Services Statistics in New Zealand.
Current State and Proposed Developments

Statistics New Zealand

Abstract
Statistics NZ (Stats NZ) produces a range of value and volume measures on the so-called services industries. In general our annual measures are of higher quality than sub-annual statistics, and current price measures more so than constant prices.

Stats NZ is beginning a programme of work which will improve the quality and coherence of services measures in the National Accounts. A component of this programme is the redevelopment of the range of sub annual indicator information that will be collected and disseminated.

This work sits within a context of a wider transformation programme; known as Statistics 2020, which will deliver efficiency savings to Government through reduced staffing numbers and increased use of administrative data.

1 Introduction and Context
In common with many National Statistical Offices, Statistics New Zealand operates in challenging times.

Our customers and end users want more information, they want it in a more timely manner, and they want greater coherence between economic measures.

There is a demand to ‘drill down’ to finer levels of output such as, for example, measures of economic activity by region, by firm size, or by Maori (New Zealand’s indigenous population) versus rest-of-economy.

Demand also exists for measures that help commentators and policy analysts to understand the drivers of economic growth- in particular to understand to what extent productivity growth – pure technological change – underpins growth in economic activity.

Stats NZ’s measures of economic activity and output by industry (Gross Domestic Product, prices and feeder surveys) are well developed. Our measures of annual current price financial performance and contribution to GDP are particularly strong, being underpinned by a comprehensive and coherent economy wide survey that covers most of the economy.

Sub annual measures of constant price GDP offer more opportunities for enhancement. Some of the methods used would be ‘B’ methods by the Eurostat guidelines. In some cases, so-called ‘C’ methods are used, mostly in non-market production. This is due in part to the fact that the suite of sub annual feeder surveys undertaken by Stats NZ that feed into GDP, is focussed more on goods producing industries, with less coverage in the services industries.

Statistics NZ is implementing new international standards; SNA08 and BPM6.

Along with many NSO's and public sector agencies worldwide, we are under pressure to deliver more with less.

Statistics NZ has established a programme of work, known as Stats2020, which is focussed on transforming the way we work. The transformation programme encompasses people, processes, technology, and outputs.

One of the aims of the programme is to make efficiency savings through reduced staffing numbers and greater automation of statistical processes. We have committed to being 20 percent smaller in numbers by 2020.

Part of Stats2020 is a move to an 'administrative data first' policy; that is, we will use existing administrative data sources, primarily from the tax system, if it can be shown to be fit for purpose, and will only survey if information needs cannot be met by administrative sources.

Some of the efficiency gains that we intend to make through business transformation and increased use of administrative data will be re-invested into the statistical suite that we produce. In particular we wish to enhance measures of industry real output, prices and values, and to have a stronger 'line of sight' from macroeconomic measures back to contributing unit records at the micro level.

2 Present State

Industry outputs can be measured in nominal; or current price outputs as well as in constant dollar terms- that is, with price effects removed. These measures can be produced annually, or sub annually.

2.1 Annually

Statistics New Zealand produced current and constant price measures of contribution to Gross Domestic Product by industry.

The base industrial classification used by Statistics New Zealand is the Australia and New Zealand Standard Industrial Classification, 2006 Edition (ANZSIC2006). ANZSIC2006 is a shared classification jointly developed by the Australian Bureau of Statistics (ABS) and Statistics New Zealand, and largely follows the layout of ISIC.

GDP is published aggregated into approximately 70 industries.

Current Prices

The main data source for annual current price GDP is the Annual Enterprise Survey (AES). Statistics NZ is fortunate in having a single, common data source which covers almost all economic production on an annual basis.

The AES is a comprehensive survey and is the largest and most complex business collection operated by Statistics New Zealand, collecting detailed information on financial performance and position for most industries. This means that services are comprehensively covered. The industries covered in the AES contribute almost all of New Zealand's GDP,

excluding only residential property operators, foreign government representation, religious services and private households employing staff.

The AES uses a common statistical unit; the kind-of-activity-unit (KAU), with some exceptions in Government Administration. The target population of the AES is all economically significant business entities operating in New Zealand in the included industries. In the 2012 reference year, published August 2013, the target population was comprised approximately 440,000 KAUs.

The AES is a mixed data source collection. The main components are:

- A stratified sample survey of 17,000 units
- Use of administrative information for around 5,000 central and local government units, sourced from the New Zealand Treasury and other agencies
- Use of accounts information from New Zealand's tax agency; Inland Revenue (IR) for around 300,000 small businesses, mainly sole traders and partnerships.

In terms of headcount the tax information covers two thirds of the target population, but accounts for ten percent of total turnover. Conversely the postal survey covers only 4 percent of units but accounts for the majority of turnover by value.

The AES is published in its own right, around eighteen months after the end of the reference period (nominally a March end balance year).

The AES is then used to compile current price GDP.

Measures of output and intermediate consumption in current prices from the AES are then brought together along with economic aggregates from other sources and are reconciled within a supply-use framework.

Supply use balancing is a recommended component of the System of National Accounts, and provides "a framework for ensuring the consistency of statistics on goods and services obtained from quite different sources" (*System of National Accounts*)

Balancing performed annually. Supply use balancing is undertaken for 118 industries and 298 commodities.

The balancing process is a combination of manual and automated processes. During industry analysis high level manual adjustments are made to key aggregates. Because of the small size of the New Zealand economy, movements in industry level aggregates can sometimes be materially affected by firm reporting changes, or by changes in stratum weights of units with large movements for example. Sometimes these issues cannot be fully addressed as part of the survey processing cycle, and so adjustments may be made as part of the industry analysis process.

The next step in the supply use balancing process involves bringing the commodity splits of intermediate consumption and gross output together with the commodity splits of the expenditure data and balancing the supply and use of each commodity. The process of supply-use balancing is a logical follow on from industry analysis. Proportions are applied to aggregates of supply and use to break down into commodities and an initial matrix compiled. Proportions are taken from the previous year's final balancing. As analysis reveals imbalances, there follows a system of progressively inputting corrections to the dataset, this takes two forms:

- changes to parameters, e.g. total intermediate consumption of a particular industry, or values within exogenous data such as final demand data
- changes to the way particular commodity breakdowns are calculated - by way of 'locks' in the current year's breakdown to induce different proportional splits.

'Locks' are applied to the output or use of certain commodities within the supply-use matrix so that they do not change during subsequent automated balancing. A series of high level 'rate-ups' is carried out until no more inaccuracies can be manually diagnosed. At this point a computerised balancing technique, using Iterative Proportional Fitting, a standard statistical tool, is applied to the dataset in which row and column totals are rated up or down sequentially, changing the commodity coefficients within each cell until supply and use are in balance removing any remaining imbalances. This process ensures that supply and use are equal, while minimising the change in cell commodity coefficients from the previous balancing cycle.

In New Zealand this process is performed in current prices. The resulting SUT's are not deflated to produce constant price equivalents, nor are explicit volume measures used in the balancing process except in a very few cases where strong information exists.

Constant Prices

Statistics New Zealand produces constant price measures of industry contribution to GDP. These are annually chain linked Laspeyres volume indices, expressed in 1996 base year prices.

The most common method used in constant price GDP is extrapolation of value added by an output indicator.

Extrapolation by a labour input indicator is used in some cases – Public Administration and Defence being the most significant example. This is common practice worldwide in the case of non-market production.

Of the service industries, single deflation of value added is used in one case only; that being for part of the Communications industry.

Double deflation is used in some cases, such as parts of the Transport group of industries, as well as Business Services and Cultural and Recreational Services.

Where double deflation is used, this is based on deflation of balanced current price accounts, hence are ultimately based on the AES.

Where extrapolation by an output indicator is used; (that is, the most common method); the indicator is in many cases a direct volume measure obtained from administrative data sources, or in some instances directly from businesses. In some industries such as Manufacturing, Retail and Wholesale Trade the output indicator is deflated current price output.

Volume extrapolation by an output indicator is used in the cases of both Health, and Education industries. Methods for these industries have recently been redeveloped. The method used in these industries relies of detailed volume data sourced from the New Zealand Ministry of Health, and Ministry of Education respectively.

For more detail on the Health and Education industries please refer to *Measuring value added in the education and health industries*

http://www.stats.govt.nz/browse_for_stats/economic_indicators/GDP/health-and-education-gdp.aspx

For more detail please refer to *Gross Domestic Product: Sources and Methods – Statistics New Zealand*

http://www.stats.govt.nz/browse_for_stats/economic_indicators/GDP/qtrly-gdp-sources-and-methods-2nd-edition.aspx

or refer to the summary Table of Methods in Appendix 1.

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2.2 Sub annually

Current prices

Statistics New Zealand does not produce sub annual measures of Gross Domestic Product by industry in current prices.

This is primarily because our suite of sub annual measures of nominal turnover, which would feed into GDP, is limited to statistics on sales and inventories for the Manufacturing, Wholesale and Retail groups of industries only. Purchases are collected only for Manufacturing.

Constant prices

In the constant prices, Statistics NZ's sub annual practice is closely aligned with annual methods.

As with annuals, Stats NZ produces constant price measures of industry contribution to GDP as annually chain linked Laspeyres volume indices, expressed in 1996 base year prices.

Also following annual practice, the most common method used in constant price GDP is extrapolation of value added by an output indicator.

In contrast to the annuals, deflation of value added, either single or double, is almost totally unused, and not used in services at all, with the only instance being double deflation of part of the Electricity Industry.

There is more use of volume extrapolation by a labour input indicator (most commonly hours worked from Stats NZ's employment survey).

A number of industries, or parts of industries, are interpolated / extrapolated from annual benchmarks with no indicator at al

3 Implications of current state

Annual current price methods for turnover and contribution to GDP are underpinned by a comprehensive survey that meets most information needs.

The key feeder survey for annual current price GDP- the AES, is published in it's own right, and provides a comprehensive picture of financial performance and position by industry, in advance of balanced National Accounts being available.

Some measurements and methods require updating to meet new international standards, and this work is underway.

The main limitation of current price sub annual measurements is that they are characterised by gaps in coverage of turnover measures. Statistics New Zealand does not produce any sub annual financial indicators (such as turnover) outside of the Manufacturing, Wholesale and Retail industries.

The industries which are not covered by the existing sub annual suite of financial indicators comprise approximately 80 percent of Gross Domestic product. Offsetting this, Statistics NZ has comprehensive measures of labour market supply and demand which may be used as indicators of activity, plus additional coverage for some industries such as Accommodation and Construction.

Gaps in the current price suite in turn impact on methods used for constant price measures of value added.

The Eurostat *Handbook on Price and Volume Measures in National Accounts* classifies methods used to produce constant price outputs into A, B and C methods, with A methods being the highest quality.

By the guidelines of this publication, many of methods used by Stats NZ would be B methods, and in some cases C methods.

In the case of annual constant price GDP, so called C methods are less commonly used, and A methods, such as double deflation, are used in more cases.

In addition Stats NZ has recently redeveloped the set of indicators for the Health and Education industries, and these methods, combined with annual reweighting through chain-linking, would also be considered an A method.

Stats NZ does not produce constant price input-output tables. A corollary of this is the fact that in many cases annual constant price measures are the sum of quarterly values and do not have a separate annual method.

Methods used to compile constant price measures of Gross Domestic Product also impact on Statistics New Zealand's ability to produce productivity measures.

There is significant interest in New Zealand in understanding productivity change as a driver of economic growth. The New Zealand Productivity Commission was established in 2011 "to provide advice to the Government on improving productivity in a way that is directed to

supporting the overall well-being of New Zealanders, having regard to a wide range of communities of interest and population groups in New Zealand society" (Productivity Commission, nd).

The measurement of service sector productivity was assessed in the Productivity Commission's enquiry into the potential for boosting productivity within the service sector (Productivity Commission, 2013). Measurement of services has also underpinned other Productivity Commission enquiries.

Statistics NZ produces official measures of multifactor productivity By definition these measures cannot be meaningfully produced where real value added is estimated using volume extrapolation by labour, as this assumes a constant labour input – output ratio. This means that the industries which are covered in Statistics NZ's official measures cover the so-called 'measured sector' and exclude some services industries, and most non-market production. Exclusions comprise approximately 22 percent of current price GDP. Measurement of non-market production in real terms is a challenging issue for statistical agencies worldwide.

For more information on the measured sector in Statistics NZ's productivity measures please refer to *Productivity Statistics 1978-2012*

http://www.stats.govt.nz/browse_for_stats/economic_indicators/productivity/ProductivityStatistics_HOTP78-12/Data%20Quality.aspx#industry

4 Future developments

The key improvements for Statistics NZ in services measurement are to:

- Implement any changes required under new international standards. In the services industries this mainly related to SNA08, and
- Enhance the supply-use balancing process by introducing annual constant price balancing (KPSU) conducted concurrently with the current price process (i-CORE programme)
- Introduce methodological changes to constant price annuals to take advantage of KPSU (i-CORE programme)
- Fill gaps in the sub annual measurement of services output, which will also feed into methodological changes in the National Accounts (SAFES programme)
- Redevelop services PPI's where necessary to support more use of deflation (Prices Maintenance)

In the sub annual current prices, Stats NZ will begin enhancing coverage in the existing sub annual suite. We intend first of all to begin producing financial output measures in the ANZSIC06 MN and RS divisions- approximately equivalent to ISIC sections M,N,R and S, and divisions 69-82 and 90-96.

This work forms part of a programme known as the Statistical Architecture for Economic Statistics, or SAFES. Under SAFES we wish to move from our current paradigm of sample survey supplemented by administrative data for smaller units, transforming to a model which turns this paradigm on its head. That is, to use existing administrative data sources wherever possible, and survey only where necessary to fill gaps.

Statistics New Zealand has extensive experience in using administrative data in the production of economic statistics and we will build upon experience as part of the transformation programme.

In practice, in the case of sub annual financials this will mean that the data source for the vast majority of businesses will be New Zealand's Goods and Services Tax (GST) return. New Zealand is fortunate in that our GST is a comprehensive value-added tax that is levied at a constant rate (15 percent) on almost all goods and services in New Zealand. The sole exception to the GST tax is financial intermediation. Businesses are required to report their sales, purchases and tax-to-pay either monthly or two-monthly depending on size, with six-monthly reporting for very small businesses.

The comprehensive nature of this return makes it an ideal data source for statistical production. Direct collection will be retained for large and complex businesses. In practice this will likely mean those businesses which materially cross industrial boundaries.

A similar practice will be adopted for other sub annual business based measures – for example labour market demand. In this instance the relevant administrative data source will likely be the monthly payroll tax return, which covers all employees, and direct collection from large and complex business.

Regarding macroeconomic and constant prices, Stats NZ has a complementary programme of work known as i-CORE (improved COherence and Relevance). Much of the methodological change ultimately envisaged under i-CORE will be predicated on the delivery of new sub annual services indicators to be provided by SAFES.

Under i-CORE Statistics NZ will deliver a 'long-term' focused and transformative programme along with improving the 'coherence and relevance' in our already published GDP statistics.

The i-CORE project consists of two parts. The first part is to develop a prototype system for annual constant price supply-use balancing. The prototype would be a proof of concept. It would need to use detailed classifications to identify issues with data sources and methodology.

Findings from the prototype of the annual constant price supply-use will be used to influence new methodological changes and improvements in the compilation of constant price annual and quarterly measures. The annuals system will be transformed to the new macroeconomic IT platform after the completion of the i-CORE project.

The second part of the project is to deliver a periodic rebase by updating price weights for low-level fixed-base series to a new base year, high-priority methodology and system improvements and the implementation of agreed SNA08 changes in NZ National Accounts, which is currently underway.

Moving to greater use of constant price supply-use balancing implies greater use of deflation, and this in turn places a greater onus of quality on fit for purpose deflators.

In fact, many of the issues that exist in terms of measuring quality or compositional change when value added is measured using output volume measures, instead shift to price index compilation when deflation is used.

With regard to price indexes, Statistics NZ has begun a programme of Prices Statistical Maintenance which undertakes rolling reviews of the business price indexes – the producer's price index (PPI), the farm expenses price index (FEPI), and the capital goods price index (CGPI).

The review has two objectives: to maintain the relevance of these indexes and to collect commodity data for use in the National Accounts balancing process.

We survey a sample of economically significant enterprises operating in New Zealand, to collect information on their supply and use of goods and services (commodities). As well as using this information in the compilation of Gross Domestic Product, commodity information (by industry) is used to update lower-level weights for the business price indexes. The industries being reviewed are prioritised with most being reviewed on a six-year cycle with the remainder on either three or 12-year cycles. Statistics NZ publishes a comprehensive set of output and input PPIs covering all industries in New Zealand - with the exception of Public Administration and Safety, Education and Training, and Health for which input indexes are compiled but no output indexes are produced.

For more information on the progress of the rolling review refer to '*Reviewing the business price indexes'* in this link:

http://www.stats.govt.nz/tools_and_services/newsletters/price-index-news/july-13.aspx#updates

5 Moving to future state

As with any substantive redevelopment, a number of challenges exist which Statistics NZ will address as part of the relevant redevelopment programmes.

Briefly some of the key issues to be managed are:

Data:

Our ability to produce a range of new services indicators under SAFES (and ultimately to support methodological enhancements in the National Accounts), are predicated on the ability of the source data to support the 'admin data first' vision. We are generally confident that this is the case, though some work remains. One of the issues that we face is that administrative data sources do not always fully cover populations of interest, and may not contain every variable of interest. Statistics NZ is currently developing assessment frameworks that enable us to readily assess the materiality non-collected variables outside of the direct survey population, and are developing models that allow us to impute from available information where applicable.

Quality Measures:

Achieving the vision of SAFES means moving to mixed data source collection (admin and survey), supplemented by modelling. This in turn means that ‘traditional’ measures of output quality such as relative sample error become less relevant. The development of more comprehensive measures of quality is being addressed by statistical agencies worldwide. Stats NZ is engaged with ongoing developments in our partner agencies and is working to develop quality measures.

Business Process:

Large scale use of administrative data implies high data volumes. This in turn implies that the existing business model, which is in many ways is akin to hand crafting outputs by investigating and cleaning individual unit records, is no longer appropriate.

Instead Statistics NZ will move to a paradigm of automated E&I for many units, underpinned by sound statistical process design. We will build capability in automated process design and management, and amend organisation structures to fit with the new business process.

Change Management:

Both data collection and management under SAFES and methodological redevelopments under i-CORE imply a high level of change.

There will be change in a statistical sense, as well as in an organisational, capability and and business process sense.

Statistics NZ will manage statistical change through the use of standard tools and methods (backcasting, smoothing in new series and so on). We will use change management best practice to manage the organisational and capability aspects, buying in expertise where necessary.

We will engage with our customers and expert end users to ensure that they are informed of our development programme and can integrate delivery of new measures and enhancements into their own workplans.

6 Appendix 1. Summary of Sources and Methods

Methods used in the production approach for GDP, by industry

Industry	Method							
	Sum of the quarters	Double deflation	Single indicator				Interpolation	
			Deflate value added	Extrapolate value added, with indicator				
				Output	Intermediate input	Factor of production	Indicator	No indicator
AA1 Agriculture		A		Q				
AA111 Horticulture and fruit growing								
AA121 Sheep, beef cattle and grain growing								
AA131 Dairy cattle farming								
AA141 Poultry, deer and other livestock farming								
AA2 Forestry and logging								
AA211 Forestry and logging	A			Q				
AA3 Fishing, aquaculture and agriculture, forestry and fishing support services								
AA311 Aquaculture			A	Q				
AA312 Fishing								
AA321 Hunting and trapping				A			Q	
AA322 Agriculture, forestry and fishing support services								
BB Mining								
BB111 Coal mining	A			Q				
BB112 Oil and gas extraction	A			Q				
BB113 Metal ore and non-metallic mineral mining and quarrying	A			Q				

BB114 Exploration and other mining support services		A	Q
CC Manufacturing			
CC1 Food, beverage and tobacco product manufacturing			
CC111 Meat and meat product manufacturing	A		Q
CC121 Seafood processing			A and Q
CC131 Dairy product manufacturing	A		Q
CC141 Fruit, oil, cereal and other food product manufacturing			A and Q
CC151 Beverage and tobacco product manufacturing			A and Q
CC2 Textile, leather, clothing and footwear manufacturing			
CC211 Textile and leather manufacturing			A and Q
CC212 Clothing, Knitted Products, and Footwear Manufacturing			A and Q
CC3 Wood and paper products manufacturing			
CC311 Wood product manufacturing			A and Q
CC321 Pulp, paper and converted paper product manufacturing			A and Q
CC4 Printing			
CC411 Printing			A and Q
CC5 Petroleum, chemical, polymer and rubber product manufacturing			
CC511 Petroleum and coal product manufacturing			A and Q
CC521 Basic chemical and basic polymer manufacturing			A and Q
CC522 Fertiliser and pesticide manufacturing			A and Q
CC523 Pharmaceutical, cleaning and other chemical manufacturing			A and Q
CC531 Polymer product and rubber product manufacturing			A and Q
CC6 Non-metallic mineral product manufacturing			
CC611 Non-metallic mineral product manufacturing			A and Q
CC7 Metal product manufacturing			
CC711 Primary metal and metal product manufacturing			A and Q
CC721 Fabricated metal product manufacturing			A and Q
CC8 Transport Equipment, Machinery and Equipment Manufacturing			
CC811 Transport equipment manufacturing			A and Q
CC821 Electronic and electrical equipment manufacturing			A and Q
CC822 Machinery manufacturing			A and Q

CC9 Furniture and other manufacturing						
CC911 Furniture manufacturing				A and Q		
CC912 Other manufacturing				A and Q		
DD Electricity, gas, water and waste services						
DD111 Electricity generation and on-selling		A, Q				
DD112 Electricity transmission and distribution			A	Q		
DD113 Gas supply		A		Q		
DD121 Water supply		A				Q
DD122 Sewerage and drainage services	A				Q	
DD123 Waste collection, treatment and disposable services				A		Q
EE Construction						
EE111 Owner-builder construction			A			Q
EE112 Residential building construction			A			Q
EE113 Non-residential building construction			A			Q
EE121 Heavy and civil engineering construction						
Private sector			A			Q
Public sector, by market group					A	Q
EE131 Construction services	A			Q		
FF Wholesale trade						
FF111 Basic material wholesaling	A			Q		
FF112 Machinery and equipment wholesaling	A			Q		
FF113 Motor vehicle and motor vehicle parts wholesaling	A			Q		
FF114 Grocery, liquor and tobacco product wholesaling	A			Q		
FF115 Other goods wholesaling	A			Q		
FF116 Commission based wholesaling	A			Q		
GH Retail trade and accommodation						
GH1 Retail Trade						
GH111 Motor vehicle parts retailing	A			Q		
GH112 Fuel retailing	A			Q		
GH121 Supermarket and grocery stores	A			Q		
GH122 Specialised food retailing	A			Q		

GH131 Furniture, electrical and hardware retailing	A			Q				
GH132 Recreational, clothing, footwear and personal accessory retailing	A			Q				
GH133 Department stores	A			Q				
GH134 Pharmaceutical and other store based retailing	A			Q				
GH135 Non-store and commission based retailing	A			Q				
GH2 Accommodation and food services								
GH211 Accommodation	A			Q				
GH212 Food and beverage services	A			Q				
II Transport, postal and warehousing								
II111 Road transport			A			Q		
II121 Rail transport	A			Q				
II122 Water transport								
Ferry transport	A			Q				
Other transport		A					Q	
II123 Air and space transport	A			Q				
II124 Scenic and sightseeing transport	A			Q				
II125 Other transport		A					Q	
II131 Postal and courier pick up and delivery			A	Q				
II132 Transport support services		A				Q		
II133 Warehousing and storage services	A			Q				
JJ Information media and telecommunications								
JJ111 Publishing (except internet and music publishing)		A				Q		
JJ112 Motion picture and sound recording activities				A		Q		
JJ113 Broadcasting and internet publishing		A				Q		
JJ121 Telecommunications services	A			Q				
JJ122 Internet service providers, web search portals and data processing services								
JJ123 Library and Other Information Services								
Local government sector				A			Q	
Central government sector				A	Q			
KK Financial and insurance services								
KK111 Banking and financing								

Reserve Bank	A			Q		
Other banking and financing	A		Q			
KK112 Financial asset investing	A		Q			
KK121 Life insurance		A			Q	
KK122 Health and general insurance		A			Q	
KK123 Superannuation funds		A			Q	
KK131 Auxiliary finance and insurance services	A		Q			
LL Rental, hiring and real estate services						
LL111 Rental and hiring services (except real estate)		A				Q
LL112 Non-financial asset leasing		A			Q	
LL121 Residential property operators			Q			
LL122 Non-residential property operators		A	Q			
LL123 Real estate services			Q			
LL211 Owner-occupied property operation		A	Q			
MN Professional, scientific, technical, administrative and support services						
MN1 Professional, scientific and technical services						
MN111 Scientific, architectural and engineering services	A (non-market)	A (market)		Q (non market) at MN1 level.	Q (market)	
MN112 Legal and accounting services		A (market)			Q (market)	
MN113 Advertising, market research and management services		A (market)			Q (market)	
MN114 Veterinary and other professional services		A (market)			Q (market)	
MN115 Computer system design and related services		A (market)			Q (market)	
MN2 Administrative and support services						
MN211 Travel agency and tour arrangements services		A			Q	
MN212 Employment and other administrative services		A			Q	
MN213 Building cleaning, pest control and other support services		A			Q	
OO Public administration and safety						
OO1 Local government administration						
OO111 Local government administration	A			Q		
OO2 Central Government administration, defence and public safety						
OO211 Central Government Administration and Justice	A			Q		

OO212 Defence	A				Q	
OO213 Public order, safety and regulatory services						
Local government sector					A	Q
Central government sector	A				Q	
Private sector	A				Q	
PP Education and training						
PP111 Preschool education					A	Q
PP112 School education					A	Q
PP113 Tertiary education					A	Q
PP114 Adult, community and other education					A	Q
QQ Health care and social assistance						
QQ111 Hospitals			A		Q	
QQ112 Medical and other health care services			A		Q	
QQ113 Residential care services and social assistance			A		Q	
RS Arts, Recreation and Other Services						
RS111 Heritage and artistic activities	A (market)			A (non-market)	Q (market, non-market)	
RS112 Sport and recreation activities	A (market)			A (non-market)	Q (market, non-market)	
RS113 Gambling activities	A				Q	
RS211 Repair and maintenance	A				Q	
RS212 Personal care, funeral and other personal services	A				Q	
RS213 Religious services				A	Q	
RS214 Civil, professional and other interest groups	A (market)			A (non-market)	Q (market, non-market)	
RS215 Private households employing staff	A		Q			

Source: Statistics New Zealand