundles. The more prevalent services types associated with the considerable range of goods are commission agent's services fees and management fees between parent and subsidiary. This is not surprising given the nature of the industry.

The goods associated with firms in the business services industry are manufacturing related and the services associated with this are largely services considered to be high value added such as IT, design and development services; engineering and consultancy services, research and development services and royalties and licence fees received for computer services.

This is also the case with GSEs operating in the machinery and equipment manufacturing industry. The primary goods exports are electrical machinery and machinery, and the services associated are largely high value embedded services such as hosting and IT infrastructure provisioning services, construction and installation services etc.

In addition to logical goods and services bundles, there are occasionally less obvious good, service, and industry combinations, for example, wool and other telecommunications services exports by a firm in the finance industry. Some of the peculiarities could potentially be attributable to the way in which the industry and primary good and service are allocated. Further exploration of the goods and service bundles using more recent data would be useful.

5. Conclusion

NZ's economic future is largely dependent on growing its exports in a fast changing and increasingly competitive global economy, where mass production is shifting to low cost producer economies and trade is increasingly fragmented along value chain. In this environment, there is an imperative to try and identify export growth engines and the characteristics of high(er) performing exporting firms.

This paper extended on Charteris and Saravanaperumal (2010) and took a closer look at the interesting group of firms that export both goods and services and which potentially could play a critical role in lifting NZ's economic performance.

The paper found that whilst only a small proportion of NZ firms (3.9%) export both good and services (GSE), it is these firms, which appear to evidence above-the-line characteristics, in terms of contribution (and potential contribution) to growth. These GSE firms were bigger in size, had higher value added, had a greater proportion of firms undertaking R&D and a higher proportion of firms with some levels of FDI.

These goods and services exporters have a greater emphasis in their export receipts on goods than services. Yet their export receipts from services exports exceeds that of service only exporters (SEs). The markets GSEs export to are also more diversified with an average of 12 markets for their goods and 4 markets for their services exports. This compares with an average of four markets among goods only exporters (GEs) and three markets among service only exporters (SEs).

In terms of industry composition, the industry within which the largest proportion of GSEs operate is the wholesale industry group (31.3 percent of all GSE firms). Other key industry groups that GSEs feature relatively heavily in include business services (20.0 percent); and machinery, and equipment (8.9 percent).

Investigating the goods and services bundle exported by these firms gave some expected results. For example, the most prevalent service type among GSEs exporting a wide range of goods in the wholesale industry includes commission agent's services fees and management fees between parent and subsidiary – unsurprising given the nature of the industry. The goods associated with GSEs in the business services industry were manufacturing related and the services associated with this are largely services considered to be high value added such as IT, design and development services; engineering and consultancy services, research and development services and royalties and licence fees received for computer services. This is also the case with GSEs operating out of the machinery and equipment manufacturing industry. There are also, however, a few good and service combinations that are less obvious.

We will shortly be able to examine the same data series using 2011 material. This will be useful to reinforce whether these findings are consistent through time, or reveal any recent trends. This may throw up additional insights into firm characteristics that warrant being nurtured and emulated. A follow-up study could explore whether these characteristics are inherently embedded in these conjoint ('good and services') exporters (GSEs); whether these types of firms permit a stronger reach into global value chains as a consequence (the new global business reality) and; whether the breadth of export markets of these GSEs (an average of 12 markets for their goods but only 4 markets for their related services) tells us something about the nature of restrictions to service exports vis-à-vis merchandise goods.

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7. Appendix A

Table 8: T-test for key variables – testing whether there are significant differences for GSEs vs. GEs and GSEs vs. SEs

	GSE vs. GE			
	FDI	**RD**	**Employee Count**	**Goods Exports**
All firms	+***	+***	+***	+**
less than 10	+	+**	-	+
10-49	+	+**	+	+
50-249	+**	+	+***	+
250+	+***	+	+***	+
	GSE vs. Se			
	FDI	**RD**	**Employee Count**	**Services exports**
All firms	+*	+***	+***	+***
less than 10	+	+**	+**	+**
10-49	-	+**	+**	+
50-249	+	+	+	-
250+	+***	-	+***	+*

Significant at the *** 1%, **5% and *10% levels

Source: Authors' calculations

Table 9: Primary Goods export and Primary Service Export by Industry

Air transport	Dairy product manufacturing	Wholesale trade
Aircraft	**Dairy**	**Fruit**
Repair or refurbishing services	Other royalty payments received/made	Management fees between you and any foreign parent or subsidiary
Beverage and malt manufacturing	**Electricity generation and supply and Gas Supply**	Management consultancy services
Beverages, Liquor	**Electrical Machinery**	**Animals**
Warranty claims	Engineering consultancy services	Other royalty payments received/made
Legal services	**Finance**	Commission agent services for trade in goods
Business services	**Wool**	**Wool**
Machinery	Other telecommunication services	Commission agent services for trade in goods
IT design and development services	**Furniture and other manufacturing**	**Machinery**
Engineering consultancy services	**Wood**	Repair or refurbishing services
Royalties and license fees received for computer services	Other royalty payments received/made	Management fees between you and any foreign parent or subsidiary
IT technical consulting and support services	**Insurance**	IT technical consulting and support services
Management fees between you and any foreign parent or subsidiary	**Furniture**	Hosting and IT infrastructure provisioning services
Other Miscellaneous Services	IT design and development services	Other Miscellaneous Services
Furniture	**Machinery and equipment manufacturing**	IT design and development services
Advertising and market research	**Electrical Machinery**	Management consultancy services
Accounting, tax, and auditing services	Other data processing	**Electrical Machinery**
Electrical Machinery	Hosting and IT infrastructure provisioning services	IT design and development services
IT design and development services	Other telecommunication services	Management consultancy services
Royalties and license fees received for computer services	IT design and development services	Advertising and market research
Research and development services	IT technical consulting and support services	Internet access and telecommunication services
Books	**Machinery**	**Aluminium && Articles**
Other royalty payments received/made	Management fees between you and any foreign parent or subsidiary	IT technical consulting and support services
Photographic	Royalties and license fees received for computer services	**Trees**
Technical, testing and analytical services	Construction and installation services	Other royalty payments received/made
Engineering consultancy services	Engineering consultancy services	**Pharmaceutical**
Chemical products n.e.c.	Management consultancy services	Technical, testing and analytical services
Research and development services	**Mining and quarrying**	Commission agent services for trade in goods
Misc. Metal Articles	**Machinery**	**Photographic**
Operational leasing services	Operational leasing services	Internet access and telecommunication services
Beverages, Liquor	**Non-metallic mineral product manufacturing**	Advertising and market research
Consultancy services not elsewhere classified	**Mineral Fuels**	Management fees between you and any foreign parent or subsidiary
Communication services	Construction and installation services	Commission agent services for trade in goods
Electrical Machinery	**Machinery**	Engineering consultancy services
Other telecommunication services	Management consultancy services	**Oils, Cosmetics**
Books	**Other food manufacturing**	Warranty claims
Postal and courier services	**Fish**	**Stone**
Fish	Other royalty payments received/made	Engineering consultancy services
Other telecommunication services	**Animals**	**Oil Seeds**
Paper	Management fees between you and any foreign parent or subsidiary	Other Miscellaneous Services
Management fees between you and any foreign parent or subsidiary	**Fat, Oil**	**Plastic**
Construction	Management consultancy services	Management fees between you and any foreign parent or subsidiary
Machinery	**Personal and other community services**	Commission agent services for trade in goods
Construction and installation services	**Plastic**	**Synthetic Fibres**

Engineering consultancy services	Management fees between you and any foreign parent or subsidiary	Management fees between you and any foreign parent or subsidiary
Consultancy services not elsewhere classified	**Petroleum and industrial chemical manufacturing**	**Meat**
Photographic	**Wool**	Commission agent services for trade in goods
Repair or refurbishing services	Advertising and market research	**Misc. Vegetable Preparations**
Aluminium && Articles	**Chemical products n.e.c.**	Other royalty payments received/made
Engineering consultancy services	Research and development services	**Furniture**
Iron or steel articles	**Printing, publishing and recorded media**	Management consultancy services
Engineering consultancy services	**Paper**	**Books**
Cultural and recreational services	Management consultancy services	Commission agent services for trade in goods
Electrical Machinery	**Retail trade**	**Toys**
Other royalty payments for musical works and/or sound recordings	**Photographic**	Commission agent services for trade in goods
Other telecommunication services	Research and development services	**Wood product manufacturing**
Other royalty payments received/made	**Leather**	**Pulp**
Machinery	Management consultancy services	IT design and development services
Audio visual and related services	**Apparel knitted**	**Textile and apparel manufacturing**
IT design and development services	Other royalty payments received/made	**Footwear**
Commission agent services for trade in goods	**Rubber, plastic and other chemical product manufacturing**	Other Miscellaneous Services
Photographic Equipment	**Chemical products n.e.c.**	**Water transport**
Audio visual and related services	Research and development services	**Wood**
Toys	**Photographic**	Other Miscellaneous Services
Other cultural and recreational services	Other royalty payments received/made	**Structural, sheet and fabricated metal product manufacturing**
Photographic	**Services to agriculture, hunting and trapping**	**Machinery**
Audio visual and related services	**Fruit**	Engineering consultancy services
Instruments	Accounting, tax, and auditing services	**Misc. Metal Articles**
Performance and Sport	**Services to transport**	Technical, testing and analytical services
	Electrical Machinery	**Tools && Cutlery**
	Technical, testing and analytical services	Commission agent services for trade in goods
	Construction and installation services	**Aluminium && Articles**
	Clocks	Engineering consultancy services
	Other Miscellaneous Services	
	Photographic	
	Other Miscellaneous Services	