

# Tourism data and policy

Using New Zealand tourism data in evaluations



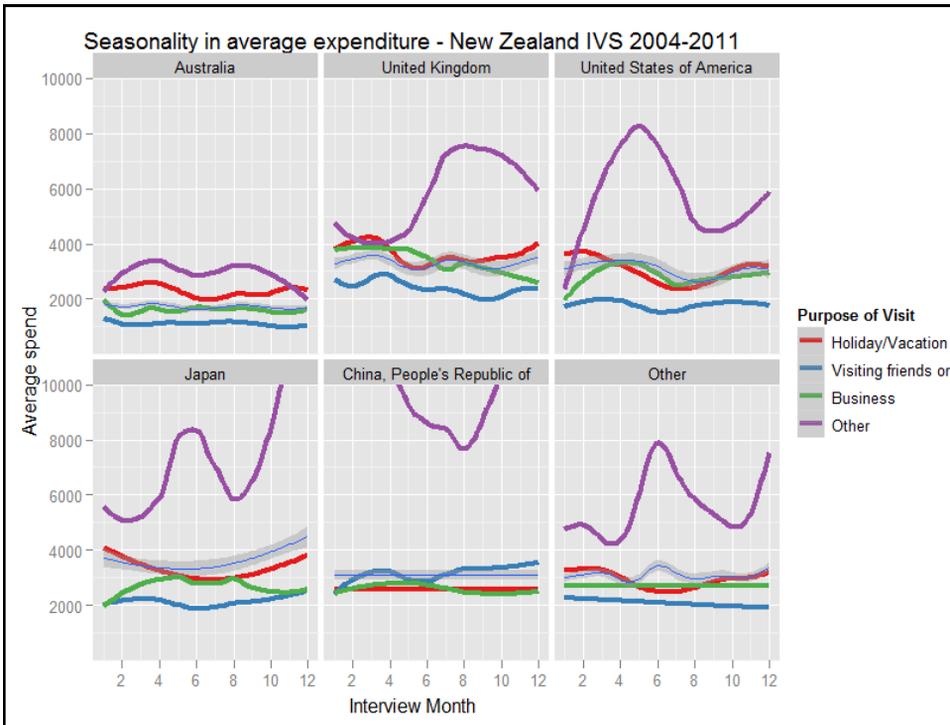
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## Digression (from yesterday)

- Seasonality in average *spend*
- Most seasonality is arrivals
- But spending patterns change too
  - Different depending on what month of the year leaving (see next chart)
  - Depends on visitor type (eg particularly strong for education)
  - And possibly *day* of the week or month too



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## Two examples

1. Destination marketing evaluation
2. Rugby World Cup



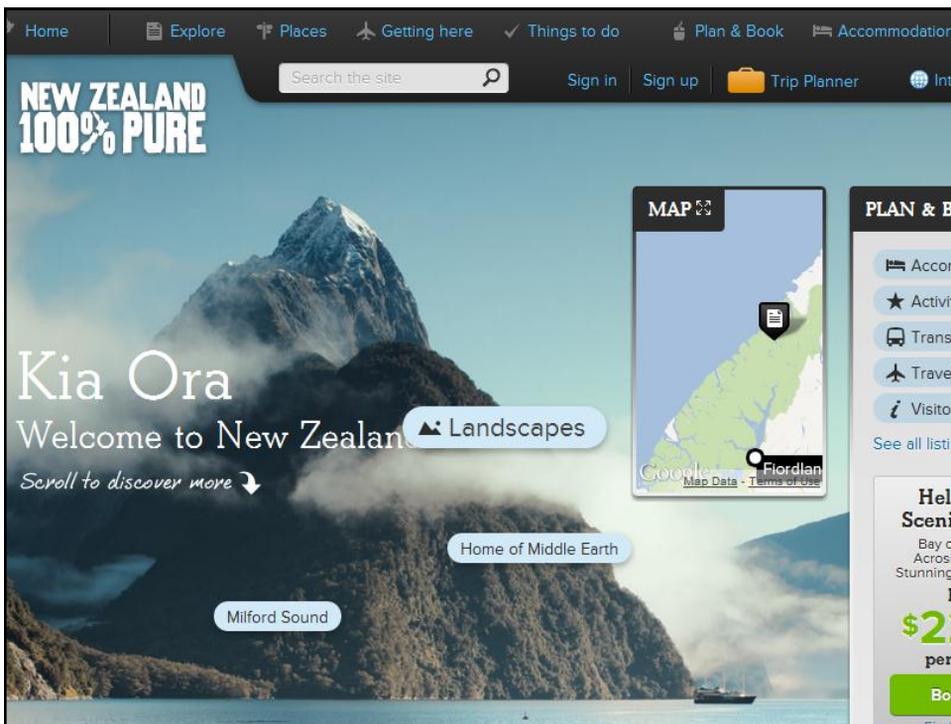
# 1. Destination marketing

- Tourism New Zealand
  - Around NZ\$100m per year
  - Key campaign “100% Pure”
  - Current strategy focuses on “Active Considerers”
  - Increasingly focused on-line
- The evaluation challenge
  - Well regarded outputs
  - But translation to outcomes?
  - Do they “convert” to actually come to New Zealand?



**NEW ZEALAND  
100% PURE**

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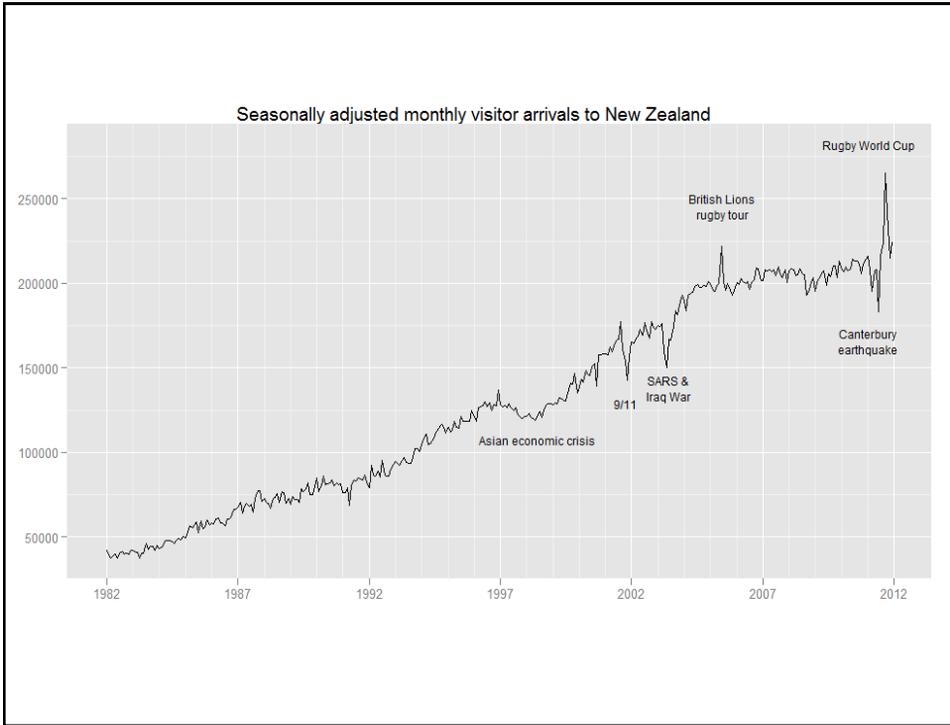
The screenshot shows the homepage of the New Zealand 100% Pure website. The main header features the 'NEW ZEALAND 100% PURE' logo in white on a dark blue background. Below the logo is a large, scenic photograph of a snow-capped mountain peak (likely Mt. Cook) overlooking a fjord (Milford Sound). The text 'Kia Ora Welcome to New Zealand' is overlaid on the image, with a 'Landscapes' button below it. A 'Home of Middle Earth' button is also visible. In the bottom left, there is a 'Milford Sound' button. The right side of the page features a 'PLAN & B' sidebar with navigation options like 'Accommodation', 'Activities', 'Transportation', 'Travel', and 'Visitors'. A 'MAP' section shows a map of New Zealand with a location marker for 'Fiordland'. The top navigation bar includes links for 'Home', 'Explore', 'Places', 'Getting here', 'Things to do', 'Plan & Book', and 'Accommodation'. A search bar and 'Sign in / Sign up' buttons are also present.



## The problem:

- Growth has been steady
  - But so has Tourism New Zealand's effort
  - Hard to construct the counter-factual
- Long delays in decision-making
- External effects obvious impacts
  - Conflict and international tensions
  - Fuel prices
  - Exchange rates





## Multivariate time series model

Response variable	Growth in Australian arrivals
Main explanatory variable	Marketing budget for Australia
Control variables	Airfares Exchange rates Australian general propensity to travel Australian consumption (a few others ...)



## Multivariate time series model

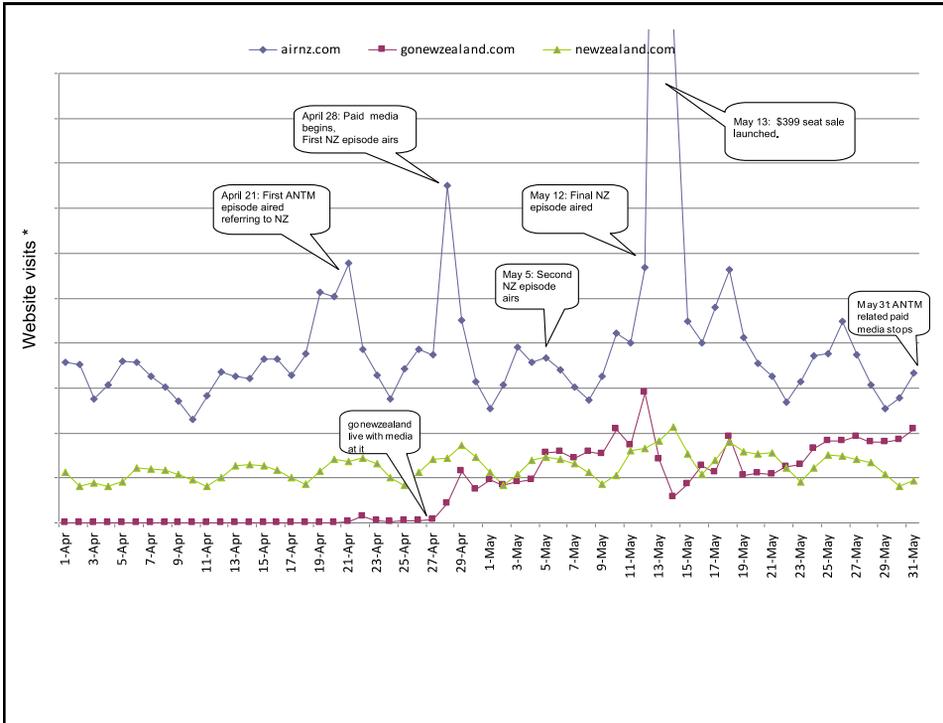
- Didn't answer our question
  - Not enough variation in marketing budget to explain variation in arrivals
  - Control variables changed more and were much more statistically important
  - Not enough reliable data for long time series (airfare)
- Unlikely to be much use for this
  - But will use the technique for other purposes eg relationship of airfares and oil prices to arrivals or expenditure



## Case study – *America's Next Top Model*

- Website and bookings
  - Spikes website hits for newzealand.com and for Air New Zealand
  - Bookings on Air New Zealand from 20 April-28 May rose by 17 percent compared to the same period in 2009,
  - Especially positive as had been trending down
- Awareness
  - 26% aware of link
  - Of those aware, 56% more likely to consider a holiday





## Case study – China 'Experience New Zealand'

- Campaign won prestigious award
- Six-fold increase in web hits
  - 23,000 traceable referrals to commercial partners
  - But can't track how many led to purchases
- China has had massive growth
  - But cannot attribute to campaign
  - General Chinese outbound increase the main cause



## Questions to visitors

- Simply asking
  - “Were you influenced by...”
  - Probably an underestimate
  - Subjects don’t realise the full range of marketing activity that may influence them



## Questions to visitors

- Experimental analysis results
  - Could estimate extra expenditure per year due to advertising
  - a large fraction of expenditure by those reporting advertising “main influence”
  - A small fraction of those reporting “an influence”
- Estimate return on marketing investment
  - Massive uncertainty...
  - Not enough sample size to say how these visitors different to others



## More econometric modelling

- Funded as blue skies research
- Cross-country, time series
- Multi-year project
- Might avoid some problems:
  - May be able to use variation in marketing activities *between* market countries
  - This variation is more than the variation in one market country, over time



## On-line analytics

- A range of improved tools for tracking behaviour



## Our next steps

- A new longitudinal study
- Australia and possibly Singapore
- Based on “active considerers”
  - Will follow up at six monthly intervals
  - Observe behaviour
  - If they don't go to NZ, where do they go?
  - Tease out awareness of range of marketing activity, not just commercials



## Summary – destination marketing evaluation

- Time series modelling
- Case studies x 4
- Questions in IVS and VEM
- Cross-country modelling
- Longitudinal study
- Increased on-line analytics



## 2. – The Rugby World Cup

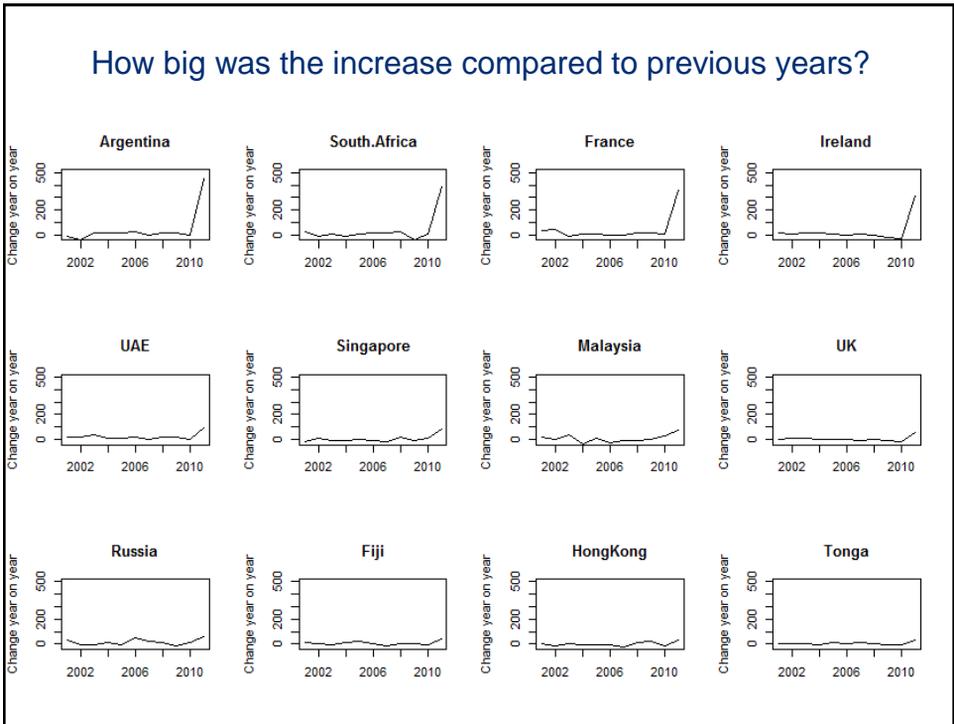
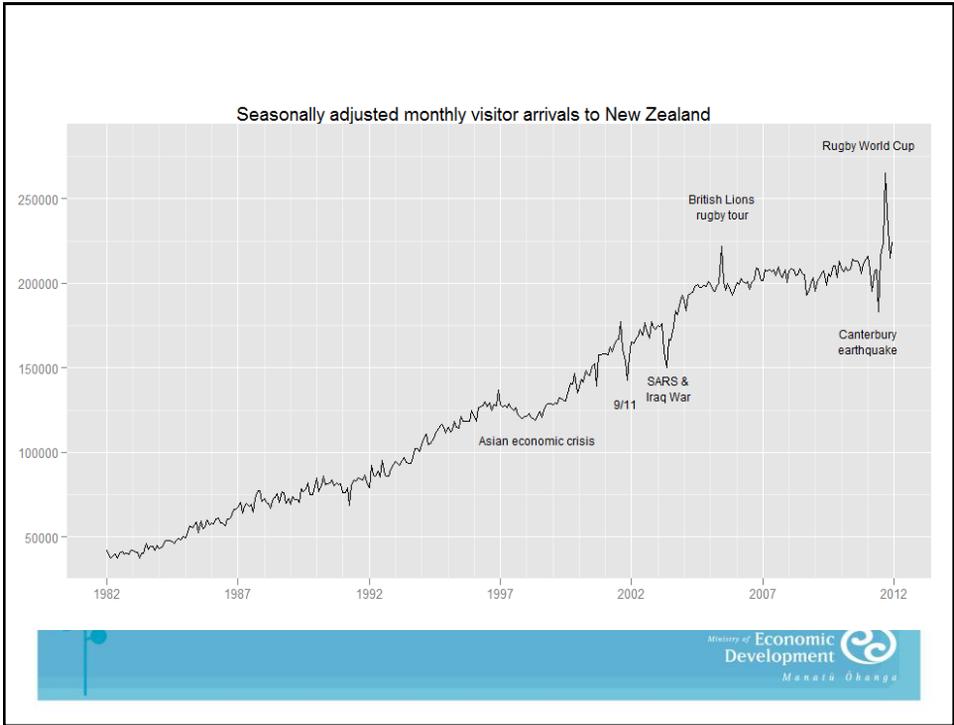
- A “mega event”
- Benefits and costs well beyond tourism
- Our question:
  - “what was the change in arrivals and expenditure that can be attributed to the Rugby World Cup?”
  - Needs to be robust in the face of criticism of uncertainty, displacement, attribution issues, etc

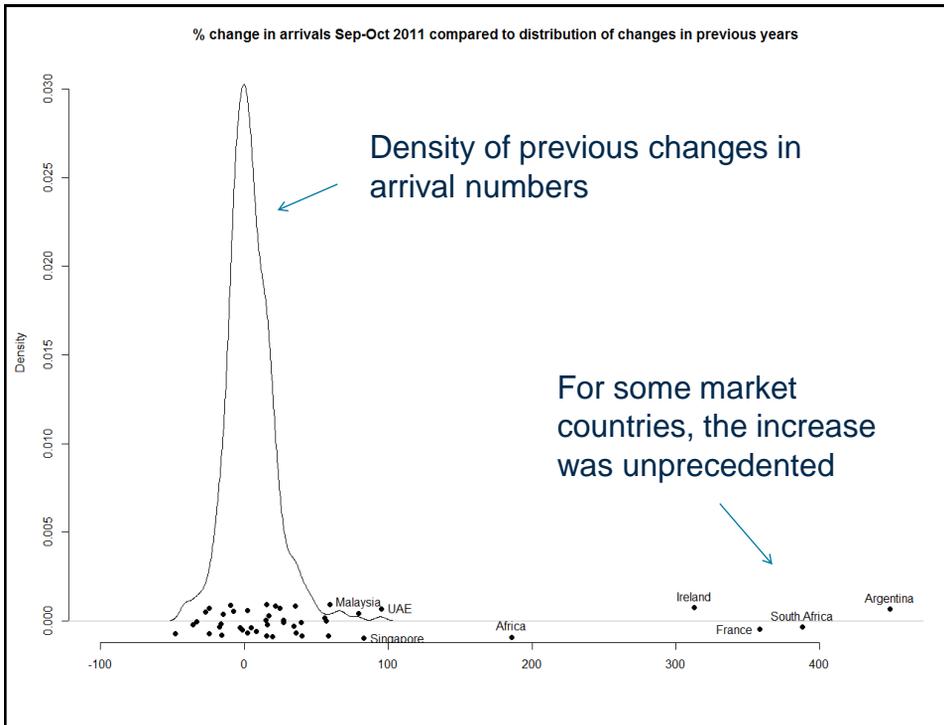


## Arrivals...

- 133,000 marked their arrival cards
  - We think the first time all arrivals for a mega-event recorded
- Main problems are
  - “how big is the increase in historical terms?”
  - “how many would have come anyway?”



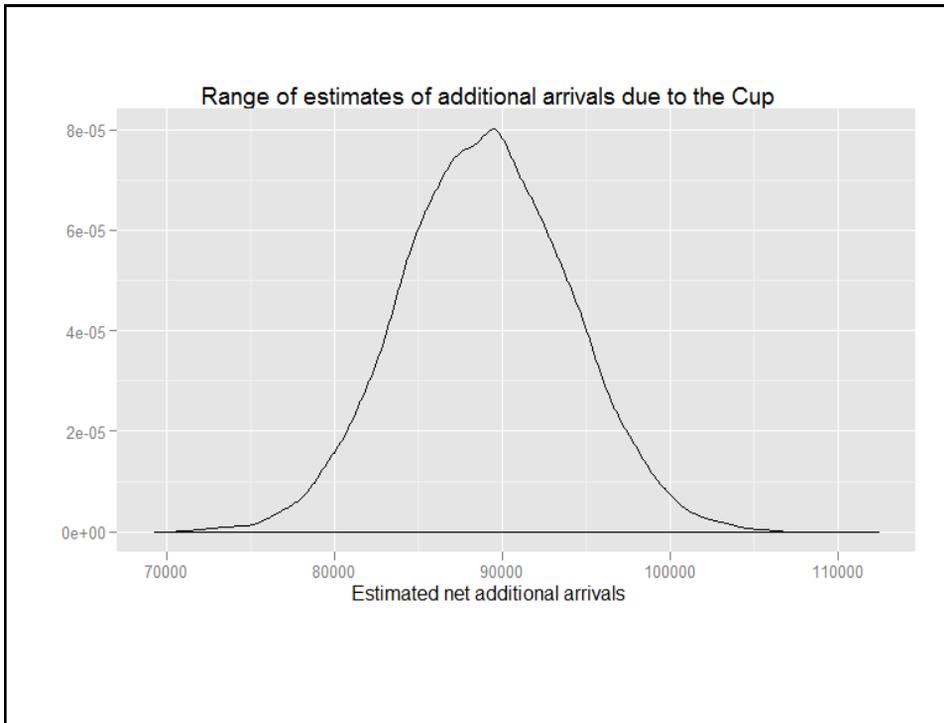




## How many *extra*?

- Two methods for the “no Cup” counterfactual:
  1. Naïve comparison to same months previous year
  2. Expected arrivals in Sept-Oct, given arrivals in May
- Weaknesses of each
  1. Doesn't take into account Christchurch earthquake
  2. Vulnerable to just “May”
- Result is a range of estimates
  - 89,000 ± 10,000 net increase

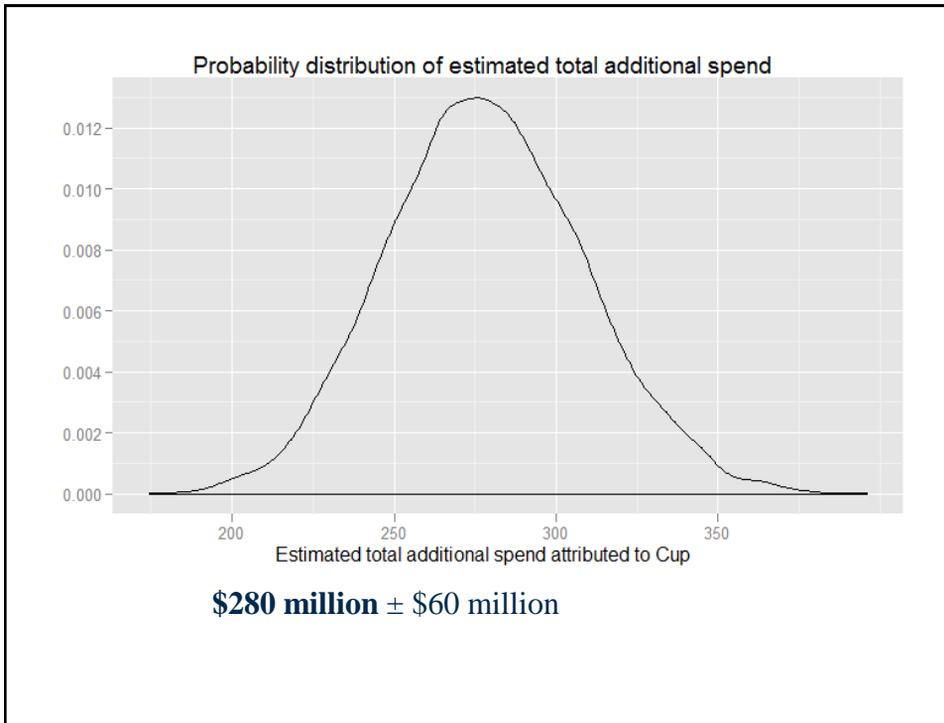




## Expenditure...

- More straightforward
- Rugby arrivals were also tagged in the IVS
  - But resulting sub-sample very small
  - \$3,400 ± \$630 average spend
- Total expenditure result of two sources of randomness
  - Multiply the arrivals (over 15) and average spend
  - Used simulations to derive an overall confidence interval





## Further information

- Surveyed 12,000 international ticket-buyers
- Weaknesses:
  - Expenditure information not comparable
- Good for:
  - Overall satisfaction
  - Comparing satisfaction with different aspects (results were similar to normal tourist profile)
  - Assessing issues of particular interest such as engagement with cultural activities, Maori, etc



## Summary – Rugby World Cup

- Drew on:
  - Immigration data
  - International Visitors Survey
  - Ad hoc survey of ticket holders
- Further analysis was required:
  - How much *net* increase in arrivals?
  - Combining uncertainty from multiple sources
- Final results very robust



## Bonus slides (not for showing)



% Change in Sept-Oct 2011 compared to 2010

