



## Demand side surveys

Coming improvements in New Zealand:  
The International Visitors Survey

Ministry of Economic Development  
Manatū Ōhanga



## International Visitors Survey

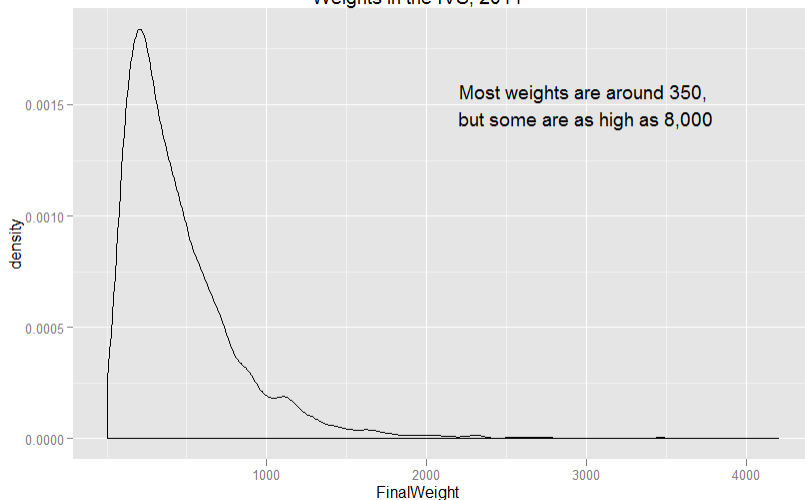
- Core element of tourism data, for:
  - Balance of Payments
  - Tourism Satellite Account
  - Forecasts
- 5,200 interviews per year
  - Computer-assisted face to face in airports
  - Costs around NZ\$700,000 per year
- A “complex survey”
  - Weighted to population; stratified; clustered; post-stratified; imputation, outlier treatment
  - Treatment of exchange rates, package air fares...
  - Capital expenditure excluded
  - Complex treatment of group size

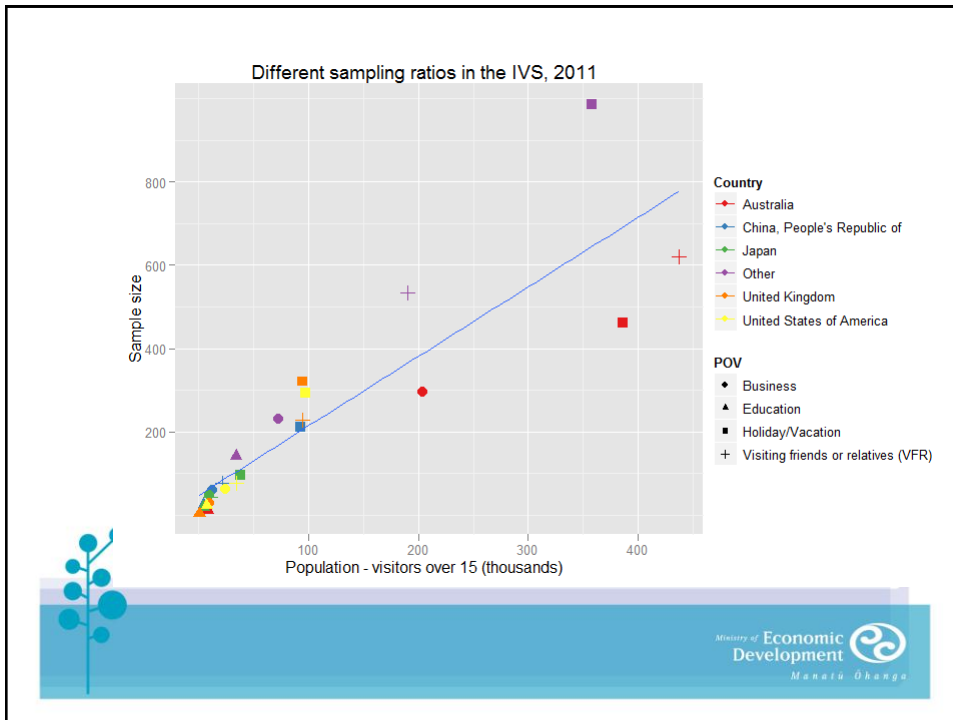
## Weighting to population

- Poststratification weighting on:
  - Country group x 14
  - Purpose of visit x 5
  - Sex x 2
  - Age category x 5 (15+ years)
  - Length of stay x ~5 (complex)
- Complex weighting problem
  - $14 \times 5 \times 2 \times 5 \times 5 = 3500$  different combinations
  - Many combinations need to be “collapsed”
  - But this weighting likely to be retained



Weights in the IVS, 2011





## Redevelopment 2011 - 2013

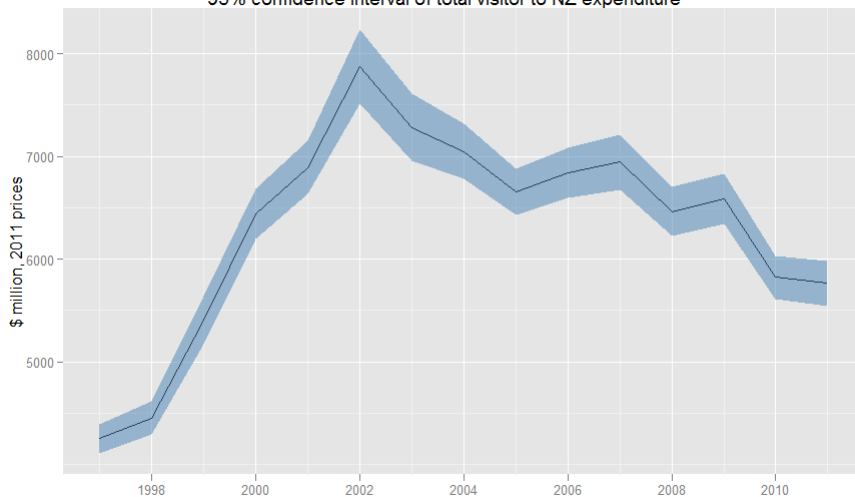
- First project in a planned five year programme to improve the tourism data set
- Address as many of the current issues as possible
- Dual run for six months planned to allow back-casting

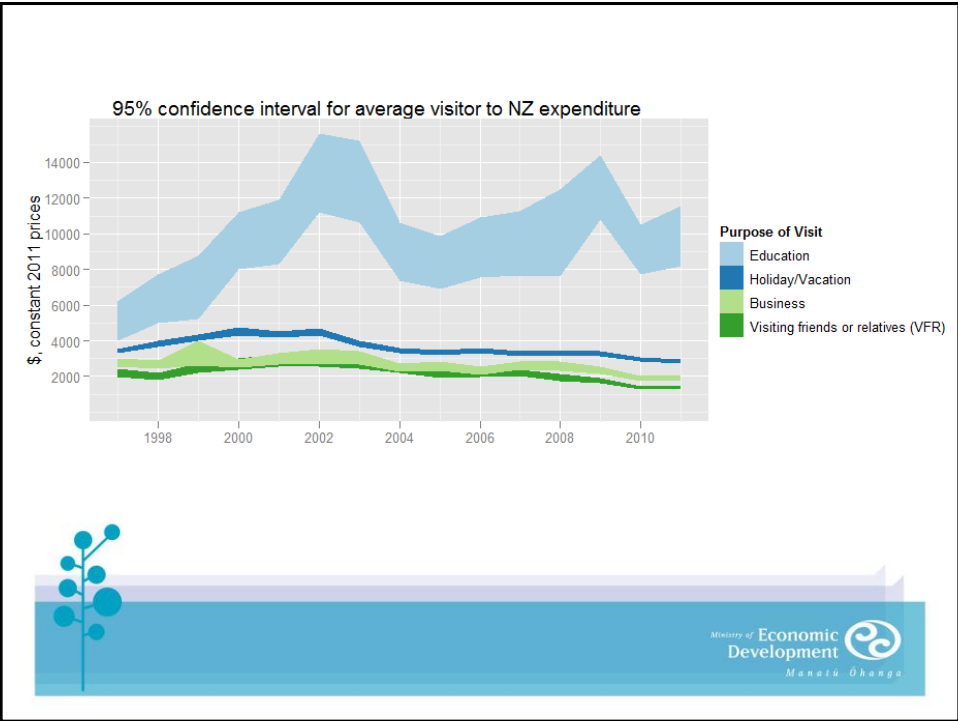
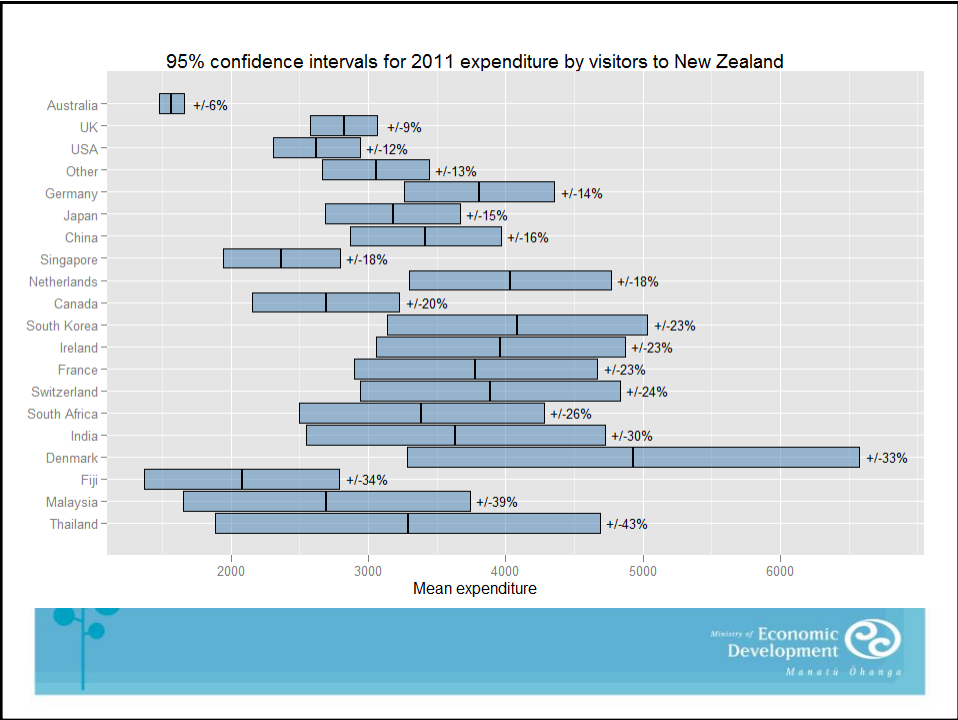
## Issues – meeting some needs

- Relatively small sample size means high degree of uncertainty
- OK for national, annual estimates
  - $\pm 3\%$  at 95% confidence level
- But not for:
  - Quarterly changes, and often even annual changes
  - Country of origin differences
  - Purpose of visit differences
  - Regional expenditure and activity



95% confidence interval of total visitor to NZ expenditure





## Issues – collection methods

- Sample selection issues
  - Unknown biases from respondent self-selection
  - Lack of business lounge subjects
  - Only three airports covered
  - Very poor on education
  - Nothing on cruise visitors
- Long interview times
  - 25 minute average
  - Can be more than one hour...



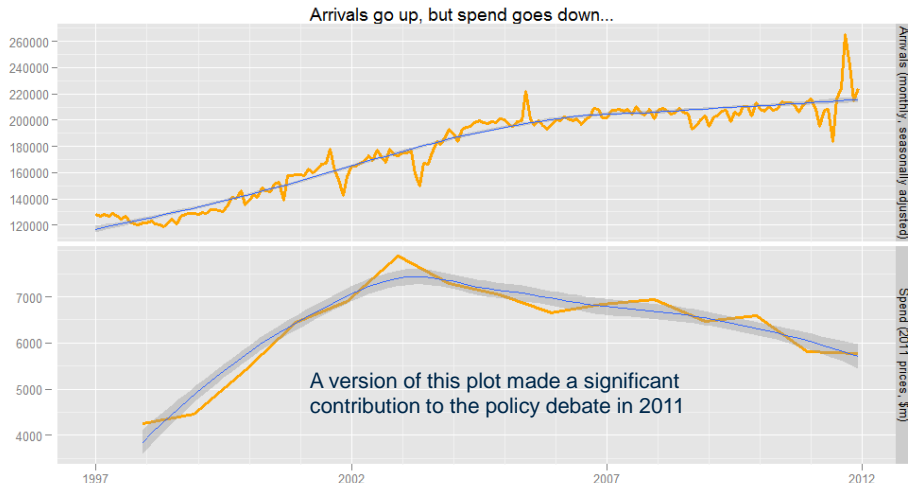
## Issues – technical

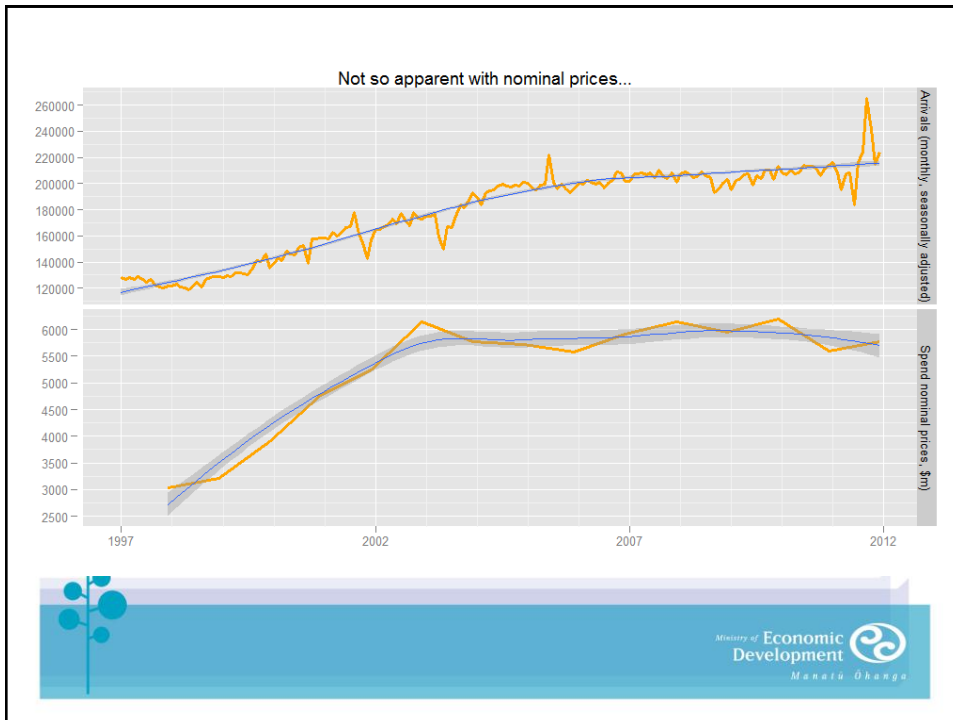
- Significant design effect from flight-based collection
  - Sample errors 1.5 x bigger than simple random sampling
- Strata and weighting out of date
- Limited data reuse
  - Sample errors calculated without making replicate weights available
  - Limited public access to confidentialised unit records



## Issues – position in policy debate

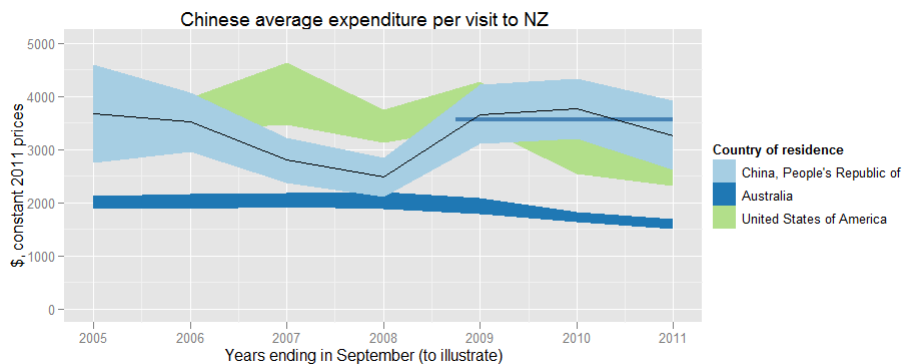
- Red herrings in policy debate
  - Focus on changes that aren't statistically significant
  - “why is country X average expenditure declining?”
  - Lack of stakeholder understanding of sampling uncertainty
- Focus on short term (year on year) rather than strategic trends
- Focus on nominal rather than real value





## Why “significance” is important

- In 2011 industry figures were concerned Chinese per trip spend declined 10% to \$3,200 in year ended September 2011 compared to YE Sep 2010.
- But this phenomenon was not significant
- It vanished with December 2011 data





## So what are we doing?

- Precision and confidence
- Collection
- Technical
- Reporting practices



## Precision and confidence

- Increase sample size
  - Aiming to bring relative margin of error down to  $\pm 10\%$  for key market countries average spend
  - Effective sample will at least double
  - May also be able to introduce seasonally adjusted quarterly series
  - But unlikely to meet needs for regional expenditure estimates
- Re-examine design
  - Might be possible to reduce the design-effect from flight clustering



## Collection issues - 1

- Shorten questionnaire to 14 mins
  - Remove cross tabulation of activity and region
- Move to online questionnaire
  - Only need to collect email address at airport; and in future even this may not be necessary
  - Meet airport stakeholder concerns
  - Remove business lounge sample problem (all addresses can be collected at “choke points”)
  - Reduce response burden
  - Change unknown respondent self-selection bias



## Collection issues - 2

- Develop alternative methods for measuring education and cruise
- Rationalise with Visitor Experience Monitor
  - Make VEM an extra “module”
  - Could also have other modules...
- Bring in Queenstown airport
  - rapidly growing; has a different visitor profile



## Technical

- Revisit design strata and clusters
- Preserve and make available replicate weights from sample error calculations
- Facilitate dissemination of confidentialised unit records



## Approach to reporting

- Round the key figures
- Grey out non-significant changes
  - For media, strictly highlight only the significant differences
- Increase use of time series plots
  - focus on long term issues
- Constant prices when possible
  - develop price index for tourism goods and services



## Redevelopment 2011 - 2013

- First project in a planned five year programme to improve the tourism data set
- Address as many of the current issues as possible
- Dual run for six months planned to allow back-casting
- Currently in middle of procurement

