



## Using electronic card transaction data to measure and monitor regional tourism in New Zealand

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In 2012 and 2013, the Ministry of Business, Innovation and Employment (MBIE) in New Zealand launched two new regional tourism data collections that utilise electronic card transaction data. The Regional Tourism Indicators (RTIs) and Regional Tourism Estimates (RTEs) provide detailed, regionally specific insight into domestic and international tourist spending behaviours; the former in monthly reports of card spending and the latter in yearly estimates of absolute spend. These data collections have been welcomed with excitement by the industry and are helping tourism stakeholders, particularly in the regions, in make informed planning and investment decisions.

The RTIs use aggregated electronic card transaction data classified by period, cardholder origin, merchant location, and merchant industry. The data are published as transaction counts or spend indexes using any combination of these dimensions. Beyond their value for monitoring long term growth and change in tourism spending, the RTIs are also valued as a tool for assessing the impact of events, marketing, and other influences on tourism spending. With less than one month delay between the close of the reference period and publication of the data, the RTIs provide timely updates to policy makers and industry alike.

The RTEs leverage the electronic card transaction data through a world-first combination of data sources and modern statistical techniques to produce estimates of absolute spend that can be disaggregated by year, territorial authority, industry and by visitors' country/region of origin. The method uses iterative proportional fitting to adjust total tourism spend from the electronic card transactions data to match totals by industry in the Statistics New Zealand's Tourism Satellite Account, and by country of origin in MBIE's International Visitor Survey. In this way, it is possible to control for different propensities to use cards in different industries and by different country of origin for the tourists. The methodology is underpinned by a few assumptions. The regional results have been tested against a number of other regional indicators and MBIE is confident that the RTEs are reliable estimates.



## Introduction

In November 2011, the Ministry of Economic Development published the Tourism Data Domain Plan (hereafter referred to as ‘the Domain Plan’)[13]. In this comprehensive review of tourism data and insight in New Zealand, the Domain Plan identified five perennial topics of interest to the government and the tourism industry.

1. The value of tourism to New Zealand
2. The growth, innovation, productivity and efficiency of tourism businesses in New Zealand
3. The value of government interventions
4. The global competitiveness of New Zealand’s tourism industry
5. The sustainability of New Zealand tourism

The domain plan surveyed the datasets available (both tourism specific and otherwise), rating them for their usefulness in informing these topics and identifying areas where data were unavailable or insufficient. It then set forth an overarching strategy—consisting of 13 primary and 7 secondary recommendations—for improving the quality of the tourism data set so that it better met the needs of industry, researchers, and the Government.

The development of the RTIs and RTEs was in specific response to gaps identified in MBIE’s ability to assess the value of tourism to New Zealand. Prior to the introduction of the RTIs and RTEs, there were no specifically-designed data sources for measuring regional tourism. Government and stakeholders relied most on data from the International Visitor Survey (IVS) and the Domestic Travel Survey (DTS), which were designed to give national estimates and lacked the statistical power to produce reliable estimates at sub-national levels[7, 4]. Both surveys published year-end data around two months after the close of each quarter, which limited researcher’s ability to evaluate the impact of specific events or shocks to the market in a timely manner. While the Commercial Accommodation Monitor (CAM)[17] did provide regionally specific insights into the accommodation sector, its already heavy financial cost and respondent burden would increase unrealistically if it was enhanced to capture more general estimates of tourism behaviour. Consequently, the Domain Plan recommended the development of regional indicators of tourism from alternative data sources [13].

In response, MBIE explored the potential of using administrative data to produce a regional tourism series. While mobile phone and GPS data were initially considered, it quickly became apparent that electronic card transaction data would be the best source of information on international and domestic travellers’ spending behaviour. Electronic card transactions are common in New Zealand, with credit, debit, and charge cards comprising over 69 per cent of core retail spending [18]. By extension, card transactions are likely to represent a substantial sample of tourism product purchases. Electronic card transactions are a rich source of information: merchant details from a transaction can be coded for destination location and industry/product grouping (eg accommodation, or food & beverage services). The bank codes that make up credit card numbers allow for international transactions to be identified by country of origin. Finally, banks can isolate and tag domestic transactions with a cardholder’s origin (at the level of meshblock) before stripping transactions of personal identifiers, thus preserving anonymity. These properties combined mean that electronic card transactions



can be used to develop regionally specific insight into how much money is being spent on specific products by destination *and* the origin of the traveller.

## Methods

### Regional Tourism Indicators

The electronic card transaction data used to produce the RTIs are sourced from Marketview Ltd, who purchase data from Paymark (for the international component) and the Bank of New Zealand (for the domestic component). Paymark is one of two major credit card clearing houses within New Zealand, with approximately 70 per cent market share of New Zealand merchants with Electronic Funds Transfer at Point of Sale (EFTPOS) facilities. The Bank of New Zealand holds approximately 20 per cent of domestic household bank accounts in New Zealand, who are largely representative of New Zealand's population.

Marketview provide source data to MBIE as aggregated spend and transaction counts by month, cardholder origin (country or territorial authority for international and domestic transactions respectively), merchant location (territorial authority), and industry. Industry classification is completed by Marketview using the 2006 Australia New Zealand Standard Industrial Classification (ANZSIC-06) system at the four-digit level<sup>1</sup>. This is a relatively detailed level of specificity, allowing MBIE to broadly distinguish tourism products (eg I472000 - rail passenger transport) from non-tourism products (I471000 - rail freight transport). For the purpose of the RTIs, some territorial authorities have been added or modified from official boundaries to aid identification of tourism spending and improve reporting and analysis[3]. Only face-to-face card-present transactions are included in the data supplied to MBIE (that is, there are no online or card-absent transactions). The decision to exclude card-absent transactions reflects the difficulty in establishing precise locations for merchants with these types of transactions. For example, an online purchase of accommodation in Queenstown may be cleared through an online booking agent in Auckland, thus attributing spend to an incorrect location. The data supplied by Marketview includes the goods and services tax (GST) component of purchases, which is consistently applied across all products in New Zealand.

Extract-transform-load (ETL) processes conducted by MBIE provide additional classification of ANZSIC-06 codes into industry groupings (eg Accommodation, Cultural & recreation services, Non-tourism) and location data into additional geographic classifications (eg Regional Tourism Organisations, country groupings)<sup>2</sup>. The ETL process also classifies domestic transactions into tourism and local spending based on the relationship between the origin and merchant territorial authorities (TAs). Spending where cardholder and merchant are from the same TA is classified as 'local' by ETL processes. Spending where cardholder and merchant are from different TAs is generally classified as 'tourism'. However, analysis of electronic card data during the development

<sup>1</sup>see <http://www.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/industrial-classification.aspx> for detailed description and tables of ANZSIC-06 structure

<sup>2</sup>A full list of these classifications and groupings can be found at <http://www.med.govt.nz/sectors-industries/tourism/tourism-research-data/regional-tourism-indicators/about/definition-tables>



of the RTIs suggested that some boundaries between neighbouring TAs were fluid, to the point where the data represented local spending rather than domestic tourism. In order to exclude such cases, supermarket shopping behaviour was explored in a test data set prior to ETL development. If more than 25 per cent of supermarket purchases for cardholders in one TA were made in a neighbouring TA, that boundary was considered fluid and that origin-merchant relationship was classified as 'local' in ETL processes developed for the RTIs<sup>3</sup>.

Thus ETL processes produce a domestic RTI data set comprising all domestic spending where the origin-merchant relationship has been defined as 'tourism', a local data set comprising all domestic spending where the origin-merchant relationship has been defined as 'local', and an international RTI data set comprising all transactions where the origin of cardholder is outside of New Zealand. Due to the scope and purpose of this project, our interest and emphasis has been on the international RTI data set and the domestic RTI data set. However, there is significant value in the local data set that we hope to explore in the future.

**Data validation** Extensive data validation studies were conducted during the development of the RTIs [2]. We compared RTI spend data against spend estimates from the IVS and DTS surveys and volume estimates from arrivals data and the commercial accommodation survey (CAM). Validation also looked at trends across the time series, exploring the level of concordance between the RTIs and other data sets. For example, Figure 1 shows indexed spend from the RTIs and indexed guest nights from the CAM over time for domestic and international visitors. As can be seen, both data sources map very closely together, showing similar trends in performance and sensitivities to shocks and economic pressures. MBIE concluded that the RTIs compared very favourably with established measures of tourism behaviour in New Zealand. For reporting on industry or regional disaggregation they were far superior to survey methods, and discrepancies between the RTIs and surveys were nearly all explained by random chance in survey sampling[2].

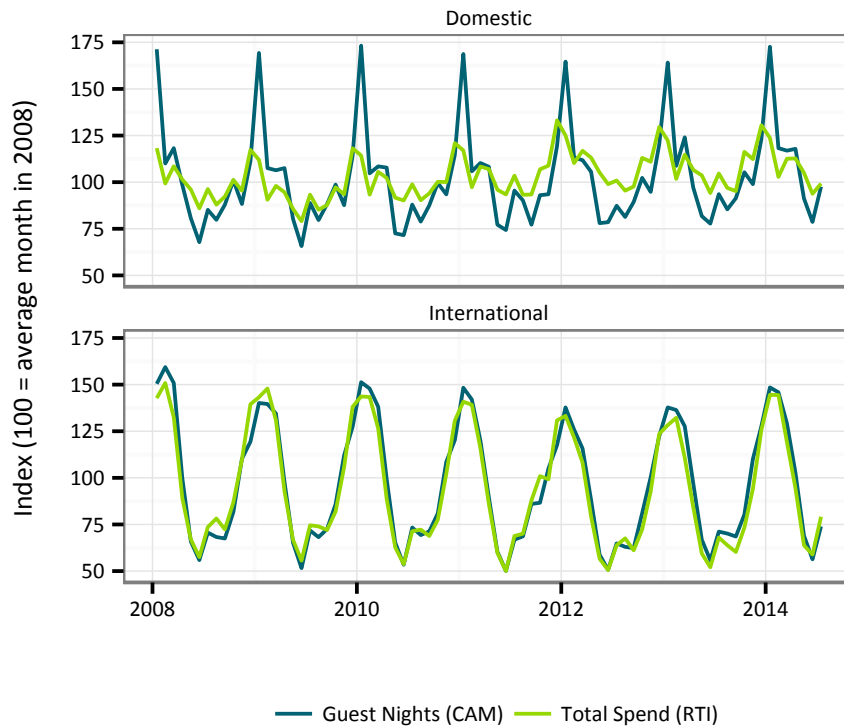
**Monthly update processes** Updates to the RTI source data are delivered to MBIE around the tenth business day of every month. Following ETL processes, MBIE conducts standard checks to ensure the data meet expectations. MBIE uses a forecast model to estimate expected spend and transaction counts for international and domestic data sets (by ANZSIC06, and by destination RTO or country of origin) for the current month of data. The actual data are then compared against the forecast values, with significant deviations from the forecast model flagged for further investigation. When data checks are completed and there are no outstanding issues, the new month's data is approved for use in analysis and the production of dissemination products.

As the purpose of the RTI project was to monitor changes over time and as only card-present electronic card transactions are included in the RTIs, spend data are always presented as indexes in analyses and publications. Indexing is completed during analysis and is specific to the origin-merchant-industry combination being analysed. Spending for each month is indexed to the average spend per month in 2008 for that combination of variables. The decision to index to 2008 was made during the development

<sup>3</sup>See <http://www.med.govt.nz/sectors-industries/tourism/tourism-research-data/regional-tourism-indicators/about/definition-of-tourism> for a full list of local relationships



**Figure 1:** Comparison of spend and guest night indexes for international and domestic travellers. Source: SNZ, Commercial Accommodation Monitor; MBIE, Regional Tourism Indicators



of the measure, and reflects the need to index to a year with no major shocks to the marketplace<sup>4</sup>. The RTI indexes are not inflation adjusted.

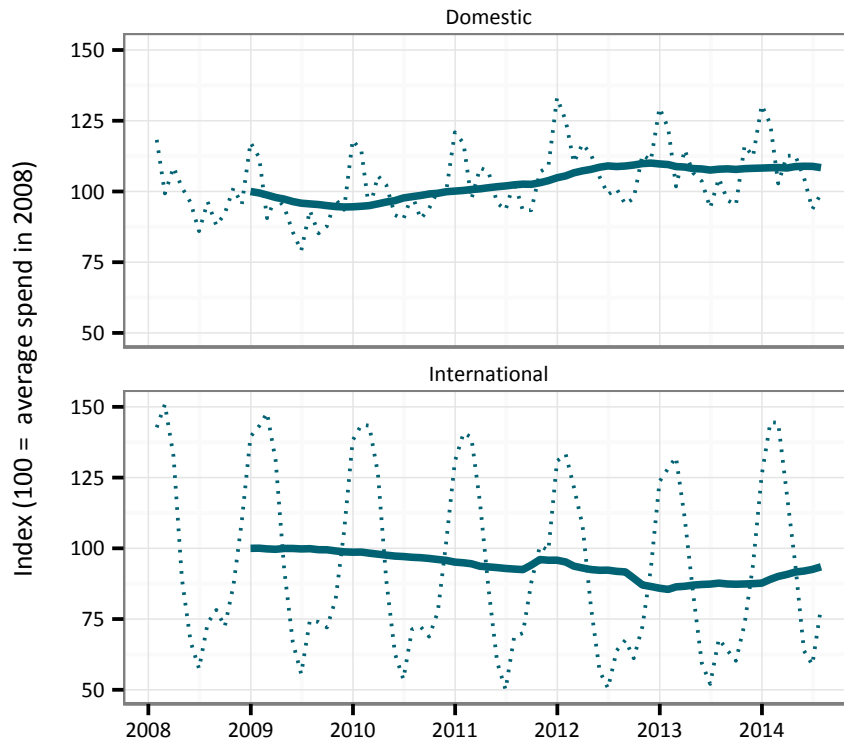
**Dissemination** Data from the international and domestic RTIs are released monthly on MBIE's website<sup>5</sup>. Products include graphs, tables, and commentary reporting performance at national, Regional Tourism Organisation (RTO), and TA levels. Graphs provide users with an overview of performance for domestic and international spending. For example, Figure 2 shows shows international and domestic spend for all of New Zealand as monthly indexes and as a 12-month rolling average. Through the use of the index and the rolling average index, stakeholders can make month-on-month performance comparisons (eg international spend in July 2014 was higher than for July 2013) or look at longer-term trends (eg the increase in rolling index since January 2014 suggests that international spending is increasing but is yet to reach 2008 levels). More detailed insights are available to users in downloadable tables and pivot tables.

<sup>4</sup>The Global Financial Crisis, Christchurch earthquakes, and the 2011 Rugby World Cup rendered 2009-2011 unsuitable and 2012 was an incomplete year at the time of development.

<sup>5</sup><http://www.med.govt.nz/sectors-industries/tourism/tourism-research-data/regional-tourism-indicators>



**Figure 2:** International and domestic Regional Tourism Indicators (RTIs) and 12-month rolling indexes. Source: MBIE, Regional Tourism Indicators



### Regional Tourism Estimates

In contrast to the RTIs which publish indexes of electronic card transactions, the RTEs publish real spend estimates capturing all payment types. The RTEs are derived using the RTIs, Statistics New Zealand's Tourism Satellite Account (TSA)[19] and MBIE's International Visitor Survey (IVS)[7]. Specifically, the RTEs use Table 7 from the TSA, which reports GST-exclusive tourism expenditure by product and type of tourist (domestic, international), and the tourism expenditure by key countries table from the IVS<sup>6</sup>. In order to match the product categories in the TSA, several RTI industry groups are amalgamated (eg good retailing and other retailing industry groups are combined to match the TSA product group 'retail sales - other'). Likewise, RTI country data are aggregated to match the countries and country groups used in the IVS table[10].

The RTEs are created using iterative proportional fitting, sometimes known as 'raking'. Iterative proportional fitting is a procedure for adjusting a table of data cells so that they add up to selected totals for both the columns and rows (in the two-dimensional case) of the table. In the case of the RTEs, cells in a contingency table formed from the

<sup>6</sup>Key countries being those countries and country groups used in the post-stratification weighting regime of the IVS.



RTI data are scaled, or 'raked', so that their marginal totals equal totals estimated from the IVS and the TSA. International RTI data are raked to match both the IVS and the TSA, thus controlling for differences in electronic card spending by country (IVS) and product (TSA). Domestic RTI data are simply weighted to match the TSA, controlling for differences in electronic card spending by product. For the domestic RTEs, propensity to use cards is assumed to be constant across all domestic cardholder origins. The result is a table of weights (total raked spend/spend from RTI source data) for specific combinations of origin and product which can be applied to source RTI data at more detailed regional levels. Full details and examples are in the RTE methodology documentation[10].

Spending on air passenger transport and education services are excluded from the RTEs. Both of these products are almost wholly excluded from the IVS and are under-represented in the RTI data due to typical methods of payment. Attribution of spending in these industry groups to particular countries of origin and/or destination TA was considered difficult and unlikely to produce reliable estimates.

The RTEs rest on stronger assumptions than do the RTIs. As we currently have no data otherwise, we need to assume that domestic card holders have the same propensity to use their credit and debit cards regardless of their origin. Second, while we allow for different propensities to use cards across different countries of origin and different product types, the method does not allow for these two propensities to interact. We assume a visitor from Canada, for example, is just as likely - relative to other countries for the same product types - to use their credit card to purchase food and beverages as they are to purchase other retail goods. Similarly, we need to assume there is no destination region effect - no particular ease/propensity to use cards in particular regions. All of these assumptions are clearly not exactly in accordance with reality, so we have to hope that they are at least approximately met. Future research into how badly they are broken, and what if anything can be done to adjust for that, would of course be useful as improved data sources become available.

**Validation** MBIE's RTE methodology paper details validation analyses conducted during the development of the data series[10]. Estimates of international tourism spend by destination RTO were strongly related to estimates of international trips by RTO (IVS), as were estimates of domestic tourism spend and domestic trips by RTO (DTS). RTE accommodation estimates and commercial accommodation guest nights (CAM) also showed a strong positive correlation. Moving beyond tourism data, the relationship between RTE estimates and regional Gross Domestic Product met expectations, showing higher relative tourism spend in the regions to be expected from general knowledge of their economies. MBIE concluded that the RTEs were a valid and robust measure of domestic and international tourism expenditure, producing estimates consistent with alternative data sources[10].

**Dissemination** The RTEs are published as year-ending March figures, consistent with the TSA. The key product is a single pivot table, allowing users to access estimates of spend for any combination of country/region of origin, region/RTO/TA of destination, and industry group[12]. In addition to this table, MBIE publishes supplementary material for users, including regional and RTO summaries[11] and interactive graphics[5, 6].



## Software and capability building

The production of the RTIs and RTEs was only possible because of a sustained multi-year capability-building program for the responsible team within MBIE. Over the period these data collections were developed, the team transitioned from Microsoft Excel to R[14] as the standard analytical workbench; and from unstructured and undisciplined files in different formats on file servers to a database for data persistence. Particular use was made of the `ggplot2`[1] and `survey`[16] packages. R programmes were developed to automate the monthly data checking and publication processes of the RTIs, and the annual creation of the RTEs. Custom `ggplot2` 'stats' were developed to perform seasonal adjustment on the fly and rolling averaged indexes on the fly; essential for efficient exploration and analysis of this large dataset. MBIE developed several R packages of functions and data for these and other tourism datasets, which can be shared on request on a 'no liability, almost no support' basis.

## Policy and Business Application

The RTIs and RTEs represent substantial improvements to the reliability and flexibility of tourism data. Ranging from detailed investigations into specific regions on industry groups to high-level summaries of overall performance, both MBIE and industry have used these new tools to provide up-to-date and relevant insight into the state of the tourism industry. The Ministry has made use of maps such as Figure 3 to provide government and stakeholders with quick and easy-to-digest summaries of tourism expenditure. The map shows annual average growth in international RTE visitor spend by region, allowing readers to identify regions where international expenditure is concentrated and regions that have experienced strong growth or decline of spending over the past five years.

## Assessing impact of market shocks

**Christchurch earthquakes** One aspect of the New Zealand tourism landscape that Figure 3 makes startlingly clear is the dramatic decline in international visitor spend in the Canterbury region. While international expenditure was estimated at \$954 million in the year ending March 2009, this declined to \$655 million in the year ending March 2012, largely in response to the Christchurch Earthquakes[12]. The first earthquake struck in September 2010, and was followed in February 2011 with a significant aftershock that killed 185 people and damaged countless properties throughout the region. The impact on Canterbury's tourism industry was severe. Accommodation capacity in Christchurch City dropped from over 10,000 stay-units per night in 2010 to under 6,000 stay units per night in March 2011, and is yet to fully recover[17].

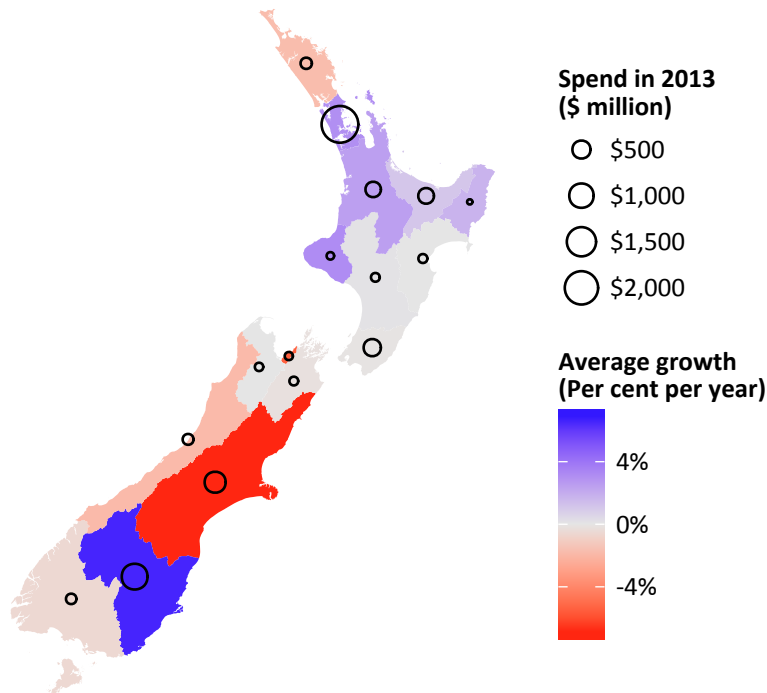
As Christchurch had acted as the primary hub for international travellers in the South Island, the impact of the earthquake has spread to other regions. Figure 3 shows that international visitor spend in the West Coast has also declined, likely reflecting that pre-earthquake visitors and primary road connections came via Canterbury. Without visitor volume and spending in Canterbury, the West Coast also suffers.

MBIE has been actively involved in the re-building of Christchurch and has a strong interest in monitoring the Christchurch economy for evidence of recovery. The RTIs have been ideally placed to contribute to this monitoring. Figure 4 shows seasonally





**Figure 3:** Average annual growth in international visitor spend by region, 2009 to 2013.  
Source: MBIE, Regional Tourism Estimates

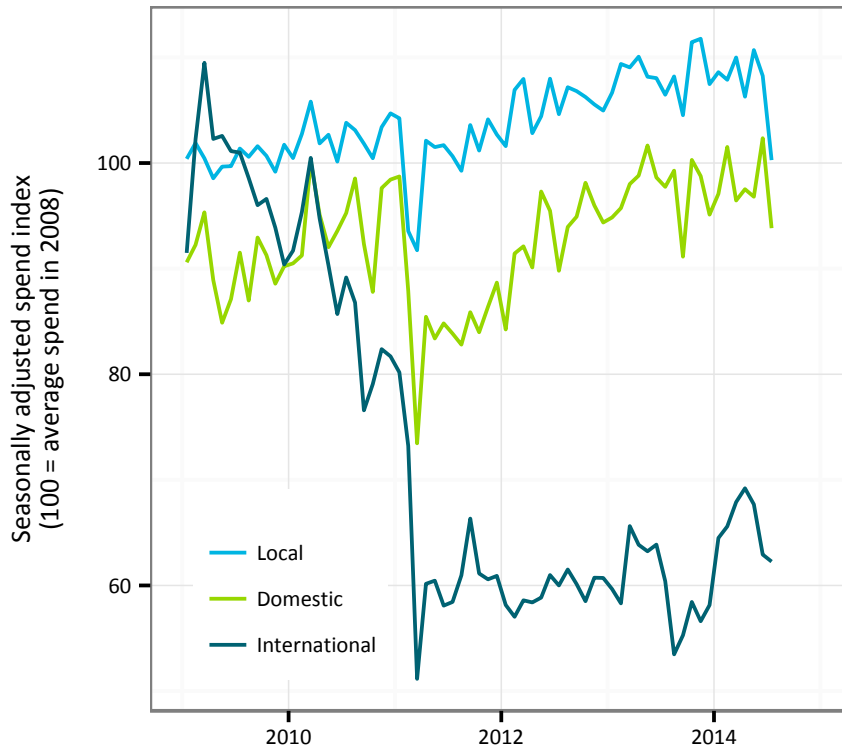


adjusted RTI data for local, domestic, and international cardholders in Christchurch City. Notably, all three series showed steep declines immediately following the February 2011 earthquakes, reaching their lowest points in March 2011. Where the series differ is in the recovery from this shock. International indexes have remained well below pre-earthquake levels, with little evidence of recovery. By contrast, local spending was largely unaffected by the earthquake past the initial shock and domestic visitor spending had recovered to pre-earthquake levels by mid-2013. MBIE believes that the influx of workers from outside of Christchurch City who are involved in the recovery efforts may be bolstering overall domestic indexes.

**2011 Rugby World Cup** New Zealand hosted the 2011 Rugby World Cup (RWC) through September and October of 2011. Along with considerable increases in visitor numbers, assessments by MBIE estimate that the RWC injected approximately \$280 million in additional international visitor expenditure to the New Zealand economy[8]. The RTIs have provided valuable insight into the impact of the RWC on different regions and industry groups. Figure 5 shows seasonally adjusted and raw indexes for four industry groups in Auckland Region. The solid pink lines mark the September–October period when the RWC was held and the dashed blue lines the same period in the surrounding years. All four industry groups show spikes in seasonally adjusted indexes for the RWC



**Figure 4:** Domestic, international, and local spend in Christchurch City. Source: MBIE, Regional Tourism Indicators



period, with the most noticeable increases in spending for ‘cultural and recreational services’ and ‘food and beverage services’. Illustrating the wide-reaching impact of the event, ‘other retailing’ (capturing all retail shopping other than food and fuel) benefited from an increase in spending by international visitors around the RWC period.

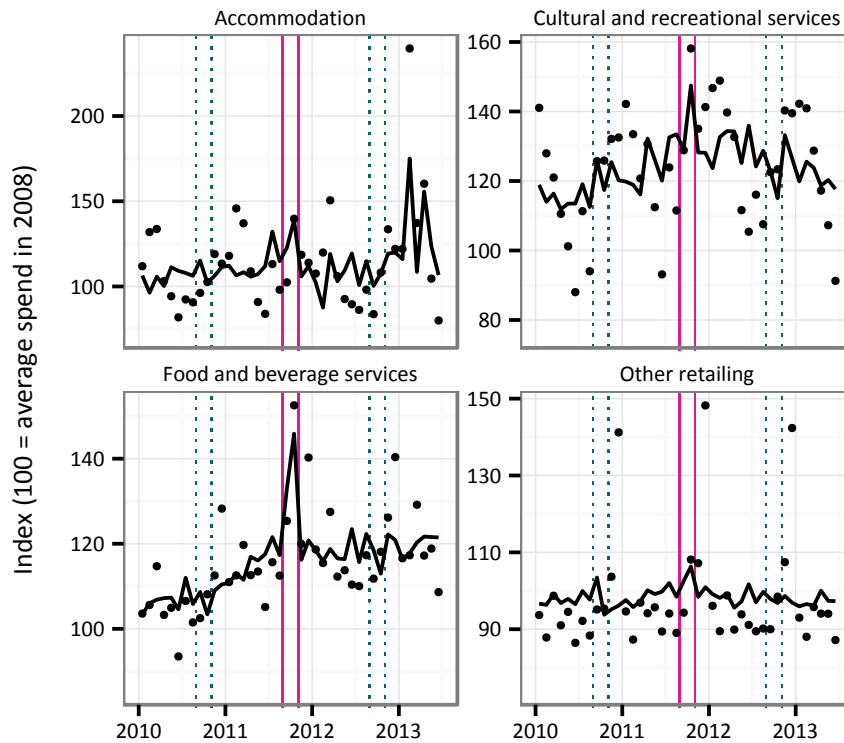
While the effect of the RWC on RTI indexes was most pronounced in Auckland—representing that this region hosted the most games and the both semi-final and final matches—most regions where games were hosted showed some evidence of increases in international indexes. This was most consistently observed in food and beverage service indexes, illustrating the strong link between sporting events and restaurants/bars. The RTIs illustrated to MBIE and the tourism industry just how broad the impact of the RWC was on the economy. Stakeholders in particular appreciated concrete evidence that large events benefit more than just the accommodation industry.

### **Performance indicators and lobbying tools**

The RTIs and RTEs have become valuable key performance indicators for government and stakeholders. MBIE has used the RTEs as an indicator of economic health and national/international connectedness in its Regional Economic Activity Report[9]. In ad-



**Figure 5:** International seasonally adjusted indexes (solid black line) and raw indexes (points) for selected industries in Auckland Region. Source: MBIE, Regional Tourism Indicators



dition to reporting estimates of international spend for each region, this report shows international spend as a percentage of regional GDP, providing valuable insights into the importance of international tourism to each region's economy.

Regional Tourism Organisations (RTOs), who are responsible for promoting their region as a tourist destination to potential domestic and international visitors, have used the RTIs and RTEs to monitor and report to stakeholders on the performance of the tourism industry in their region. The RTIs have also been used to monitor the impact of marketing campaigns or events on tourism spend within their regions (see example from Rugby World Cup, above). RTOs and other agencies can quickly access regionally-specific data for targeted visitor groups or benefiting industry groups via the MBIE website, providing valuable insight as little as a month after the event or campaign.

Both RTOs and industry stakeholders have used data from RTIs and RTEs in submissions to local governments to emphasise the value of tourism to specific regions and the importance of funding tourism agencies and projects. An example use in public policy debate arose when in early 2014, the Tasman District Council released their draft annual plan, which proposed withdrawing funding from Nelson Tasman Tourism, the RTO



responsible for promoting the Tasman district[15]. In co-operation with the Regional Tourism Organisations of New Zealand (RTONZ) and the Tourism Industry Association of New Zealand (TIA), Nelson Tasman Tourism lodged a submission with the council objecting to the fund withdrawal<sup>7</sup>. RTONZ, TIA and Nelson Tasman Tourism used the RTEs to place a dollar value on tourism in the district, and to provide evidence of the flow of tourism expenditure through many industries of the Tasman economy. On the basis of this lobbying and strong evidence as to the value of tourism to the district, the council reversed its proposal and continued to fund the RTO.

## Future developments

Since the first publication of the RTIs in December 2012 and the subsequent publication of the RTEs in July 2013, the value of these two measures has been clearly established both within government and outside. However, there is considerable demand to continue developing and improving both measures. These developments fall broadly into two categories: expanding the range of products supplied to stakeholders, and improvements to RTI and RTE methods.

### Product expansion

**Seasonal Adjustment** Reflecting the highly seasonal nature of the tourism industry, both the international and domestic RTI series show strong seasonal patterns that can make it difficult for consumers to detect trends in the data. Our current approach is to provide and encourage the use of 12-month rolling averages for the assessment of long-term trends in spending behaviour. However, this approach is not ideal, as the impact of a single month is spread across the 12 months contributing to the rolling average. An example of this can be seen in Figure 2, where the Rugby World Cup produced a 12-month bump in the rolling average series, despite only directly impacting two months of indexes. As a clear example of an additive outlier, the world cup would be accounted for more satisfactorily using a seasonal adjustment model. MBIE already uses seasonal adjustment extensively for its own analysis, and plans to produce seasonally adjusted series for the international and domestic RTI data in the coming year.

**Inflation Adjustment** The RTIs are currently published as nominal indexes. Understanding the need to produce real indexes that take account of inflation rates, MBIE plans to design and release inflation adjusted indexes in the future.

### Methodology improvement

**Domestic tourism** The New Zealand Tourism Satellite Account (TSA) states that to be considered domestic tourism, the individual must travel more than 40 kilometers from their residence (one way) and outside the area they commute to for work or visit daily[19]. However, the current methodology used by the RTIs is not wholly aligned with this definition. As the area of a territorial authority (the geographical unit used to isolate domestic tourism spend in the RTIs) is not consistent, there will be some cases where travel within a TA is well beyond the 40 km boundary established in the TSA. Likewise, New Zealand residents may spend across TA boundaries—largely considered

<sup>7</sup>See associated press release at <http://www.tianz.org.nz/main/news-detail/index.cfm/2014/05/tourism-funding-cuts-will-harm-tasman-economy/>



tourism by the RTIs—but remain within 40 km of their home. The current methodology is also unable to isolate and remove cases of spending that, while fitting RTI criteria for domestic tourism, actually reflects everyday spending of commuters (ie people that travel across TAs every day for business purposes). Thus there are cases where the RTIs may include non-tourism spending or exclude legitimate tourism spending.

Recent collaboration between MBIE, Marketview and Statistics New Zealand has combined more precise geographic locations and analyses of spending behaviour patterns to align more closely with the TSA definition of domestic tourism. Initial investigations suggest that the methodology will improve precision and accuracy of spend indexes and estimates. We are currently reviewing these data and are looking to implement these improved methods with the RTI data series in the future.

**International tourism** As the international RTI indexes are sourced solely from Paymark data, they are subject to any biases in merchant coverage inherited from Paymark's customer base. While this is not considered to be an overwhelming issue, particularly given their sizable market share, MBIE are exploring options for imputing values for non-Paymark merchants. The method will probably involve MBIE's data suppliers matching merchants across the Bank of New Zealand and Paymark to establish coverage and market share by ANZSIC and potentially geographic location. These market share figures can be used to weight existing data and impute values for non-Paymark data.

## Conclusions

The RTIs and RTEs were introduced in response a recommendations set out in the Tourism Data Domain plan to develop regionally-specific indicators of tourism expenditure[13]. Both measures have met their goals, providing timely and reliable insight into domestic and international tourism expenditure for industry, researchers and policy decision-makers. The ability to access detailed insight into international and domestic tourism spending behaviour has been embraced by stakeholders and feedback on the value and usability of the measures has been overwhelmingly positive. MBIE continues to use and stretch the boundaries of the RTIs and RTEs, and looks forward to delivering further insight and improvements going forward.

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