



The NZ-US trade relationship

Stability and diversity in a time of change

Final report, February 2022



SENSE PARTNERS

DATA LOGIC ACTION



Key points

The New Zealand-US Council has commissioned Sense Partners to provide an independent overview of the bilateral economic relationship.

Our data analysis and case studies demonstrate the breadth of commercial links between New Zealand and the US

- The bilateral trade relationship has grown steadily over the past 15 years, averaging over 5% annual growth. Pre-COVID, bilateral trade was over NZ\$21 billion.
- The US remains a vital trading partner for New Zealand, ranking 3rd for goods exports and imports, and – since COVID's arrival in early 2020 – New Zealand's largest services market.
- The US's share of New Zealand's goods exports and imports has stabilised at around 10% since the late 2000s.
- The share of New Zealand's services exports is over 22%.

New Zealand's export profile is becoming more diversified: services trade has become more important

- Our qualitative and quantitative analysis tells a story of a modernising trade and investment relationship that is changing over time in response to market dynamics and shifts in consumer preferences.
- Services trade has become increasingly important, and (pre-COVID) accounted for almost 46% of New Zealand's total exports to the US.
- Bilateral services trade grew by an average of 8% from 2007 to 2019. By 2019, New Zealand exports of services to the US were NZ\$1.36 billion more than its agricultural exports.
- While tourism has traditionally been an important part of the services relationship, there is considerable momentum and scale outside of travel too.
- New Zealand's exports of computer-related services have doubled over the past four years and now account for around 25% of services exports to the US, for example.

Traditional pastoral goods exports are changing in nature...

- A range of meat and dairy products continue to feature prominently in New Zealand's largest goods exports to the US. But their composition is changing. Pet food is now a larger New Zealand export to the US than butter or boneless fresh/chilled lamb, for example.
- Dairy exports are also now highly diversified across a range of high-value specialised dairy products, such as milk protein concentrates, whey protein concentrates, casein and caseinates. Exports to the US also represents a key volume to value story. In 2006



the volume of New Zealand dairy exports to the US peaked at around 193kMT, valued at US\$663m. In 2020, the value of New Zealand exports to the US was US\$544m, but with a volume of only 95kMT.

- US dairy exports to New Zealand have also grown significantly over recent years for products such as lactose and milk permeate, reflecting increasingly integrated global value chains (US dairy exports were valued at approximately NZ\$102m in 2020).
- The focus has shifted towards sustainability, investment, collaboration around ingredients and supplying downstream markets such as the sports and active, medical paediatric, foodservice and organic sectors.

...and being supplemented with horticultural products

- Wine – primarily Marlborough Sauvignon Blanc – is now the second largest primary goods export (NZ\$625 million in 2020, with average growth of over 10% per year since 2010). Around 17% of this by value is bottled in market and sold under US brands, rather than arriving as a final retail product.
- Kiwifruit (17% average growth since 2010) and Mānuka honey (31% average growth) exports have also grown strongly.
- Frozen mussels (NZ\$65 million) have overtaken frozen fish exports (NZ\$29 million) as the most important seafood export to the US in the past five years.

Innovative, hi-tech manufactured goods and services are supporting US firms' productivity

- New Zealand may not perhaps be thought of as an advanced manufacturing and services hub, but the data and case studies in this report demonstrate that pockets of expertise have developed in a wide range of niche areas.
- Some are innovative spin-offs from New Zealand's traditional agricultural strengths, such as fruit sorting and packaging machinery going into US packhouses, and electric farm bikes. For example, New Zealand's exports of packaging, grading, sorting and shrink-wrapping equipment to the US were NZ\$64 million in 2020, larger than its apple exports (NZ\$59 million).
- These capital goods are forming important, efficiency-enhancing cogs in US primary producers' supply chains.
- Others relate to New Zealand's burgeoning, private-sector led 'New Space' sector, including aviation technology (e.g. unmanned air taxis). These space-related goods and services are supported by an enabling regulatory system that seeks to make New Zealand attractive as a test-bed for collaborative ventures between New Zealand and the US.
- Electromagnets and electrical static convertors between them accounted for NZ\$122 million of New Zealand exports to the US in 2020, a similar value to its exports of Anhydrous Milk Fats, for example.



New Zealand exporters are responding to US consumer demands for quality healthcare, medical and lifestyle products

- At NZ\$260 million in 2020, sleep apnoea machines now account for a larger share of New Zealand's exports to the US than timber or casein.
- Beauty products (especially skincare) and nutraceuticals are displaying strong growth too (28% per year since 2010, albeit from a low base), often based on unique New Zealand ingredients and traditional knowledge.
- Antisera and other blood fractions (a by-product from cows) are exported from New Zealand to the US and used to support pharmaceutical and medical research. This NZ\$50 million export industry, based on US investment in rural Manawatu, did not exist just five years ago.
- The wider agriculture sector also makes a valuable contribution to healthcare and health outcomes, often in unanticipated ways. The COVID-19 pandemic saw a rapid surge in demand for hydrolysates, a whey protein used to make easy-to-absorb protein beverages. These are used in healthcare to provide nutrition to intubated patients, with large quantities shipped to the US.¹

Our case studies highlight the value of relationships and cooperation

- New Zealand has some advantages in conducting research and development, particularly in areas related to agriculture. While the pool of talent in places like the US is deeper, there is also much greater competition. New Zealand universities are recognised globally and produce a consistent stream of well-qualified domestic workers. With less competition for that talent, the cost is also lower.
- With high quality regulatory settings, various mutual recognition agreements, lower cost labour, and ease of travel between New Zealand and other countries (outside of pandemics), the case studies in this report highlight that New Zealand is a good option for R&D activities. In addition, government support for R&D was rated highly by some case study participants, with regulatory agility a big positive in the aerospace sector.
- Industries that draw on skills from or related to agriculture find it relatively easy to get the needed talent locally. This extends to skills which have long been a core part of tertiary curriculums and qualifications in New Zealand, such as engineering.
- For newer industries, particularly gaming, finding that talent domestically is much more challenging. Game development qualifications are still a new offering in tertiary education and still do not extend to some core skills, like game design. As a result,

¹ Fonterra. 2020. *Milk helping in the fight against COVID-19*. Published May 27. <https://www.fonterra.com/lk/en/our-stories/articles/milk-helping-in-the-fight-against-covid-19.html>



there is no pool of senior local talent to draw on, and finding those skills overseas is made challenging by immigration barriers.

- Relationships were a consistent theme throughout our case studies. Those doing business in the US stressed the importance of meeting in-person, making frequent journeys to the US, and having a presence within the US market.
- Our agriculture sector is focused on high quality, premium products. Given our remoteness and small scale, we cannot compete on the scale of US and other producers. This means there is less direct competition with US producers, and more scope for cooperation.
- Examples of cooperation include dairy, with Fonterra partnering with US based producers to produce high quality whey and protein products using Fonterra IP. Kiwifruit is another example, with a focus on growing overall consumer demand rather than competing against US producers.

The overall picture from our research is a **mature relationship with pockets of dynamism that is poised to evolve to the benefit of both countries.**



1. Objectives and scope

Sense Partners has been engaged by the New Zealand US Council to provide a stocktake of the New Zealand-US bilateral relationship from an economic perspective.

We focus on the evolution of the scale and composition of bilateral goods trade, services trade and investment to illustrate the changing nature of the commercial relationship.

This quantitative analysis is supplemented with twelve case studies of New Zealand businesses that collectively demonstrate the innovation and creativity that characterise the way New Zealand and US firms do business together.



2. Overview of bilateral economic relationship

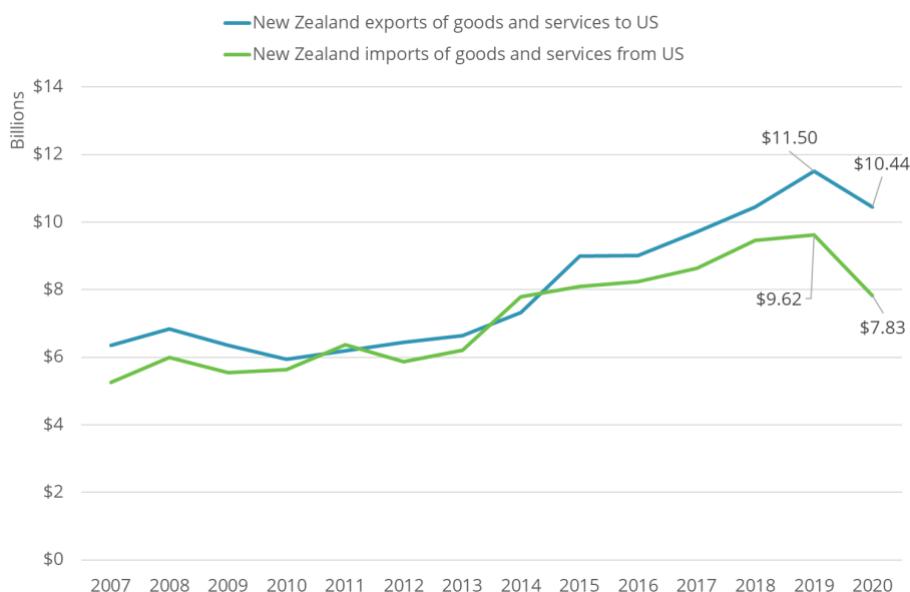
2.1. The big picture

The New Zealand-US trade relationship was valued at over NZ\$21 billion prior to COVID-19

The bilateral trade relationship has grown steadily over the past 15 years, until COVID-19 dented the trend in 2020. Combined bilateral trade in goods and services grew by an average of 5.1% per year from 2007 to 2019.²

New Zealand's exports of goods and services to the US grew by an average of 5.1% per year between 2007 and 2019, marginally slower than the average growth in US exports to New Zealand of 5.2%.

Figure 1 Bilateral trade in goods and services, NZ\$ billions



Source: Global Trade Atlas, StatsNZ

COVID-19 has hammered tourism but goods trade has stayed robust

The drop in New Zealand exports to the US in 2020 is almost entirely a services story. As outlined below in section 0, closed borders due to COVID-19 knocked NZ\$1.3 billion off New Zealand's services exports to the US in 2020 as tourism and travel ceased.

New Zealand's goods exports to the US have in fact continued to grow through the pandemic, up by 18.3% or NZ\$1.0 billion between 2019 and 2020. While there has been disruption in

² Bilateral services data is not available from StatsNZ prior to 2007.



some export categories, this is likely to be temporary. The strong global recovery will drive increased demand for New Zealand export products.

Taste Pure Nature: Partnering with US companies to grow awareness³

The strong growth in red meat exports to the US reflects increasing demand among well-being-conscious US consumers for products that are healthy and good for the environment. New Zealand grass fed beef and lamb are highly appealing to this market segment, but awareness of New Zealand beef and lamb among consumers is relatively low.

This is where the Taste Pure Nature campaign, led by Beef+Lamb New Zealand, comes into play. The objective is to lift consumer awareness of New Zealand red meat products and create higher demand and value. This is being achieved not only through traditional marketing, such as advertisements, but also via partnerships with US companies and retailers.

A great example of success is that of Silver Fern Farms, who retail direct to US customers online. A 20% discount paired with the Taste Pure Nature material led to a 370% increase in website visits and a 435% increase in sales revenue.

Silver Fern Farms has also partnered with US companies. Spiceology, a US based food company start-up, created a unique spice blend tailored to Silver Fern grass fed New Zealand beef and lamb. Among target consumers in California, Taste Pure has raised awareness of New Zealand beef and Lamb from 41% to 58%, and preferences for New Zealand beef and lamb from 6% to 13%, and 16% to 23% respectively.

The bilateral goods trade relationship has stabilised in the past decade

The US's share of New Zealand's total goods exports fell steadily in the 2000s from a peak of 15.3% in 2000 to 8.4% in 2010 (Figure 2). This partly reflects the strong growth of other New Zealand export markets in Asia such as China, Singapore, Hong Kong, Indonesia and South Korea.

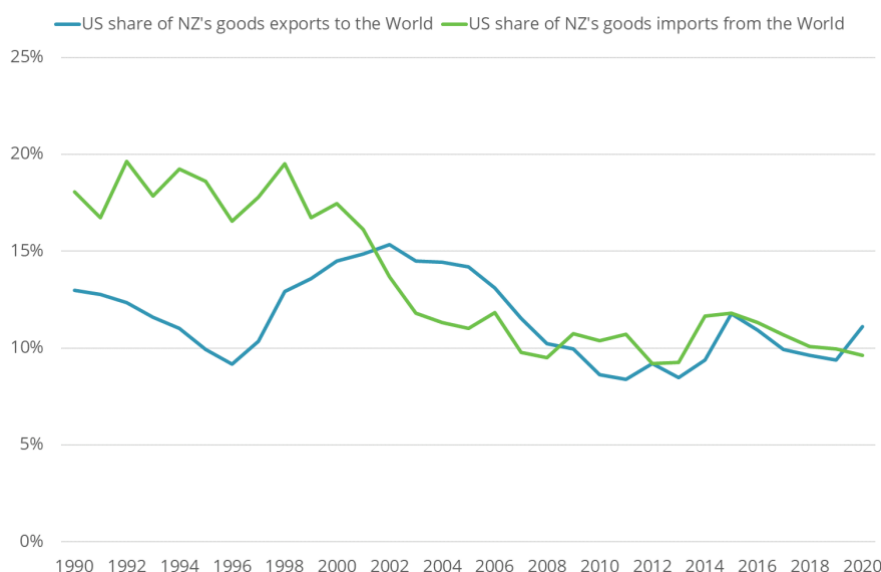
A similar trend is present for the US's share of New Zealand's total goods imports, which declined from almost 20% in the late 1990s to around 10% by 2010. Again, this is primarily due to the explosion of New Zealand imports from China and other Asian economies.

Since then, with some minor variations, the US's share of New Zealand's good trade has stabilised at around 10%. The US is New Zealand's 3rd largest source of goods imports and 3rd largest destination for goods exports (behind China and Australia in both cases).

³ Case study based on discussions with Beef+Lamb New Zealand representatives.



Figure 2 US share of New Zealand's total goods exports and imports



Source: Global Trade Atlas

Kono: leveraging sustainability to create a premium product⁴

Kono is a vertically integrated food and beverage business based in Te Taihupo, the top of the South Island. The company's focus is on high quality, high value beverages, fruit bars, seafood products, pip fruits, and hops.

Wholly owned by Wakatū Incorporation, Kono combines the traditional values of te ao Māori with their business model. This includes a focus on sustainability and conservation. Kono's products are all grown and harvested to high standards of sustainability. This includes being accredited by Sustainable Winegrowing New Zealand, using NZ Pipfruit Integrated Fruit Production methods, and complying with industry environmental codes of practice in seafood.

The focus on sustainability is both values-driven as well as a sound business choice. New Zealand exports are increasingly oriented toward higher value premium products over bulk commodities. This is a function of New Zealand's small scale and large distance from major markets. Increasingly, a core part of achieving high value is sustainability and being environmentally conscious. This is something Kono is well placed to leverage.

Kono also takes the intergenerational perspective that is part of te ao Māori. Wakatū has implemented a 500-year business plan, Te Pae Tawhiti, to guide its business operations and investment decisions. A big focus of this plan is the importance of *whenua*, or land. *Whenua* is culturally significant as a homeland, as well as being a source of sustenance and wealth. Wakatū, conscious of the central role of land, has set out to preserve their land for future generations.

⁴ Case study based on discussions with Kono representatives.



Services account for an increasing share of the trade relationship

The bilateral relationship has been characterised by very strong growth in services trade since 2007 (Figure 3). Both New Zealand and US bilateral exports of services grew by an average of 7.9% between 2007 and 2019. This compares to 3.6% average growth for New Zealand's agricultural goods exports⁵ and 2.8% for non-agricultural goods exports.

Figure 3 Average growth in NZ and US bilateral exports by broad sector



Source: Global Trade Atlas, StatsNZ

In 2019, services were 46% of New Zealand's total exports to the US

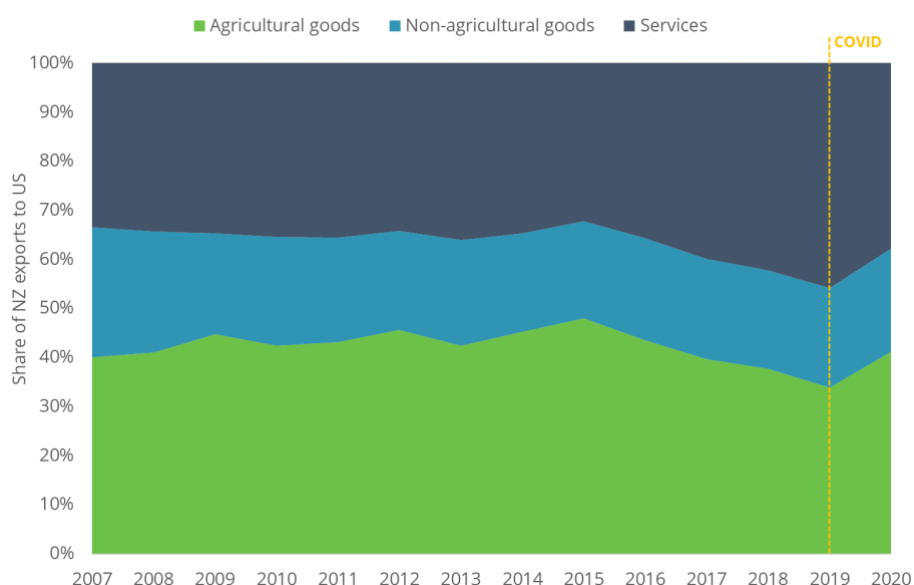
This strong services export growth has led to a shift in the composition of New Zealand's overall exports to the US since 2007 (Figure 4). Until COVID-19 struck, the share of agricultural products had trended slightly down over time and the share of services has risen.

Indeed, in each year between 2017 and 2019, New Zealand exported more services to the US than agricultural products (NZ\$8m more in 2017, NZ\$466m in 2018 and NZ\$1.36 billion in 2019).

⁵ Defined as HS chapters 1-23, plus 35.



Figure 4 Composition of NZ exports of goods and services to the US



Source: Global Trade Atlas, StatsNZ

Kami: digital learning beyond the pandemic⁶

Digital services are a growing export, benefiting from frictionless trade through the internet. While some services, notably tourism, have taken a massive hit during the pandemic, digital services have grown strongly (41% of services exports to the US in 2021⁷). The move from schools to home based learning has been a particular boost for [Kami](#), a digital learning and productivity tool.

Founded in Auckland in 2013, Kami is a digital tool that allows educators to turn any document into an interactive learning tool. Educators can customise resources on the fly, while students have in-app access to annotations, highlighters, and a text to speech tool that can read out selected text. The app integrates with other tools, such as Microsoft 365, Google Classroom, and OneDrive, allowing for a seamless experience.

While uptake has been high through the pandemic (1177% revenue growth over 2019-2021⁸), Kami is not designed solely for remote learning. As students return to the classroom, Kami is returning with them and aiming to grow even further. The company, backed by investors in New Zealand, Australia and the US, is aiming for 100 million users within the next two years.

⁶ Case study based on publicly available information on the [Kami](#) website.

⁷ See Figure 7 on page 5

⁸ Deloitte. 2021. *Fast 50 Index*. <https://www2.deloitte.com/nz/en/pages/deloitte-private/articles/fast-50-index-deloitte-fast-50.html>



3. The changing nature of New Zealand's services trade

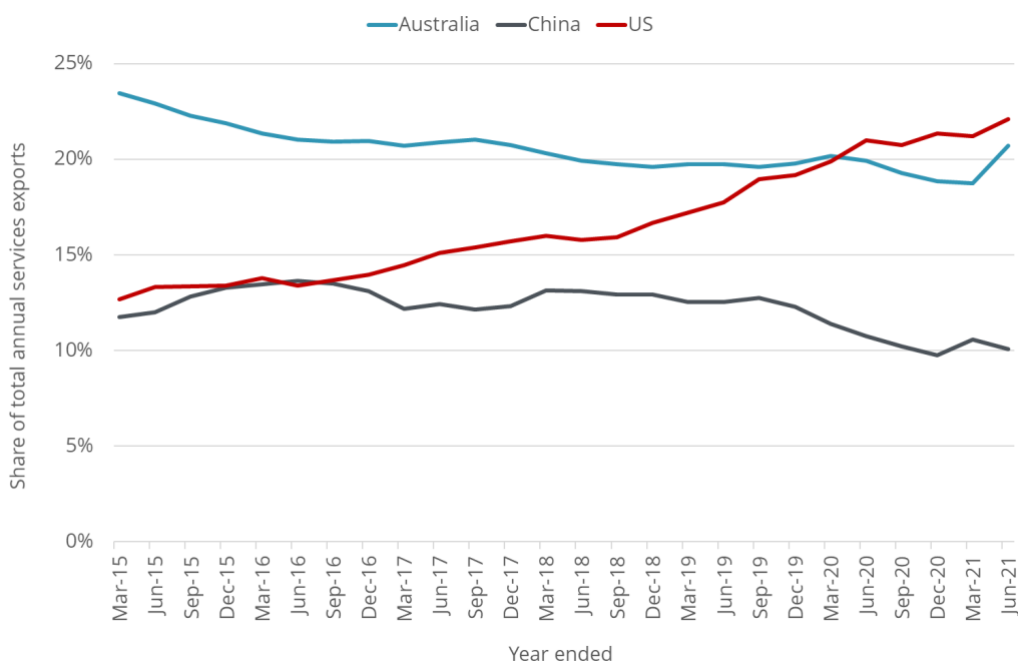
The US is now New Zealand's largest services export market

At 22.1% of New Zealand's total services exports in the year to June 2021, the US is New Zealand's most significant services export market, a position it took in early 2020 ahead of Australia.

This is partly a COVID-19 story, but not entirely. New Zealand's services export profile with the US is less reliant on travel and transportation (i.e. tourism and education) than it is with other countries. Pre-COVID-19, travel accounted for around 49% of New Zealand's services exports to the US, compared to 90% for China, 89% for Japan, 65% for the UK and 51% for Australia.

When borders closed and tourism and education flows ceased, services exports to the US therefore fell proportionately less than other major markets. Its share of New Zealand's total services exports rose as a consequence (Figure 5). However, as Figure 5 also shows, the US's share of New Zealand's total services exports has been trending up for several years.

Figure 5 NZ's services exports to the US, China and Australia



Source: StatsNZ

Dinosaur Polo Club: gaming sector creativity and weightless trade⁹



Figure 6: Mini Motorways

The future of New Zealand services exports to the US is likely to be characterised by innovative small and medium enterprises in the tech sector. Champions of digital exports, such as Xero, are being joined by start-ups in the local gaming industry. [Dinosaur Polo Club](#) is a Wellington based indie studio, and number 12 in the Deloitte Fast 50 2021 index¹⁰.

They rose to prominence in 2016 with the release of in their first title, Mini Metro. This minimalist subway simulation game struck a chord with gamers, winning a suite of awards, including a nomination for best debut in the 2016 BAFTA games awards. The studio has followed this success with Mini Motorways, another well received game, and has further releases in production.

Mini Motorways was developed in partnership with Apple, who sought out Dinosaur Polo Club to develop a flagship product for the launch of Apple Arcade. This is one example of the value of building relationships with major publishers, platforms and other game studios. The studio has formed partnerships with many of the major US based platforms, such as Microsoft, Nintendo USA, and Valve, and 40% of its audience is from the US.

The gaming industry benefits from some unique characteristics of digital services, with effectively borderless trade across the internet. With no physical product to ship, the industry can scale rapidly, leveraging New Zealand's rapid fibre network to do global business locally. As a result, it is a fast-moving industry and new players can emerge and grow rapidly as Wellington's technology hub continues to expand and diversify.

The industry does face a major challenge in securing the talent needed to power growth. The challenge of high global competition for game development skills is compounded by the relative lack of senior talent within New Zealand. There are few options in the tertiary education sector for developing specialised and essential skills such as game design and user experience. This, combined with the fact that many of these roles are not on the government's skills shortage lists, adds a further challenge to sourcing international talent. Partnerships with US companies have proven to be essential in bridging funding and skills gaps.

⁹ Interview based on discussions with Dinosaur Polo Club representatives

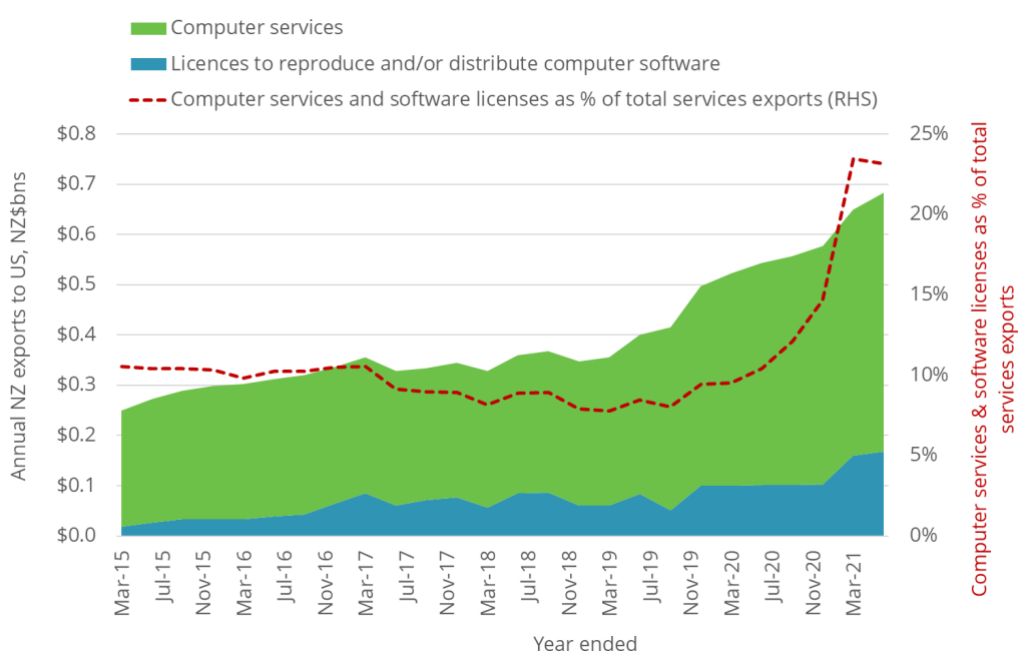
¹⁰ Deloitte. 2021. *Fast 50 Index*. <https://www2.deloitte.com/nz/en/pages/deloitte-private/articles/fast-50-index-deloitte-fast-50.html>



Computer services have supported services export growth and are now account for almost a quarter of services exports to the US

With travel out of the equation, computer services has accounted for a much larger share of New Zealand's services exports to the US. At NZ\$682 million spread across computer services (software and 'other' computer services) and licensing fees, they accounted for 23% of total services exports in the year to June 2021 (Figure 7). [Xero](#) is a well-known New Zealand accounting software exporter supporting business solutions in the US and elsewhere

Figure 7 The rise of computer services exports to the US



Source: StatsNZ

Other significant New Zealand business-related services exports to the US in the year to June 2021 include:

- Trade-related services (NZ\$149.4m)
- Architectural, engineering, scientific and other technical services (\$91.6m)
- Legal, accounting, management consulting, and public relations (NZ\$74.8m)
- Advertising, market research, and public opinion polling (NZ\$61.9m)

Overall, the mix of New Zealand's services exports is now much more focused on providing computer and business services that inform US business decisions and support their growth.



Soul Machines: combining advanced AI and CGI¹¹

What makes Soul Machines Digital People unique is its Digital Brain. This brain powers its Human Operating System, or HumanOS, which gives digital people life-like behaviours and allows them to learn through their interactions.

Digital people see their audience through a device's camera, hear through its microphone, and can detect and react to facial expressions, tone, and emotions. This machine learning is paired with life-like CGI, allowing digital people to express realistic emotions in response to users.

The company, founded in New Zealand, has gone global with offices in San Francisco, Los Angeles, New York City, London, Tokyo, Melbourne and Auckland. Today it is working with major US companies like Google, Amazon Web Services, and Microsoft to enhance customer experiences across the globe.

The US accounts for 15% of New Zealand's services imports

US exports of services to New Zealand peaked at around NZ\$3.5 billion in mid-2019, around 35% of its total exports of goods and services to New Zealand. COVID-19 has seen that drop to NZ\$2.4 billion in the year to June 2021, as Kiwis' personal and business travel to the US fell to almost zero (see Table 1).

Computer-related services from the US to New Zealand totalled around NZ\$582 million in the year to June 2021, highlighting the importance of IT in the bilateral relationship.

The US is New Zealand's second largest source of services imports behind Australia, and its share of New Zealand's total services imports has remained steady at around 15% for the past five years.

¹¹ Case study based on publicly available content from the [Soul Machines](#) website.

*Table 1 Key US services exports to NZ, years to June 2019 and 2021, ranked by June 2019*

Services type	Exports, NZ\$m, year to June 2019	Exports, NZ\$m, year to June 2021
Reinsurance	\$668	\$479
Personal travel	\$577	\$24
Technical, trade-related, and other business services	\$466	\$437
Computer services	\$407	\$516
Professional and management consulting services	\$254	\$238
Licenses to reproduce and/or distribute audiovisual and related products	\$144	\$130
Business travel	\$87	\$25
Licences to reproduce and/or distribute computer software	\$85	\$67
Explicitly charged and other financial services	\$72	\$47
Franchises and trademarks licensing fees	\$56	\$116
Telecommunications services	\$52	\$37
Audiovisual and related services	\$48	\$34
Information services	\$32	\$29

Source: StatsNZ



4. New Zealand's primary sector exports: a diversified portfolio

The composition of New Zealand's primary sector exports to the US has changed considerably over time.

Table 2 on page 14 below shows the top 15 largest New Zealand primary sector exports to the US in 1990 and 2020. The blue shaded products from 1990 have fallen out of the top 15 exports, replaced by the green shaded products in 2020.

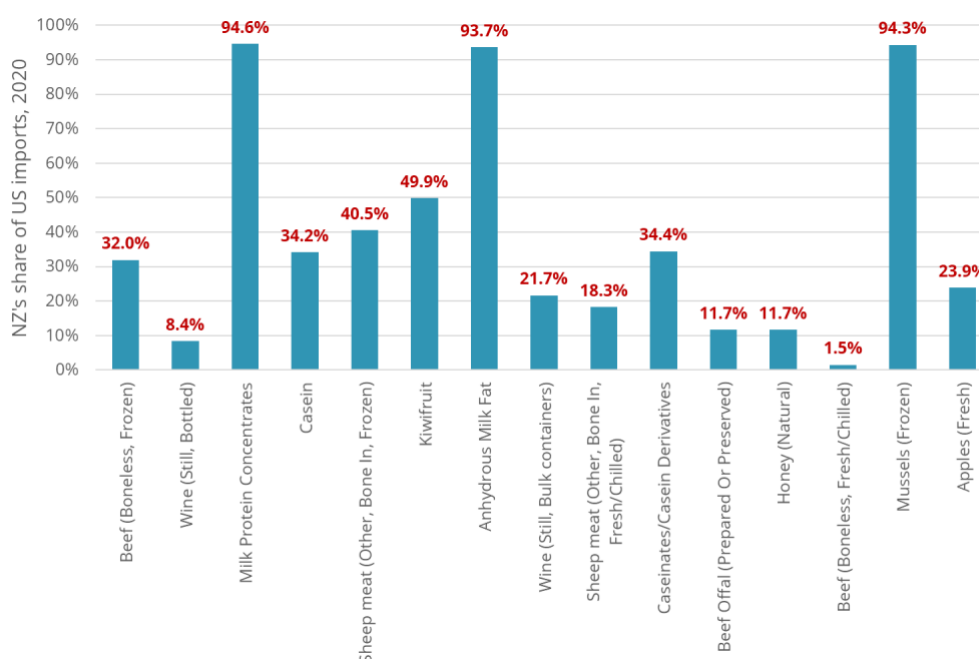
Products that have become less prominent in the export mix over time include wool, frozen fish, and rock lobsters (crayfish), cheese and sheepskins.

The largest export products in 2020 are now a mix of traditional pastoral-based exports and newer products, such as bottled and bulk wine (almost entirely Marlborough Sauvignon Blanc), kiwifruit, Mānuka honey, and mussels. These are all distinctly Kiwi products that are not readily substitutable for US-produced items.

The meat and dairy products have also changed in nature. A wider range of beef and sheep meat cuts is now being demanded by US consumers, along with dairy ingredients (milk protein concentrates, Anhydrous Milk Fat) rather than solely consumer items. The focus is very much value rather than volume.

New Zealand accounts for large shares of US imports in several of these products (especially dairy ingredients and mussels), though faces international competition for many others, including meat and horticultural products.

Figure 8 NZ's market share of US imports of primary products, 2020



Source: Global Trade Atlas

Zespri: using IP to grow the US fruit basket with year-round supply¹²



Figure 9: Zespri Organic SunGold potential for the US market.

Kiwifruit exports from New Zealand to the US are growing rapidly, accounting for NZ\$159.1m for the 2020 season. For Zespri, New Zealand's industry led exporter, the US is a launch market with considerable potential. With good market access (zero tariffs), high incomes, and a growing consumer desire for sustainable, healthy, and organic products, kiwifruit offers plenty of

New Zealand exported over 30,000 tonnes of kiwifruit to the US in 2020, 31% of US consumption.¹³ However, kiwifruit makes up only around 1% of the global fruit basket, and so a major focus for Zespri is growing total US consumer demand for the fruit rather than competing directly with US or other growers. A part of this strategy is not just exporting New Zealand-grown kiwifruit to the world, but also working with northern hemisphere growers to grow Zespri varieties, including Zespri SunGold Kiwifruit, in exchange for licence royalty payments.

New Zealand kiwifruit growers can supply the market for 8 to 9 months of the year. Working with growers in the Northern Hemisphere helps to bridge this gap and extend the kiwifruit season, helping to maintain shelf space and a presence with consumers. Zespri has established global supply operations in Italy, France, Greece, Japan, and Korea. As part of growing the US market, Zespri is also working with local US growers to carry out pre-commercial trials of Zespri SunGold Kiwifruit.

¹² Case study based on discussions with Zespri representatives.

¹³ Authors' calculations using [COMTRADE](#) data and [USDA ERS Fruit and Tree Nuts Yearbook Tables](#). Note that these figures are at the annual level. US supply, and imports from northern hemisphere producers (Italy and Greece), are counter-seasonal to NZ and southern hemisphere producers (Chile). This means that the NZ export share of US consumption is seasonal, rising during our season and falling off-season.



Table 2 NZ's largest 15 primary sector exports to the US: 1990 and 2020

1990's largest primary exports to US	1990 export value, \$NZ	1990 share of exports to US	2020's largest primary exports to US	2020 export value, \$NZ	2020 share of exports to US
Beef (Boneless, Frozen)	\$816.5m	39.9%	Beef (Boneless, Frozen)	\$1,283.7m	19.3%
Casein	\$191.2m	9.4%	Wine (Still, Bottled)	\$521.2m	7.8%
Fish Fillets (Frozen)	\$159.0m	7.8%	Milk Protein Concentrates	\$362.3m	5.4%
Cheese (Other, Including Cheddar And Colby)	\$60.9m	3.0%	Casein	\$170.7m	2.6%
Caseinates/Casein Derivatives	\$56.7m	2.8%	Sheep meat (Other, Bone In, Frozen)	\$165.7m	2.5%
Fruit (Other, Fresh)	\$47.3m	2.3%	Kiwi Fruit	\$127.3m	1.9%
Apples (Fresh)	\$36.6m	1.8%	Anhydrous Milk Fat	\$121.2m	1.8%
Animal Guts, Bladders & Stomachs (not Fish)	\$24.8m	1.2%	Wine (Still, Bulk containers)	\$104.5m	1.6%
Rock Lobsters	\$20.1m	1.0%	Sheep meat (Other, Bone In, Fresh/Chilled)	\$104.4m	1.6%
Sheep meat (Other, Bone In, Frozen)	\$19.7m	1.0%	Caseinates/Casein Derivatives	\$89.7m	1.3%
Wool (Degreased, Not Carbonized, Shorn)	\$19.3m	0.9%	Beef Offal (Prepared Or Preserved)	\$88.6m	1.3%
Wool (Greasy, Including Fleece-Washed, Shorn)	\$18.7m	0.9%	Honey (Natural)	\$75.1m	1.1%
Albumin Derivatives	\$12.7m	0.6%	Beef (Boneless, Fresh/Chilled)	\$68.2m	1.0%
Sheepskins (Without Wool, Pickled)	\$11.9m	0.6%	Mussels (Frozen)	\$65.1m	1.0%
Beer	\$10.7m	0.5%	Apples (Fresh)	\$58.8m	0.9%
Value of top 15 primary exports, 1990	\$1.51b	73.7%	Value of top 15 primary exports, 2020	\$2.96b	50.2%

Note: analysis carried out at HS6 level in nominal NZ\$. Product names are shortened for presentational purposes. Details available on request.

Source: Global Trade Atlas



Fonterra: US partnerships to meet growing global demand for value-add protein¹⁴

Fonterra has built US partnerships to produce high quality, sustainably sourced, value-add protein ingredients for sports, medical and paediatric applications. Columbia River Technology (CRT) was established as an Oregon-based joint venture between US dairy cooperative Tillamook, Threemile Canyon Farms, and Fonterra to produce high quality whey protein products, utilising the natural whey and lactose by-products from Tillamook's state of the art cheese-making plant.

Fonterra brings significant technical and sales expertise, and intellectual property to the JV, which adds value to US milk and supplies customers domestically and increasingly in a number of export markets, primarily in Asia.

The manufacturing plant based in Oregon supports 50 direct jobs, as well as many more downstream jobs in sales, supply chain, and secondary processing. The JV creates value for Fonterra's farmer shareholders by complementing New Zealand-based supply and enabling the Co-operative to meet growing global demand for high quality protein.

¹⁴ Case study based on discussions with Fonterra representatives.



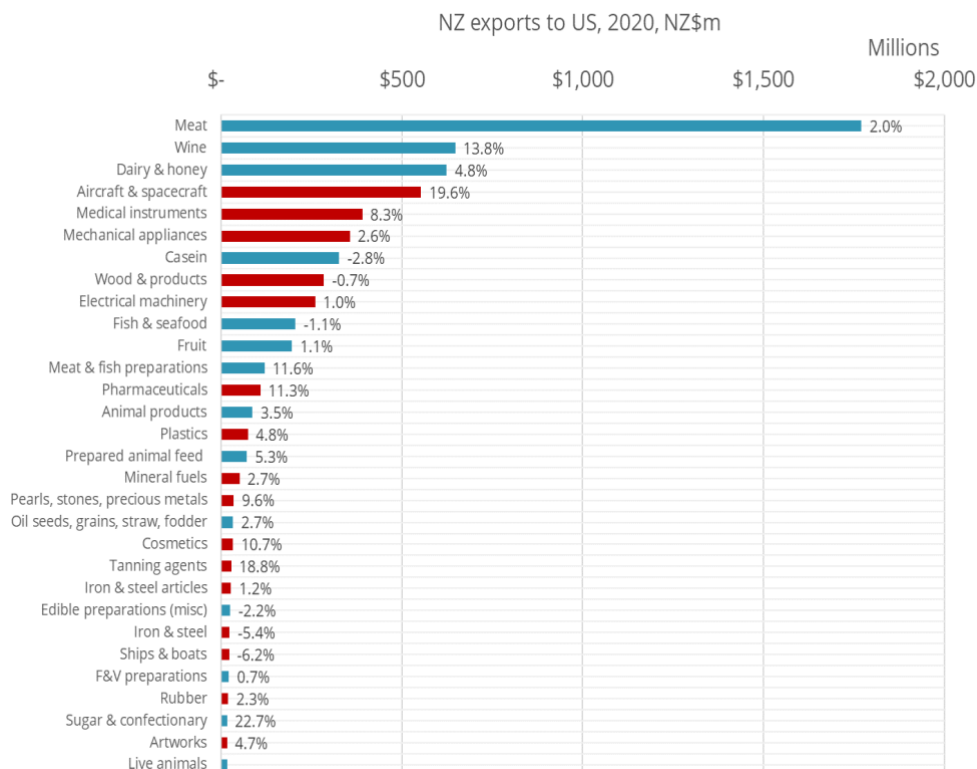
5. Non-agricultural exports

5.1. Specialised hi-tech manufacturing exports are growing in importance

Outside of the primary sector, New Zealand is increasingly exporting a wide range of advanced products...

Figure 10 below shows our top 30 exports to the US.¹⁵ While it reinforces the importance of meat, dairy and wine exports, it also highlights (in red) the breadth of New Zealand's non-primary sector exports.

Figure 10 New Zealand's top 30 exports to the US, 2020



Source: Global Trade Atlas

Notable features of this chart include New Zealand exports of aircraft and spacecraft¹⁶, medical instruments and mechanical appliances.

¹⁵ Analysis conducted at HS2 level. Descriptions are shortened for presentational purposes.

¹⁶ These exports comprise one HS10 tariff line, namely "Aeroplanes And Other Aircraft; Of An Unladen Weight Exceeding 15,000Kg, Not Containing 1,1,1,2-Tetrafluoroethane (Hfc-134A)", which suggests the re-export of an aircraft, rather than space shuttles.

...including spacecraft and related services

A recent report¹⁷ valued the New Zealand space sector at NZ\$1.69 billion in the year to June 2019. Spearheaded by [Rocket Lab](#), which accounts for over NZ\$450 million of private sector investment and delivers launch services spacecraft, satellite components and on-orbit management, the New Zealand space sector is a diverse, market-driven industry spanning space manufacturing, space operations, ancillary services, R&D, education and training, and space applications.

Somewhat unusually internationally, the New Zealand space sector has developed without a reliance on funding and support from government defence agencies. Deloitte (2019, p.5) labels this 'New Space'.

While New Zealand goods exports in the space sector are currently relatively small, they do not capture the extent of activity occurring between New Zealand and US businesses.

Wisk: New Zealand as a test bed for US aviation leaders¹⁸



Figure 11: Wisk's Air Taxi.

Wisk is an Advanced Air Mobility (AAM) company formed as a joint venture by The Boeing Company and Kitty Hawk Corporation. It is developing an autonomous, electric vertical take-off and landing (eVTOL) aircraft for urban air mobility, also known as a flying taxi. The company has a team of more than 360 people worldwide, with 20 based in New Zealand.

The flying taxi, named Cora, was brought to New Zealand after a global search for an ideal test ground. Wisk was looking for somewhere bold and progressive, focused on sustainability, and with a world class reputation in certification and regulation. New Zealand fit this bill and has potential to grow as a test bed to complement US innovation.

The aircraft is a flagship project under the New Zealand Government's Innovative Partnerships programme and Wisk was the first industry participant in the Government's Airspace Integration Trials. As part of these trials, Wisk is undertaking passenger transport trials. The collected data will be used to inform regulations in New Zealand and enable the integration of urban air mobility into the wider transport system.

Wisk has brought in considerable R&D investment in New Zealand and is working to grow the AAM industry. This includes working with other New Zealand based aerospace companies Dawn Aerospace, Kea Aerospace, Merlin Labs, and Pyper Vision, to establish the New Zealand Aerospace Industry Executive. The Executive has championed the National

¹⁷ Deloitte Access Economics. 2019. *The New Zealand Space Sector: Its value, scope and structure*. Commissioned by the Ministry of Business, Innovation, and Employment.

¹⁸ Case study based on discussions with Wisk representatives.



Aerospace Strategy and is working to increase the economic contribution of the industry to \$10bn by 2030.

Wisk has also developed a partnership with Ngāi Tahu, working to build a pipeline of talent into science, technology, engineering, and mathematics (STEM) subjects. This is part of wider engagement with the New Zealand Government and tertiary institutions in New Zealand to ensure the skills needed by the aerospace sector are developed locally. This will not only help grow the local industry but will attract big international players to locate their R&D and testing functions in New Zealand.

NZ exports promote improved healthcare and wellbeing outcomes in the US

Delving down into more detailed HS classifications shows the bulk of the medical instruments exported from New Zealand to the US are sleep apnoea machines¹⁹ (76% of total medical instruments exports). These machines, also known as Continuous Positive Airway Pressure (CPAP) units are produced primarily by Fisher and Paykel Healthcare, and promote improved sleep for US consumers.

Volpara: Kiwi ingenuity in the fight against cancer²⁰

[Volpara](#) is a health software company providing an accurate quantitative measurement of breast density, a key risk factor in breast cancer. This rests on vendor-neutral software packages, meaning they can be used with any brand of medical equipment. The software uses algorithms developed by the company to assess breast density, look for other risk factors, and evaluate the performance of the breast screening process.

Volpara has become a world leader in breast cancer risk assessment and screening. It is using the data collected from breast screening to develop the most comprehensive risk screening model available, with over 39.5 million images in their database. This will allow cancer treatment and prevention to be more proactive, predicting far more accurately those at risk of breast cancer.

The company, founded in New Zealand, has software in over 2,000 facilities worldwide, including top cancer screening centres in the US. Over 13.5m people across 39 countries have had their breast composition assessed by Volpara software.

¹⁹ Technically “Therapeutic respiration apparatus; ozone, oxygen, aerosol therapy apparatus; artificial respiration or other therapeutic respiration apparatus”.

²⁰ Case study based on [Volpara Health Annual Report 2021](#)



Another product that has shown remarkable growth is 'Antisera and other blood fractions', which registered zero exports in 2016 but has since leapt to NZ\$49.7 million. This is likely a result of the US investment in rural Manawatu by [Proliant](#), an Iowa-based biofirm that takes blood by-products from cattle and produces about half of the world's supply of bovine serum albumin (BSA).²¹ BSA is used in pharmaceuticals, vaccines and medical research.

TRG Natural Pharmaceuticals: New Zealand health and wellness R&D partnered with US distribution²²



Figure 12: *kānuka* honey treatments

[TRG Natural Pharmaceuticals](#) draws on New Zealand's abundance of natural products to develop and license natural pharmaceuticals, which are exported to the US. As a biotech company, TRG applies strong clinical trials to prove the efficacy of each product, which includes *kānuka* honey and bee venom-based treatments.

TRG works with the Medical Research Institute of New Zealand, supported by Callaghan Innovation and New Zealand Trade and Enterprise, to publish research in peer-reviewed journals such as the British Medical Journal that confirms their products' health and wellbeing credentials.

An advantage of conducting R&D in New Zealand is the ability to carry out international standard clinical tests, meaning their research passes the highest bars of clinical best practice. In addition, the skills and talent needed are readily available in New Zealand and allow R&D to be cost-effective.

The high quality of TRG's research is important when it does business in the United States, the global centre of the Natural Pharmaceuticals industry and market. Consumers demand high standards, and health and wellbeing claims need to be substantiated. Trusted research practices and well published professionals mean results are readily accepted and help TRG to directly engage with top tier pharmaceutical companies.

Rather than establish in-house distribution networks, TRG has partnered with US based Taro Pharmaceutical Industries to brand and distribute their range of products in the US. This is a win-win, allowing Taro to leverage the New Zealand R&D environment to build a portfolio of natural health brands with proven efficacy.

²¹ See [NZIER, 2016](#).

²² Case study based on discussions with TRG Natural Pharmaceuticals representatives

New Zealand exports of capital goods are being used to improve US firms' productivity

Other non-primary New Zealand exports contribute to lifting the productivity of US-led supply chains. For example, the 'mechanical appliances' product group is very diverse.

Figure 13 Examples of NZ exports of mechanical appliances to the US

Machinery for packing or wrapping (and parts), NZ\$42.2m of exports in 2020	Grading machines for fruit, NZ\$17.8m	Bending, folding, straightening or flattening machines for metal, NZ\$17.4m	Horticultural, agricultural and forestry machinery (and parts), NZ\$23.2m
Parts of particle accelerators, NZ\$12.6m	Machines for sorting eggs and fruit (and parts), NZ\$15.9m	Lifting, handling, loading and unloading machines, NZ\$9.4m	Marine jet propulsion engines (and parts), NZ\$15.9m
Heat exchange units, NZ\$7.4m	Milking machines (and parts), NZ\$11.1m	Automatic data processing machines, NZ\$5.7m	Machinery for making hot drinks or heating food (excluding counter-type coffee machines), NZ\$5.5m

Source: Global Trade Atlas

These types of machines are largely spin-offs from New Zealand's long-standing comparative advantage in primary production. They have been designed, developed and tested in New Zealand to support our agricultural and horticultural sectors, and then exported to other markets which seek to boost the efficiency of their production processes.

Robotics Plus: NZ R&D with strategic US partnerships to achieve scale and productivity²³



Figure 14: Robotics Plus AGV

an automated way to measure logs. With a unit in every port in NZ, by early 2022 up to 60% of New Zealand log exports will be processed by one of these RSMs. However, the structure of

An example of New Zealand exports that promote US supply chain productivity can be found in [Robotics Plus](#). The Tauranga based company designs and manufactures a range of agricultural systems using Mechanisation, Automation, Robotics, and Sensor (MARS) technologies.

The product range includes a robotic scaling machine (RSMs), providing a rapid, safe, and

²³ Case study based on discussions with Robotics Plus representatives



the US logging industry means that the technology has had to be adapted to suit, with a greater focus on a mobile solution.

The company has formed a joint venture, Global Pac Technologies, with the Australia and New Zealand based Jenkins Group and US based Van Doren Sales to market another of its innovations, an automated apple packer. And a strategic partnership with Yamaha has led to the commercialisation of an autonomous ground vehicle (AGV). This will be integrated with Yamaha's existing unmanned aerial vehicles for fully autonomous crop spraying in the Napa Valley, California.

The Global Pac Technologies joint venture and a strategic partnership with Yamaha have both been crucial in opening up access to the US market. Building relationships with US producers is essential, and a permanent presence in the form of a US subsidiary is a key part of growing trust, tailoring each platform to the US market, and achieving the scale that US producers require. This will also allow the company to explore manufacturing partnerships in the US.

A big advantage to having a base in New Zealand is the local strength in R&D. Skilled talent with agricultural DNA is easy to come by in New Zealand. In addition, the smaller scale of the industry brings a high degree of agility, meaning new technologies can be deployed onto farms rapidly. Government support through Callaghan Innovation and the tertiary system is another advantage that strengthens New Zealand as a base for R&D.

Other notable non-agricultural exports are:

- Wood and wood products: This comprises largely NZ\$186.4m of pine lumber exports in 2020, used primarily for building US houses.
- Electrical machinery: Key New Zealand exports here include electro-magnets (NZ\$58.1m), electrical static converters, including battery chargers (\$57.5m), mounted piezo-electric quartz crystals (NZ\$16.3m), radio telephones (NZ\$9.6m), and communication apparatus (NZ\$13.2m). These demonstrate New Zealand's burgeoning hi-tech niche manufacturing sector, primarily based in Canterbury.

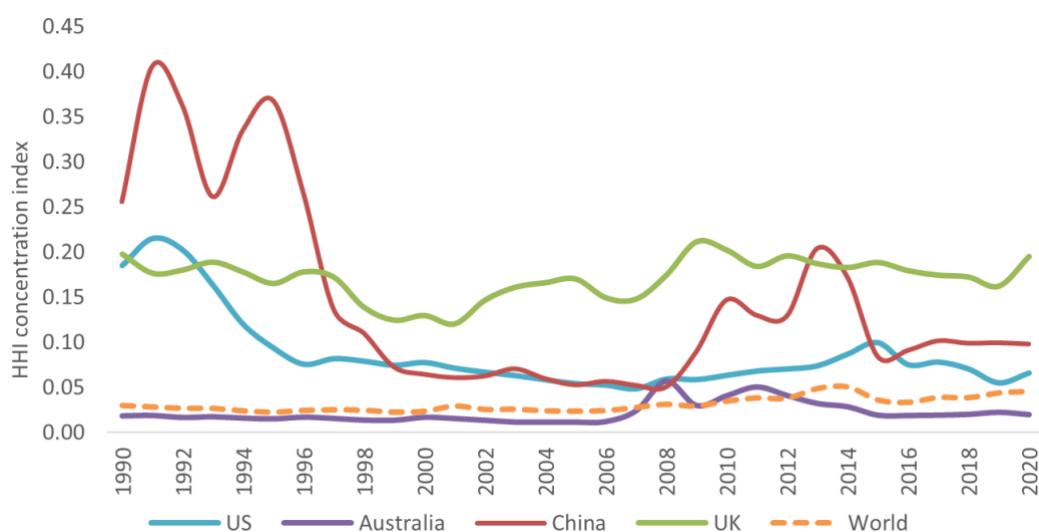
5.2. New Zealand's goods exports are becoming less concentrated

Figure 15 below shows Herfindahl-Hirschman Index (HHI) measures for several of New Zealand's major trading partners. The lower the HHI value, the less concentrated in specific goods (or the more diverse) is our export profile with each market.

It shows our trade with the US is more diverse than our trade with the UK and China. Our trade with the UK, for example, is much more concentrated in meat and wine exports (63.5% of total trade) than trade with the US (36.5%).

The diversity of New Zealand's exports to the US has increased over the past 30 years, aside from a slight concentration following the Global Financial Crisis, after which New Zealand's exports of both wine and frozen beef surged (thus lifting overall export concentration). This period also coincided with New Zealand signing its Free Trade Agreement with China, which has led to shifts in New Zealand's overall export profile.

Figure 15: Concentration in NZ exports (HHI Index): 1= highly concentrated, 0=fully diversified



Source: Global Trade Atlas

UBCO: Kiwi ingenuity and US manufacturing strength²⁴



Figure 16: UBCO 2X2 electric utility bike

UBCO was established in 2015 to take to market an all-wheel-drive electric utility bike. New Zealand's rugged terrain and diverse market segments has made it an ideal place to design, test, and perfect the EV platform. With integrated software, large datasets have been collected among New Zealand test users to finesse the design and pave the way for new products.

UBCO's flagship products, the 2X2 Work Bike and 2X2 Adventure Bike, launched into the US market in 2017 and demand has grown strongly. A core part of the US market is the recreation and adventure segment, for which the 2X2 is ideally suited. This market includes a surge in interest in RV, or campervan, holidays. At just 50kgs without battery, the UBCO can be easily strapped on the back of a campervan for mobile adventuring.

At present, the bikes for the US market are assembled within the US. Shipping in separate parts and assembling in market is more efficient than shipping a final product. The 628% surge in shipping costs since March 2020²⁵ has led UBCO to consider onshoring more manufacturing in the US. The US is a cost-effective location to manufacture and factoring in shipping and logistics helps make the case.

²⁴ Case study based on discussions with UBCO representatives

²⁵ Statista. 2021. *Global container freight rate index from July 2019 to October 2021*.

<https://www.statista.com/statistics/1250636/global-container-freight-index/>



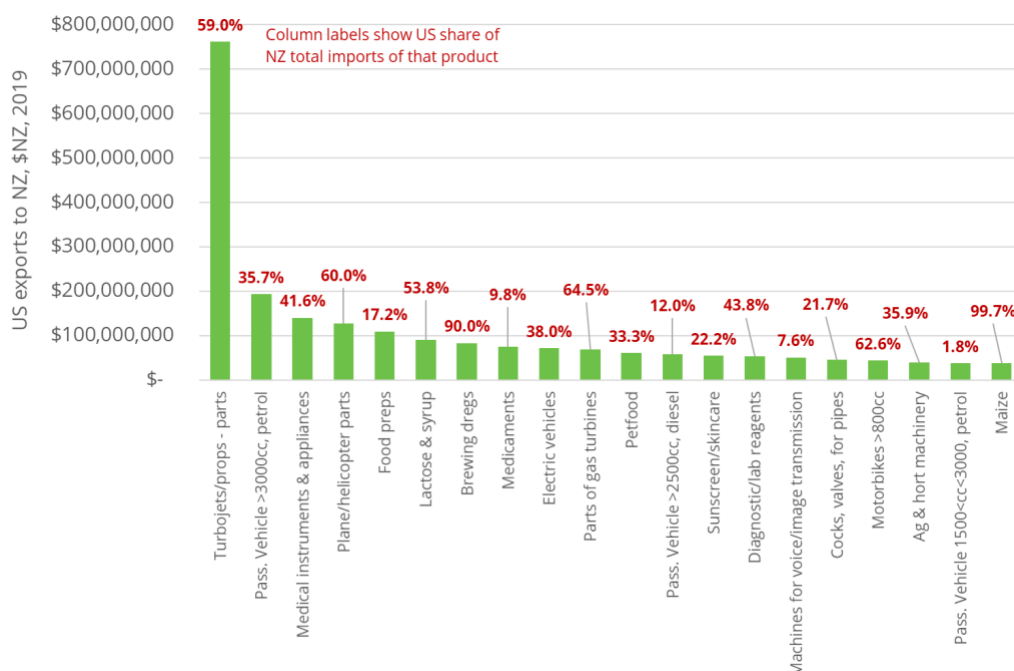
5.3. US goods exports to New Zealand span a wide range of products

For many goods imports, New Zealand is heavily reliant on the US. Figure 17 shows the 20 largest imports from the US in 2020, at the HS6 level of detail. The red labels show the US's share of New Zealand's imports from all countries.

New Zealand buys over NZ\$760 million in parts of turbojets or turboprops, and the US accounts for 59% of New Zealand's total imports of these items. New Zealand also imports \$126.8 million of plane/helicopter parts, in which the US has a 60% market share.

For products such as maize (NZ\$37.6m, 99.7% market share) and brewing dregs (NZ\$82.8m, 90%), the US is essentially the sole supplier to New Zealand.

Figure 17 US largest 20 exports to NZ, 2019



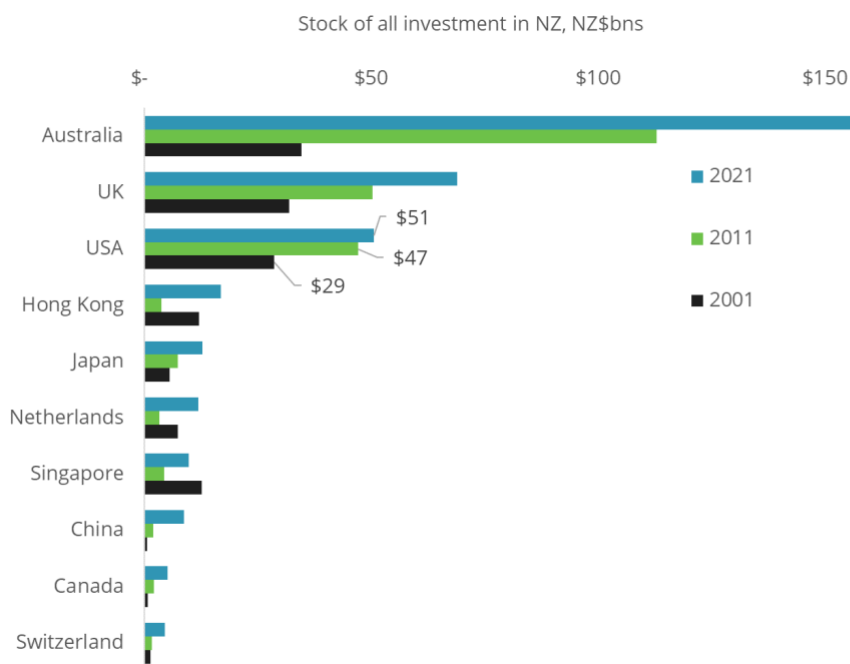
Source: Global Trade Atlas



6. Investment patterns

The US remains an important source of investment for NZ...

Figure 18 Largest investors in NZ, year to March 2021



Source: StatsNZ

The US held a total stock of investment²⁶ of NZ\$51 billion in New Zealand in June 2021, or 10.5% of the total investment stock in New Zealand.

The majority of this stock is portfolio investment (see Figure 19). Of the direct investment (NZ\$8.8 billion in June 2021), primarily in manufacturing, finance and insurance, and wholesale trade²⁷, but also in the wine sector.

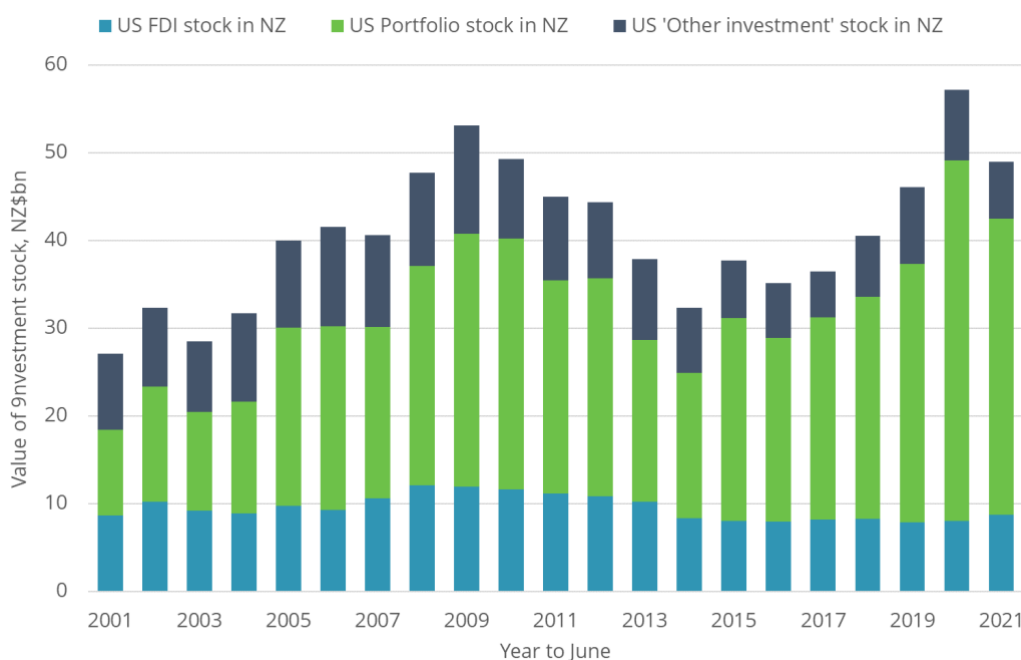
Pre-COVID-19, the stock of US portfolio investment in New Zealand surged by 78% in three years. No data is available to determine precisely where this US portfolio investment was directed, but it suggests US investors are seeing plenty of potential opportunities in New Zealand.

²⁶ Comprising, direct investment, portfolio investment and 'Other' investment.

²⁷ [USTR website](#).



Figure 19 Types of US investment in New Zealand



Source: StatsNZ

...though its share of investment in NZ has trended down over time

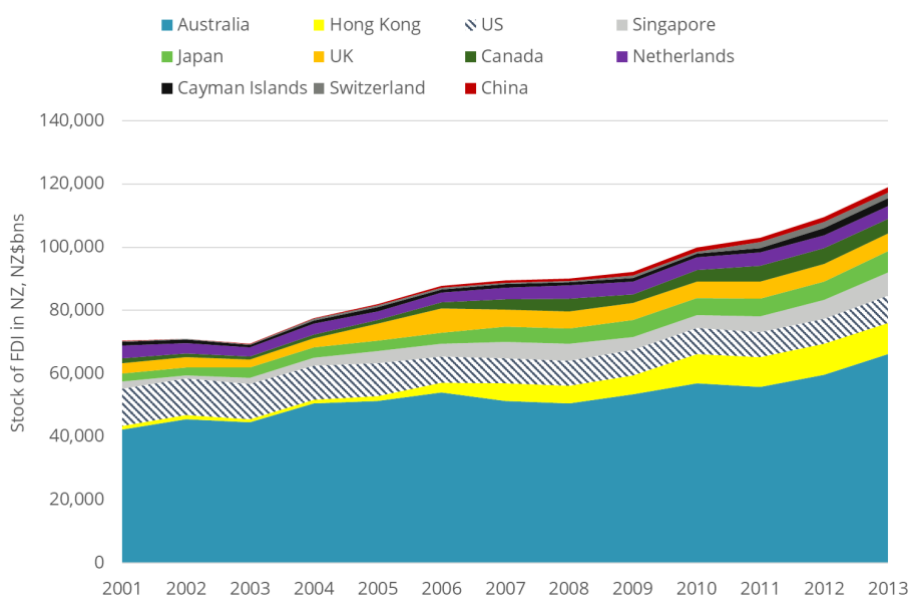
The US share of New Zealand direct investment has fallen from 15.7% in 2001 to just 6.7% in 2021 (Figure 20). This may in part reflect the higher investment screening threshold (NZ\$200m) afforded to New Zealand's free trade agreement partners, such as Australia²⁸, China, Hong Kong, Singapore and Japan, including through the CPTPP. The non-FTA threshold is NZ\$100m.

This higher screening threshold will also apply to the UK when the New Zealand UK FTA negotiations are finalised. It will also likely be an important part of the New Zealand EU FTA discussions.

²⁸ Australia's threshold is higher still, at New Zealand\$552 million, reflecting our long-standing economic integration agenda and Trans-Tasman business links.



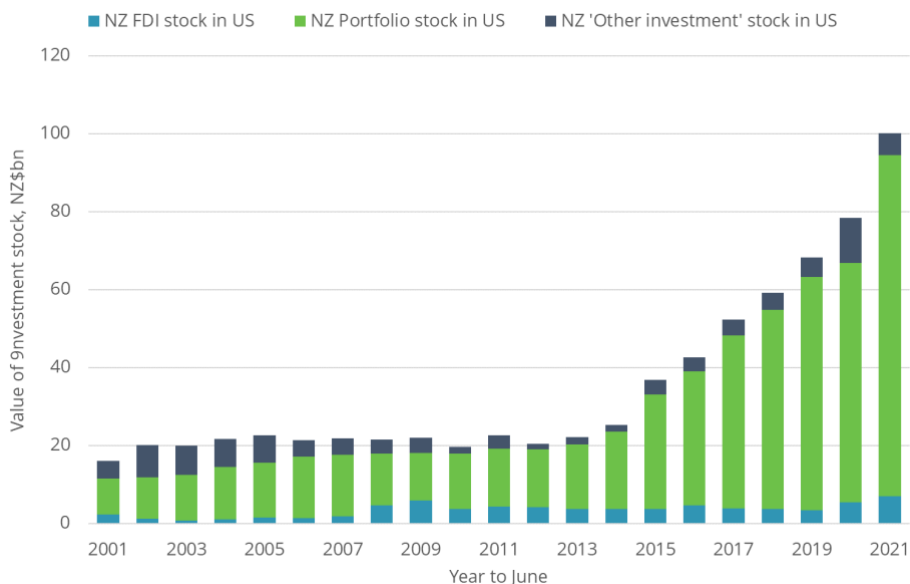
Figure 20 Key FDI investors in New Zealand



Source: StatsNZ

The US is an increasingly popular destination for NZ investment

Figure 21 NZ stock of investment in the US



Source: StatsNZ

New Zealand's investment stock in the US has grown by NZ\$77 billion in the past decade (342%). This has been driven by New Zealand's portfolio investment in the US, which has grown from NZ\$14.9 billion in 2011 to NZ\$87.4 billion in 2021. This indicates that the US is an increasingly attractive destination for New Zealand investment.



7. Conclusion

The data analysis presented above shows that the New Zealand US bilateral economic relationship has grown steadily over the past 15 years. Goods and services trade expanded by an average of over 5% per year between 2007 and 2019, with services trade showing impressive average growth of almost 8% per year.

For goods, the US is New Zealand's third largest export market and source of imports. Its share of exports and imports has remained steady at around 10% for the past decade.

New Zealand's export profile continues to feature high quality, sustainable agricultural products, but the trade relationship is evolving.

In the three years immediately pre-COVID, New Zealand exported more services to the US than primary exports, for example.

While tourism has taken a hit due to COVID, New Zealand's exports of computer-related services have continued to grow strongly, doubling in value to NZ\$1.2 billion between early 2018 and mid-2021.

New Zealand's agricultural exports to the US are becoming more diverse. Mānuka honey, kiwifruit and Marlborough Sauvignon Blanc wine have emerged as good examples of distinctly New Zealand items that US consumers are enjoying more each year.

Meat and dairy remain important, of course, but even within these broad categories, the types of products being exported are adjusting to meet US consumers' and firms' needs and wants. Complementarity and innovation are featuring more than competition between New Zealand and US producers. Fonterra is increasingly collaborating with US dairy firms to supply dairy ingredients to the sports, medical and paediatric sectors, for example.

New Zealand's agri-tech specialities are also becoming more important for the bilateral economic relationship. Sorting and packaging machinery and electric farm motorbikes are just a couple of examples of how New Zealand's traditional agricultural strengths are now spinning off into capital products that promote productivity gains in US primary sector supply chains.

New Zealand is increasingly focused on exporting a range of products that play to the strong US demand for health and wellness. The case studies in this report highlight both the advanced technological developments and use of sustainable, traditional natural products that support these products' growth.

Likely reflecting these emerging trends and opportunities, US investment into New Zealand – especially portfolio investment – was growing strongly before COVID.

Overall, this report suggests the bilateral economic relationship is mature, stable and increasingly diverse, with ample opportunities for future growth.



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