



International Visitor Survey

CHANGES INTRODUCED FOR 2014 QUARTER 4

OVERVIEW

Since the introduction of the revised International Visitor Survey (IVS) in July 2013, there has been an increase in the number of respondents reporting higher than expected levels of expenditure. The method for identifying and treating outliers, used between 2013 quarter 3 and 2014 quarter 3, missed responses that are viewed by the Ministry and others as outliers. These missed outliers were overly influential in the calculation of spending estimates at some country/country group levels and to a minor extent on total spend. These extreme values of spend also inflated the relative margin of error of the estimates.

An external review of the IVS relative margin of error calculation also identified problems with the outlier detection and treatment method and recommended that an alternative method for detecting and treating outliers be adopted.

To remedy the above situation, MBIE, in consultation with Statistics New Zealand and Tourism New Zealand, has:

1. Implemented a new outlier detection and treatment method for the year-end December 2014 IVS release. This method was also applied to the five previous quarters (Quarter 3 2013 to Quarter 3 2014), resulting in revised spend estimates for these reporting periods.
2. Made changes to the questionnaire to improve spend data collected.

A number of other changes to the survey were implemented at this time and they are also outlined in this document.

Increases in reported spend 2014 quarter 4 and 2015 quarter 1

Estimates of expenditure in 2014 quarter 4 and 2015 quarter 1 show a marked increase compared to recent quarters, despite the changes outlined in this report that were expected to have the opposite effect, everything else being equal.

One minor error was found in 2014 Quarter 4, relating to the treatment of airfares for a small subset of respondents. This required that the year-end December 2014 spend estimates be revised.

The Ministry is monitoring the data closely and investigating for any data issues that might be behind the marked increase in the summer of 2014/15. So far none has emerged.



OUTLIER DETECTION AND TREATMENT

The new method is adapted from the Banff tool developed at Statistics Canada for editing and imputation of quantitative survey data. Expenditure observations are identified as outliers if they are outside a defined range based on the median and the first and third quartiles of specified expenditure groups. For a response to be treated, it will need to be identified as an outlier at both a weighted and un-weighted level.

The previous method identified outliers based on the weighted contribution of an individual response to the total spend of the same expenditure groups. This method did not consider the validity of the reported spend; only its impact on total spend. This method was less effective at identifying outliers where there were multiple cases of extreme spend reported, as this decreased each individual response's overall contribution to the total.

The way identified outliers are treated also differs between the two methods. Under the new method, a new expenditure value is calculated that effectively reduces the respondent's weight to one, for the purpose of calculating expenditure estimates. With the previous method, a factor is calculated in order to bring the weighted expenditure estimate down to the 99th percentile value for weighted expenditure within that group. The new treatment method generates a lower total expenditure for the respondent than the previous method and results in lower estimates.

The Ministry believes that the new method is more likely to meet the needs of users who undertake analysis at the country level.

In both cases the original weights are unchanged (and therefore non-expenditure results are unaffected).

Impact of the changes on total spend

Revised data for the periods year ended September 2013 to year ended September 2014 were published on 20 February 2015. For the year ended September 2014, implementing the new outlier treatment reduced total spend by 5.7 per cent. The impact on total expenditure for the affected reporting periods is provided in Table 1.

Table 1: Changes to reported total spend

Year end	Original spend	New spend	Per cent change
YESep2013	6,553m	6,541m	-0.2%
YEDec2013	6,672m	6,580m	-1.4%
YEMar2014	6,993m	6,720m	-3.9%
YEJun2014	7,150m	6,823m	-4.6%
YESep2014	7,240m	6,824m	-5.7%

The country estimates that were most impacted are Canada (down 41 per cent), China (down 11 per cent) and the United States (down 10 per cent). Further information on the impact of the changes at a country level is provided in Table 2.



Table 2: Changes to reported country estimates for the year ended September 2014

Country	Average spend old	Average spend new	change
Australia	1,787	1,736	-3%
UK	3,876	3,862	0%
USA	3,888	3,500	-10%
Japan	2,820	2,820	0%
Korea, Republic of	2,915	2,842	-3%
China	4,220	3,747	-11%
Germany	5,230	5,022	-4%
Canada	6,331	3,767	-41%
Rest of Asia	3,041	2,971	-2%
Rest of Americas	3,383	3,408	1%
Rest of Europe	4,716	4,528	-4%
Rest of Oceania	1,523	1,601	5%
Africa and Middle East	3,131	3,131	0%

The stronger treatment of outliers, combined with the increased number of treated cases (Table 3), resulted in the overall decline when revised figures were released in February 2015.

Table 3: Changes to number of treated outliers by reporting period

Quarter	Outliers old	Outliers new
2013 3	3	5
2013 4	8	15
2014 1	5	16
2014 2	5	7
2014 3	7	24

Changes to publications

The Ministry updated material on its website and on NZ.Stat with the revised data in February 2015.

Treatment in Statistics New Zealand's macroeconomic data

Statistics New Zealand will adopt these revisions as part of their regular annual revisions cycle. A timeline of when these revisions will appear on their economic releases is shown below:

Release	Date
Balance of Payments and International Investment Position: June 2015 quarter	16 September 2015
Gross Domestic Product: June 2015 quarter	17 September 2015
Tourism Satellite Account: 2015	27 October 2015
National Accounts (Income and Expenditure): Year ended March 2015	20 November 2015

Further information can be found on the Statistics NZ website (http://www.stats.govt.nz/browse_for_stats/economic_indicators/balance_of_payments/ivs-revision.aspx).



CHANGES TO THE QUESTIONNAIRE

Changes to the survey designed to reduce the influence of extreme expenditure outliers were introduced on 1 October 2014. A number of other changes were also made to the questionnaire to improve or expand the data collected. The changes to the questionnaire are presented below.

Purpose of visit

Reworded question

New wording:

IVS_INT1 How many times have you visited New Zealand? **NUMERIC TEXT BOX, ALLOW VALUES BETWEEN 1 AND 100**

Originally respondents were asked:

These questions are about your recent visit to New Zealand. Have you been to NZ more than once? **SINGLE RESPONSE**

Yes	1	
No	2	

New question

DO NOT SHOW CODES SELECTED AT IVS_INT2

IVS_INT9 Please mark one response to show your **secondary** reason for going to New Zealand. **SINGLE RESPONSE**

Holiday / vacation	1	
Visiting friends / relatives	2	
Business	3	
Education	4	
Conference / convention	5	
Other	96	
No other reason	99	



Option added: "For shopping"

IF CODE 1 AT IVS_INT2

IVS_INT3 Did you go to NZ mainly ... SINGLE RESPONSE

For some special public event or occasion	1	SKIP TO NEXT SECTION
As an incentive visit as a reward for good work or sales	2	SKIP TO NEXT SECTION
For your honeymoon	3	SKIP TO NEXT SECTION
For a working holiday	4	SKIP TO NEXT SECTION
To go sightseeing	5	SKIP TO NEXT SECTION
For a holiday /recreation	6	SKIP TO NEXT SECTION
For shopping	7	skip to next section
For some other reason	90	SKIP TO NEXT SECTION

New question

IF CODE 5 AT IVS_INT2

IVS_INT10 Did you go to NZ mainly as an incentive visit as a reward for good work or sales?
SINGLE RESPONSE

Yes	1	
No	2	
Rather not say	98	

Reworded question

New wording:

IVS_SPD8 Who did you visit New Zealand with? MULTIPLE RESPONSE EXCEPT CODE 1

Myself	1	
My husband, wife or partner	2	
Child/children aged under 15	3	
Child/children aged 15 or older	4	
Other family / relative	6	
Other person(s)	7	



Originally respondents were asked:

IVS_SPD1. IF CODE 10 AT IVS_ITI1 Did you travel in New Zealand after you finally left the cruise ship:
ELSE Did you visit New Zealand:

SINGLE RESPONSE

if code 1 at ivs_spd1 Alone within the tour group else Alone	1	SKIP TO IVS_SPD12
if code 1 at ivs_spd1 With one or more other people within the tour group else With one or more other people	2	
if code 2 or 98 at ivs_spd2 Sometimes alone, sometimes with one or more other people	3	

Package and tour group visitors

The three original questions used to determine if a visitor booked a package when coming to New Zealand or were part of a group tour were replaced with the following three questions

IVS_ITI9 When you booked the [INSERT WORDING FROM IVS_ITI1](#) to New Zealand, did it also include other aspects such as accommodation, transport etc.? [SINGLE RESPONSE](#)

Yes	1	
No	2	skip to IVS_ITI11
Not sure	98	skip to IVS_ITI11

[IF CODES 1 TO 4 OR 90 AT IVS_ITI1](#)

IVS_ITI10 Do you know how much the [INSERT WORDING FROM IVS_ITI1](#) cost by itself?
[SINGLE RESPONSE](#)

Yes	1	
No	2	
Not sure	98	

IVS_ITI11 Did you travel around New Zealand with others, [IF CODES 2 TO 7 AT IVS_SPD8](#) aside from [INSERT CODES SELECTED AT IVS_SPD8](#), in a [multi-day] tour organised by a company? [SINGLE RESPONSE](#)

Yes	1	
No	2	
Not sure	98	



The original questions were:

IF CODES 10 OR 11 AT IVS_ITI1 SKIP TO IVS_SPD7

IVS_SPD2. Did you go to NZ on a **group tour** that included international travel to NZ AND that was organised by a travel business or other organisation? SINGLE RESPONSE

Yes	1	SKIP TO IVS_SPD3
No	2	
Not sure	98	

IVS_SPD3. Was part (or all) of the visit to NZ a **package deal** that included international travel to NZ as well as something else such as accommodation AND that was offered by an airline or other travel organisation? SINGLE RESPONSE

Yes	1	
No	2	SKIP TO IVS_SPD7
Not sure	98	SKIP TO IVS_SPD7

IVS_SPD4. Did the package/ tour include the airfare to and from NZ? SINGLE RESPONSE

Yes	1	
No	2	SKIP TO IVS_SPD5

Expenditure

Tour / package cost: Position within questionnaire changed

Originally package or tour respondents were asked to report the cost of their tour/package cost prior to the main expenditure question. Now this question is incorporated into the main expenditure question and is only asked of those who choose to provide itemised costs rather than the total cost of their visit.

	Amount (NUMERIC TEXT BOX)	Currency (DROP DOWN BOX)
IF package = 1 Tour / package cost	IVS_SPD12	IVS_SPD13

Changes to instructions:

New wording:

Purchases to exclude:



IF CODE 2 OR 98 AT IVS_ITI9 OR CODE 1 AT IVS_ITI10 International airfares to and from New Zealand

- IF CODE 10 AT IVS_ITI1 The Cruise to and/or from New Zealand or anything on the Cruise ship
- IF CODE 10 AT IVS_ITI1 International airfares from New Zealand
- Goods to export
- Buying or maintaining property (e.g. house, apartment flat, timeshare)
- Land
- Motor vehicles
- Businesses
- Export animal

Things to include:

- IF CODES 2 OR 98 AT IVS_ITI10 International airfares to New Zealand
- IF CODE 1 AT IVS_SPD9 Anything else that you spent on the trip for yourself
- IF CODES 2 OR 98 AT IVS_SPD9 Anything else that you spent on the trip for yourself and those you travelled with
- Anything else that was paid for you by someone else, employer or a business

Originally respondents were asked:

IN ALL THE QUESTIONS INCLUDE:

- What you and those you are answering for spent on the visit to New Zealand

AND

- Anything that others paid towards the cost of that visit

Remember to include anything paid for by a business or employer

Do NOT include international airfares

- If arrived via cruise ship, what you and those you are answering for spent on the visit after you left the cruise ship

NOT including:

- if package = 1 The cost of the package / tour
- International airfares
- if ivs_iti1 = 10 The cost of the cruise
- if ivs_spd14 = 1 The cost of buying a house, flat or timeshare
- if ivs_spd14 = 2 The cost of maintaining a house, flat or timeshare

New Questions:

Just to check, did you include any of the following in the amounts you entered above?

- Purchase of export goods
- Purchase of business goods or services
- Purchase of international airfares in New Zealand



- Purchase of property (e.g. house, apartment, flat, timeshare)
- Purchase of land
- Purchase of business
- Purchase of motor vehicle
- Purchase of export animal

IF RESPONDENT SELECTS YES TO ANY OF THESE THEN SHOW QUESTION THAT ASKS HOW MUCH THEY SPENT ON CAPITAL ITEM X. REMOVE THIS EXPENDITURE FROM THE IVS SAMPLE DATA

Yes	1	
No	2	SKIP TO IVS_SPD32

IF CODE 1 ABOVE, SHOW IF CODE 1 AT IVS_SPD34 PRESENT TABLE WITH IVS_SPD16-28 AGAIN AND ALLOW MODIFICATIONS

IVS_SPD32 Are there any expenses that you were unable to include in the above expenditure estimate e.g. paid for by a business, relatives or friends? **SINGLE RESPONSE**

Yes (please specify what the expense was and how much in the box)	1	TEXT BOX
No	2	

Visiting other countries

Reworded question

New wording:

IVS_TA6 On this trip, what other countries, if any, did you stay at least one night in before arriving in New Zealand?

Country (use countries list from screener)	Number of nights (numeric text box)
Country (use countries list from screener)	Number of nights (numeric text box)
ASK FIVE COUNTRIES	
include none option	

IVS_TA7 On this trip, what other countries, if any, did you stay at least one night in after leaving in New Zealand?

Country	Number of nights
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(use countries list from screener)	(numeric text box)
Country (use countries list from screener)	Number of nights (numeric text box)
ASK FIVE COUNTRIES	
include none option	

Originally respondents were asked:

IVS_ITI3. As part of this visit to NZ, did you visit Australia? SINGLE RESPONSE

Yes	1	
No	2	skip to next section

IVS_ITI4. How many days did you spend in Australia? NUMERIC TEXT BOX, WITH 'NOT SURE' OPTION BELOW

Visitor experience questions

Options added: options 20 to 27

We are now going to ask you some questions about how you planned and booked your holiday to New Zealand.

IVS_APL1 Thinking back to when you first became interested in visiting New Zealand, which of the following factors helped stimulate that interest? **MULTIPLE RESPONSE, RANDOMISE ORDER, KEEPING ANOTHER SOURCE AND NONE OF THESE LAST**

It was somewhere new, I had never been there before	1	
Its environmentally friendly image	2	
Its spectacular landscapes and natural scenery	3	
Specific attractions brought me to NZ	4	
I wanted to visit friends or family in NZ	5	
A specific event brought me to NZ e.g. sporting or cultural event, wedding, family event, etc	6	
I saw advertising about New Zealand	7	
I saw or found a good deal on flights to New Zealand	8	
I saw or found a good travel package deal to New Zealand	9	
I wanted to see the unique indigenous culture	10	



I've always wanted to visit	11	
I saw a show or segment featuring New Zealand on TV	12	
I read about New Zealand in a newspaper, or magazine	13	
I read about New Zealand in online articles, travel forums, blogs, social networking sites, etc	14	
I was generally searching for places to go and came across information about New Zealand	15	
Friends, family or colleagues talked about or recommended New Zealand	16	
My travel agent talked about or recommended New Zealand	17	
The Hobbit Trilogy movies	18	
Social media	19	
Golf	20	
Skiing / snowboarding	21	
Fly fishing	22	
Walking and hiking	23	
Cycling	24	
Kayaking	25	
Running and multisport events	26	
New Zealand's food and wine	27	
Another source	90	
None of these	100	

Options added: options 'Webjet' and 'Expedia'

IVS_DMP1 And which of the following sources of information did you use before you arrived in New Zealand to plan and book your holiday? **MULTIPLE RESPONSE, HAVE TWO COLUMNS, ONE LABELLED PLAN, THE OTHER BOOK, RANDOMISE ORDER, KEEPING OTHER AND NONE OF THESE LAST**

100% Pure New Zealand www.newzealand.com	1	
Another specific New Zealand website, including attraction, transport or accommodation sites	2	
Online travel blogs	3	



NOT IF CODE 6101 AT IVS_SCR2 Facebook	20	
Twitter	21	
IF CODE 6101 AT IVS_SCR2 Weibu	24	
Another social networking website	4	
www.tripadvisor.com	17	
www.wotif.com	18	
www.lonleyplanet.com	19	
Travel agents in your home country in person	16	
Airline websites	11	
By phoning airlines	12	
By visiting an airline outlet	13	
Travel agents in your home country over the phone	14	
Travel agents in your home country via the internet	15	
Travel guides/books about New Zealand	7	
Other publications e.g. magazines	8	
Friends, family and colleagues	10	
www.i-SITE.org.nz	25	
Websites of individual i-SITE centres	26	
An i-SITE consultant or staff member by email or phone	27	
Instagram	28	
Pinterest	29	
Google+	30	
Wechat	31	
Essential New Zealand mobile app	32	
Webjet	33	
Expedia	34	
Another source	90	
None of these	100	



Airlines

Reworded question

New wording:

IVS_ARL1 IF CODES 1 TO 4 OR 90 AT IVS_ITI1 Which airline did you fly to New Zealand with?
IF CODES 10, 11 OR 91 AT IVS_ITI1 Which airline did you fly from New Zealand with? SINGLE
RESPONSE, RANDOMISE ORDER, KEEPING OTHER AND NOT SURE LAST

Originally respondents were asked:

IVS_ARL1 Which airline(s) did you fly to, from or both to and from New Zealand with?
MULTIPLE RESPONSE, RANDOMISE ORDER, KEEPING OTHER AND NOT SURE LAST