

# Report

/PART 1/

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of the realisation of Task 1.1.

## **Evaluation and synthesis of tools of measures of impact of business tourism in the world**

in the project: Steering the meetings industry in Krakow: assessment and monitoring of the economic effect of the meetings industry on the economy of Krakow with the use of good practices from Switzerland”.

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## 1. INTRODUCTION

A reliable impact assessment requires proper tools. It must be stated that it is very challenging to choose the most suitable.

The careful review of world literature, or to be more precise – English literature, reveals that there are many different approaches and many different tools being used.

This differentiation proves that up till now there haven't been found one particular solution which would be the best and appropriate in all cases.

Generally, the most important is that the approach should meet the needs of the project.

First of all there are different perspectives:

- Macroscale: (a country perspective)
- Mezzoscale: (a region perspective)
- Mezzoscale /Microscale: the city perspective
- Microscale: The event perspective

The described in the literature models had been prepared for different clients, for different perspectives and for different aims. They assume bigger or smaller estimation error, they base on secondary data or primary data or a mixture of it. It has been spent a huge amount of money on them or they haven't been so expensive, because of the limited scope of the project and because clients haven't been able to afford it. All above reasons explain their diversification.

In the project “Sterowanie przemysłem spotkań w Krakowie: ocena i monitorowanie wpływu ekonomicznego przemysłu spotkań na gospodarkę Krakowa przy wykorzystaniu dobrych praktyk ze Szwajcarii” the impact is to be

assessed for a city. It imposes specific requirements and limitations. Some of them are:

- many projects in the world to compare the scale of meeting industry,
- many different approaches – so choose that one that can be implemented in the project,
- many research projects based on the national statistics, so to run it for Krakow the model should/must be adjusted for city specific statistics,
- many barriers of implementation in Krakow concerning the eventual problems with data collecting,
- many other conditions mentions in last part of report.

This report was prepared mostly as the preparation phase of FUEK team for the kick-off meeting with Swiss Partners in Sierre (in May 2012), for that reason it was prepared in English language.

## 2. Characteristics of the selected models of impact in tourism and/or meeting industry

### 1.1. TRIMS (Tourism Regional Economic Impact Model)

#### Terminology

The model takes under consideration three aspects:

Direct impact,

Indirect Impact,

**Induced impact:** of households spending  
tourism related - business induced impacts

The key factor for the household sector is the change in personal income from the direct and indirect impacts.

The key incentive for business investment is the change in GDP (or value added) in the economy from the direct and indirect impacts.

#### Methodology

- TRIMS estimates of the **Direct**, **Indirect** and **Induced** impacts of tourism-related activities on:
  1. **Gross Domestic Product (GDP)**,
  2. **Labour Income**,
  3. **Employment**.
- TRIMS estimates of the **Direct** and **Total** impacts of tourism-related activities on Federal, Provincial and Municipal **Tax Revenues**.

The TREIM has the capability of including households and investment. This allows

- (i) to capture the impact on economic activity of the additional income paid to households, as a result of tourism sector activity, and
- (ii) to reflect the impact of changes in economic activity on business investment.

Households' willingness to spend additional income depends upon economic conditions so the propensity to consume is a function not only of the change in income resulting from the shock but also of broader economic conditions. Factors such as **the interest rate, inflation, the unemployment rate and the exchange rate are considered in the equation.**

Similarly, business investment may rise to produce the additional goods and services because of different reason. This response depends not only on the strength of an incentive but also on the current state of the economy. According to the literature businesses' willingness to invest is a function of factors such as the expected demand for its goods and services and the cost of new capital.

The TREIM is also able to generate estimates of the impact upon federal government revenue generated in Ontario, as well as provincial and local government revenue based on tax rates set by the user.

Model provides the user with the ability to generate economic impact estimates for current, prior or future years.

### **TREIM Single-Region Simulations**

This approach involves simulating the impact of tourism-related activity in a specific region and its impact on that region and other parts of the province.

The second approach (province-wide) involves simulating the impact of tourism spending in one or more regions throughout the province.

The single-region version of the TREIM model can simulate the impact of a variety of demand and supply side tourism-related activities at the CD, CMA, TR (Census Division, Census Metropolitan Area, and Tourism Region) or the provincial level of geography.

The model is openly accessible, for example via Webpage.

A user must supply a set of inputs in order to simulate the model. The user supplies these inputs directly in the web pages on the internet or in a MSExcel spreadsheet if working directly from EViews.

In the model on the Web there is the choice of simulating the economic impact of visitor spending, tourism-based business operating expenses or tourism-based investment spending.

Seven general types of tourism-related influence can be simulated.

1. Visitor Spending – spending detail is known
2. Visitor Spending (more detailed) – number of visitors by origin, duration of stay and activity type is known
3. Visitor Spending (total) – total spending (allocated by visitor origin) and activity type is known
4. Operational Spending – spending detail and industry is known
5. Operational Spending (total) – total spending and industry is known
6. Investment Spending – spending detail and industry is known
7. Investment Spending (total)– total spending and industry is known.

The first **three options simulate the impact of visitors spending on a region.** They differ to accommodate users with varying levels of information available to them. The next two options **simulate the economic impact of operational spending by a tourism-related business.** The user must specify the type of business. The industries currently available are: **retail** (NAICS/IO Sector 4A), **recreation and entertainment** (NAICS 71), **accommodation** (NAICS 721) and

**restaurants** (NAICS 722). The final two options **simulate the impact of investment spending for one of the four tourism-related industries listed above**. Obviously the division is in accordance with Ontario province statistics classification, so it is not suitable for foreign countries or regions unless they have exactly the same classification.

Very important issue in the evaluation of the models were the data used in them. Below we present some of them to stress their amount.

Macroeconomic Environment

**Ontario Real GDP (%change)**

(in two options: a Baseline and a Custom)

**Ontario CPI (%change)**

(in two options: a Baseline and a Custom)

**Ontario Population**

(in two options: a Baseline and a Custom)

**Government of Canada 3 month T-Bill Rate**

Only a Baseline

**Custom Ontario Unemployment Rate**

Only a Baseline

**Effective and Statutory Tax Rates**

- Custom Baseline
- Federal Tax Rates
- Personal Income Tax
- Corporate Income Tax
- Other Direct Taxes
- Social Insurance
- Canada Pension Plan



- Gallon Tax
- Trading Profits Tax
- Gasoline Tax
- Excise Tax
- Duty Tax
- Air Tax
- GST
- Indirect Taxes on Production
- Provincial Tax Rates
- Personal Income Tax
- Corporate Income Tax
- Other Direct Taxes
- Social Insurance
- Gallon Tax
- Trading Tax
- Gasoline Tax
- Amusement Tax
- Retail Sales Tax
- Indirect Taxes on Production
- Municipal & Education Tax Rates
- Other Local Direct Taxes
- Other Local Indirect Taxes on Production
- Residential Municipal Property Tax
- Industrial Municipal Property Tax
- Commercial Municipal Property Tax
- Residential Education Property Tax
- Industrial Education Property Tax
- Commercial Education Property Tax

### Option 1

The first option is a situation when a user **knows visitor spending for the eleven categories**

#### Tourists' Spending Breakdown (it is given in \$)

- Travel Services
- Public Transportation
- Private Transportation - Rental
- Private Transportation - Operation
- Local Transportation
- Accommodation
- Food & Beverages - At Stores
- Food & Beverages - At Restaurants/Bars
- Recreation & Entertainment
- Retail - Clothing
- Retail - Other
- Total

(total can't be 0, a category can)

### Option 2

The second option is a situation when a user knows **the number of visitors of origin and duration** of their visit. The user must also select the type of activity or event that the tourists are engaged in. Possibilities are as follow:

- 1 Festivals/Fairs
- 2 Cultural Performances
- 3 Heritage Sites
- 4 Museums & Galleries
- 5 Any Cultural Activity (net 1-4)
- 6 National/Provincial Nature Parks
- 7 Fishing

- 8 Golfing
- 9 Hunting
- 10 Boating
- 11 Downhill Ski
- 12 Any Outdoors (net 6-11)
- 13 Zoos, Botanical Gardens, Aquariums
- 14 Sporting Events
- 15 Casinos
- 16 Theme/Amusement Parks
- 17 Any Entertainment (net 13-16)
- 18 I don't know

### Option 3

The third option is a situation when a user knows all visitor expenses.

### Option 4

The fourth and fifth options simulate the impact of operational spending of a tourism-related business. The user must first select **an industry** from the list below.

- 1 Retail
- 2 Recreation & Entertainment
- 3 Accommodation
- 4 Restaurants

### Tourist Business Operating Expenses

- Type of Tourism Facility/Operation 2
- Operating Expenses \$
- Total Revenue (incl. sales taxes & grants, subsidies)

- Grants and subsidies
- Food products
- Alcoholic beverages
- All other merchandise
- Office and all other supplies
- Salaries, wages
- Commission paid
- Employee benefits
- Sub-contract laundry, cleaning and maintenance
- Legal, accounting and other professional fees
- Marketing, advertising and promotion
- Travel (transportation, accommodation, food, entertainment)
- Rent or lease
- Repair and maintenance
- Insurance
- Heat, light, power and water
- Telephone, fax and internet fees
- Depreciation
- Royalties and franchise fees
- Property tax and business tax, licenses and permits 0
- All other operating expenses
- Interest expenses
- Sales Taxes

#### **Investment Category \$**

- Buildings and Renovations
- Machinery and Equipment
- Furniture and Fixtures

- Transportation Equipment
- Other Supplies
- Other Services
- Total

The above data and the features are based on the information available on the webpage of The Ontario Ministry of Tourism and Culture <http://www.mtreim.com/webtreim/en/tourist.aspx>

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## 1.2. RIMS II (Regional Industrial Multiplier System)

In the 1970's, the Bureau of Economic Analysis (BEA) developed a method for estimating regional I-O multipliers known as RIMS (Regional Industrial Multiplier System), which was based on the work of Garnick and Drake. In the 1980's, BEA completed an enhancement of RIMS, known as RIMS II (Regional Input-Output Modeling System)

### Terminology

To use the multipliers for impact analysis, it needs geographically and industrially detailed information on the initial changes in:

- output,
- earnings,
- employment

that are associated with the subject. The multipliers can then be used to estimate the total impact of the project or program on regional output, earnings, or employment.

### Methodology – an outline of the problem

RIMS II is based on an accounting framework called an I-O table. For each industry, an I-O table shows the distribution of the inputs purchased and the outputs sold

Regional input-output modeling system (RIMS II) is based on data from the national I-O accounts (I-O table - input and output structure of nearly 500 U.S. industries) and BEA's regional economic accounts (used to adjust the national I-O table).

#### THE NATIONAL DIRECT REQUIREMENTS TABLE

- Separation primary source data (initial changes in output, earnings, or employment) that are associated with the research subject.
- Build an industry-share matrix, which shows each industry's share of the production of a commodity, is calculated by dividing each entry in each column of the make table by the respective column total.
- Each entry in the household row shows the earnings received by households per dollar of output of the column industry corresponding to the entry.

Earnings is calculated as the sum of wages and salaries, proprietors' income, directors' fees, and employer contributions for health insurance less personal contributions for social insurance. It is described with the formula:

$$\text{HSHR}_j = (\text{W\&S}_j + \text{PRP}_j + \text{DF}_j + \text{ECHI}_j - \text{PCSI}_j) / \text{TIO}_j;$$

where:

- HSHR - household row,
- W&S is wages and salaries (are from the national I-O accounts),
- PRP is proprietors' income,
- DF is directors' fees,
- ECHI is employer contributions for health insurance,
- PCSI is personal contributions for social insurance,
- TIO is total industry output.

★all earnings, without W&S, are not available by I-O industry and must be estimated based on REIS (Regional Economic Information System).

- Each entry in the household column shows the expenditures per dollar of household earnings on the product of the row industry corresponding to the entry. The estimation of the household column is based on personal

consumption expenditures (PCE) data from the national I-O accounts. The PCE shares by industry are then multiplied by the ratio of personal income less taxes and savings to personal income in order to account for the dampening effect of taxes and savings on expenditures.

#### THE REGIONAL DIRECT REQUIREMENTS TABLE

- All row entries for the industry in the regional direct requirements table are set equal to the corresponding entries in the adjusted national direct requirements table.
- The household:
  - row entries are adjusted downward, on the basis of commuting data from the census of population, in order to account for the purchases made outside the region by commuters working in the region,
  - column entries are adjusted downward, on the basis of tax data from the internal revenue service, in order to account for the dampening effect of state and local taxes on household expenditures.

**RIMS II provides users with five types of multipliers: Final-demand multipliers for output, for earnings, and for employment and direct-effect multipliers for earnings and for employment.**

**These multipliers measure the economic impact of a change in final demand, in earnings, or in employment on a region's economy.**

#### *Final-demand earnings and employment multipliers*

earnings - are derived by multiplying each final-demand output multiplier in the total requirements table by the household-row that corresponds to the row industry for the output multiplier:

$$c_{i,j} = b_{i,j} * a_{N,i}$$

where:



- $c_{i,j}$  is the entry in row  $i$  and column  $j$  of the final demand earnings multiplier table,
- $b_{i,j}$  is the final-demand output multiplier in the total requirements table,
- $a_{N,i}$  is the household-row  $N$  entry in the direct requirements table.

employment - are derived by multiplying each entry in the final-demand earnings multiplier table by the employment-to-earnings ratio for each row industry:

$$e_{i,j} = c_{i,j} * G_i$$

where:

- $e_{i,j}$  is the entry in row  $i$  and column  $j$  of the final demand employment multiplier table,
- $c_{i,j}$  is the final demand earnings multiplier,
- $G_i$  is the employment to- earnings ratio for row industry  $i$ .

*Direct-effect earnings and employment multipliers*

earnings multipliers - are derived by dividing each household-row entry in the total requirements table by the corresponding household-row entry in the direct requirements table:

$$D_j = b_{N,j} / a_{N,j}$$

where:

- $D_j$  is the direct-effect earnings multiplier for industry  $j$ ,
- $b_{N,j}$  is the household-row entry for industry  $j$  in the total requirements table,
- $a_{N,j}$  is the householdrow entry for industry  $j$  in the direct requirements table.

employment multipliers - are derived by dividing the final-demand employment multiplier for each industry by the product of the corresponding household row entry in the direct requirements table and the employment-to-earnings ratio for each column industry:

$$H_j = F_j / (a_{N,j} * G_j)$$

where:

- $H_j$  is the direct-effect employment multiplier for industry  $j$ ,
- $F_j$  is the final-demand employment multiplier for industry  $j$ ,
- $a_{N,j}$  is the household-row entry for industry  $j$  in the direct requirements table,
- $G_j$  is the employment-to-earnings ratio for industry  $j$ .

#### *Output-driven multipliers*

Output-driven multipliers can be calculated from the total requirements table. The table entry for which the row entry  $i$  equals the column entry  $j$  is called the “diagonal” entry for column  $j$ . The output-driven multiplier for industry  $j$  is defined as the ratio of each entry in column  $j$  to the diagonal entry for that column:

$$O_{i,j} = b_{i,j} / b_{j,j}$$

where:

- $O_{i,j}$  is the output-driven multiplier  $i$  for industry  $j$ ,
- $b_{i,j}$  is the final-demand output multiplier  $i$  for industry  $j$  in the total requirements table,
- $b_{j,j}$  is the diagonal entry for industry  $j$  in the total requirements table.

The above data and the features are based on the information available on the webpage <http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf>

### 1.3. IMPLAN (IMpact analysis for PLANning - economic impact model)

#### Terminology

- Direct effect: production changes associated with changes in demand for the good itself; it is an initial impact on the economy
- Employee compensation: wage and salary payments as well as benefits, including health and life insurance, retirement payments and other non-cash compensation.
- Employment multiplier: for every million dollar change in final-demand spending (direct output), the change in employment (jobs).
- Indirect business tax multiplier: for every dollar change in final-demand spending (direct output), the change in indirect business taxes.
- Indirect effect: the secondary impact caused by changing input needs of directly affected industries (e.g., additional input purchases to produce additional output).
- Induced effect: caused by changes in household spending due to the additional employment generated by direct and indirect effects.
- Indirect business taxes: consist primarily of excise and sales taxes paid by individuals to businesses; these taxes occur during the normal operation of the businesses but do not include taxes on profit and income.
- Output: industry output is a measure of the value of goods and services produced in the study area.
- Output multiplier: An output multiplier for a sector is defined as the total production in all sectors of the economy that is necessary to satisfy a dollar's worth of final demand for that sector's output (Miller and Blair, 1985). In other words, every dollar change in final-demand spending (direct output) changes the total value of output in all sectors.

- Personal income: consists of employee compensation and proprietary income.
- Personal income multiplier: for every dollar change in final-demand spending (direct output), the change in income received by households.
- Proprietary income: consists of payments received by self-employed individuals as income. This includes income received by private business owners, doctors, lawyers and so forth.

## **Methodology**

### **IMPLAN Methodology for the Study of the Impact of Tourism on the Vermont Economy**

The objectives of this study are to evaluate the annual and seasonal economic impacts of Vermont tourists' expenditure, to build the major tourism-related industry profiles, and evaluate their impact on the Vermont economy. This study evaluated the economic impact of tourism on Vermont's economy in terms of changes in industrial output, employment, income, and taxes.

The IMPLAN (IMPact analysis for PLANning) economic impact model was used to measure both direct and secondary impacts of the tourism industry. Data used for this study were collected through visitor surveys, business surveys and the IMPLAN database.

This study adopted input-output analysis to estimate the status and importance of the tourism industry on the Vermont economy because of the following reasons:

1. An input-output model is ideally suited to measure both the relative sizes of sectors that make up the economy and the linkages among them. I/O modeling creates a structural model that shows the interactions among many sectors and measures impacts as they reverberate through the economy. A knowledge which types of economic activities generate higher returns can

direct decision makers toward enterprises that will stimulate economic development within a region.

2. Input-output modeling is the most commonly used method to assess the economic impact of tourism by many other states as well as at the national level. So it is expected to provide comparable results to other states' research, national data, and previous Vermont studies.
3. The advantage of an input-output model is that it provides impact estimates in a general equilibrium framework instead of single-market analysis (referred to as "partial equilibrium"). The input-output model captures not only the direct impact of tourist expenditures but also the indirect and induced impacts that occur when tourist dollars flow in the economy.

The I/O model provides means to capture and measure these effects. It uses three effects to measure economic impact: direct effect, indirect effect and induced effect.

- **Direct effect** refers to production change associated with a change in demand for the good itself. It is the initial impact to the economy, which is exogenous to the model.
- **Indirect effect** refers to the secondary impact caused by changing input needs of directly affected industries (e.g., additional input purchases to produce additional output).
- **Induced effect** is caused by changes in household spending due to the additional employment generated by direct and indirect effects.

### Multiplier

Generally, economic multipliers estimate the economy-wide impact on related variables by changing one variable in the specified economy, such as a state (Tanjukio, Hastings and Tytus, 1996). There are several multipliers calculated by the IMPLAN model:

- **Output Multiplier:** An output multiplier for a sector is defined as the total production in all sectors of the economy that is necessary to satisfy a dollar's worth of final demand for that sector's output (Miller and Blair, 1985). In other words, every dollar change in final demand spending (direct output) changes in the total value of output in all sectors.
- **Personal Income Multiplier:** For every dollar change in final-demand spending (direct output), the change in income received by households.
- **Employment Multiplier:** For every million-dollar change in final-demand spending (direct output) in a sector, the change in number of jobs in the economy.
- **Indirect Business Taxes Multiplier:** For every dollar change in final-demand spending (direct output), the change in indirect business taxes. Input-output models incorporate several important assumptions (Miller and Blair, 1985; Minnesota IMPLAN Group, 1996) that place limitations on their interpretation.

## Variables

*The controlled vocabulary of IMPLAN-specific terms. There are 205 entries in this glossary (<http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf>).*

There are three different levels of data; national, state, and county. Raw data availability differs with each level. At the national level, each database component is available. At the state level data, some raw data is available. At the county level, employment, employee compensation, proprietary income, population, federal and state expenditures and selected wealth data are available, while other county data is estimated. At the Zip code level only County Business Patterns and demographic data from the Census Bureau are available.

There are six main components of an IMPLAN data file. These are:

### 1. Employment

2. Value-Added (Factors)
3. Output
4. Final (Institutional) Demand
5. Inter-Institutional Transfers
6. National Structural Matrices

All value-added, output, and employment information are on an industry basis. There are four sub-components of value added, also known as factors.

These are:

1. Employee Compensation
2. Proprietary Income
3. Other Property Type Income
4. Indirect Business Taxes

Final Demand, also known as Institution Demand, consists of households and government purchasing goods and services for their own use. This also includes exports. There are 13 institution sub-components. These are:

1. Household Personal Consumption Expenditures (PCE) – nine income levels (starting with 1996 data)
2. Federal Government Military Purchases
3. Federal Government Non-Military Purchases
4. Federal Government Non-Military Investment
5. State and Local Government Non-Education Purchases
6. State and Local Government Education Purchases
7. State and Local Government Non-Education Investment
8. Inventory Purchases
9. Capital
10. Foreign Exports
11. State and Local Government Sales
12. Federal Government Sales
13. Inventory Sales

All institution demand in the original data is measured on a commodity basis.

The most common scheme is the federal government's 6-digit *North American Industrial Classification Systems (NAICS codes)* as described in the 2002 North American Industrial Classification Systems Manual.

Another other major data set used to derive IMPLAN databases is from the Bureau of *Economic Analysis's Regional Economic Information System (REIS)*. Their sectoring scheme is a modified 3-digit NAICS scheme. Most modifications are in the government sectors and use of several 2-digit codes.

#### *Bureau of Labor Statistics Sectoring*

Data from the Bureau of Labor Statistics (BLS) is used for deflators and some output estimates. The BLS uses a different sectoring scheme, again based on the SIC code system. As of publication of this manual the BLS has not converted to NAICS.

#### *Bureau of Economic Analysis Input-Output*

Sectoring this 508-sector scheme is the basis for the Bureau of Economic Analysis's Benchmark Input-Output Study. This scheme is nearly 6 digit NAICS for manufacturing, and more aggregate for service

IMPLAN data **comes from many sources and in it is in different formats**. It comes as published data, sets of relationships, or as estimates. Constructing a database means gathering data from the various sources, converting it to a consistent format, and estimating the missing pieces, all the while controlling it with other data to maintain accuracy. IMPLAN adds value to the available data by:

1. Providing estimates for non-disclosed data
2. Providing estimates for non-census years
3. Providing estimates at a finer geographic scale (i.e., at the local level)



4. Providing additional trade flow data (to augment Commodity Flow Survey data)
  - a. Impedances by transportation mode from Oakridge National Laboratory
  - b. Econometric equation for econometric RPCs
5. Reconciliation of multiple data sources
6. Bringing it all together in a consistent format

IMPLAN also provides econometric RPCs estimated in-house and other trade flow data not otherwise available

*The above data and methodology was based on the information available on the webpage of the IMPLAN model (<http://implan.com>).*

## 1.4. WTTC model

### Terminology

#### Key Definitions

**Travel & Tourism** – this term relates to the activity of travellers on trips who are outside their usual environment. The duration of such stay is less than one year. All economic activities related to all dimensions of such trips were measured within the research conducted by the WTTC.

**Direct contribution to GDP** – GDP generated by industries that deal directly with tourists sector. They include such entities like hotels, restaurants, travel agents, airlines, other passenger transport services and leisure industries connected directly with tourism. It is equivalent to total internal Travel & Tourism (further T&T) spending within a particular country less the purchases made by those industries (including imports). In terms of the UN's Tourism Satellite Account methodology it is consistent with total GDP calculated in table 6 of the TSA: RMF 2008.

**Direct contribution to employment** – this kind of contribution concerned the number of direct jobs within the T&T industry. This is consistent with total employment calculated in TSA.

**Total contribution to GDP** – GDP that is generated directly by the Travel & Tourism industry and additionally its indirect and induced impacts.

**Total contribution to employment** – the number of jobs that are generated directly in the Travel & Tourism industry plus the indirect and induced contributions.

### Direct Spending Impacts

**Visitor exports** – that are the spending made within the country by international tourists for both kind of trips (business and leisure). They include

additionally spending on transport. This is consistent with total inbound tourism expenditure in the TSA.

**Domestic Travel & Tourism spending** – such kind of spending are made within a country by that country's residents for both types of trips - business and leisure. Multi-use consumer durables are not included since they are not purchased solely for tourism purposes. This is consistent with total domestic tourism expenditure of the TSA. Outbound spending by residents abroad is not included here, but is separately identified according to the TSA: RMF 2008.

**Government individual spending** – government spending made on individual non-market services for which beneficiaries can be separately identified. These kind of spending concerns social transfers that are directly comparable to consumer spending and, in certain cases, may represent public provision of consumer services. As the example of such spending could be mentioned provision of services in national parks and museums.

**Internal tourism consumption** – it is the total revenue generated made within a country by industries that deal directly with tourists sector (that includes visitor exports, domestic spending and government individual spending). Very important note is, that kind of consumption does not include spending abroad by residents.

**Business Travel & Tourism spending** – spending made during the business travel within a country by residents and international visitors.

**Leisure Travel & Tourism spending** – spending during the leisure travel within a country by its residents and international visitors.

### **Indirect and Induced Impacts**

**Indirect contribution** – the contribution to Gross Domestic Product (GDP) and jobs of the following three factors:

- **Capital investment** – includes capital investment spending by all sectors of the economy that are directly involved in the Travel & Tourism industry. This

also constitutes investment spending by other industries on specific tourism assets such as new visitor accommodation and passenger transport equipment, but also restaurants and leisure facilities for specific tourism use.

- **Government collective spending** – that kind of spending concern general government spending in support of general tourism activity. This can include national as well as regional and local government spending. It includes tourism promotion, visitor information services, administrative services and other public services and other kind of spending.
- **Supply-chain effects** – purchases of domestic goods and services made directly by different sectors of the Travel & Tourism industry as inputs to their final tourism output.

**Induced contribution** – this kind of contribution is the broader input to GDP and employment of spending by those who are directly or indirectly employed by Travel & Tourism sector.

### Other Indicators

**Outbound expenditure** – spending made outside the country by residents during the trips abroad.

**Foreign visitor arrivals** – the number of arrivals of foreign visitors to the country, including same-day and overnight visitors (tourists) to the country.

### Methodology

The UN Statistics Division-approved Tourism Satellite Accounts methodology (TSA: RMF 2008) quantifies only the direct contribution of Travel & Tourism. WTTC in its documents recognises that Travel & Tourism's sector total contribution is much more wider than only direct impact, and aims to capture its indirect and induced impacts through its annual research.

It means that WTTC / Oxford Economics have implemented the TSA: RMF (2008) by:

- Applying the definition of Travel & Tourism to develop a method for analysing the demand-side components of GDP: consumption, government, investment and net exports; and
- Using input-output tables to translate demand-side expenditures into supply-side outputs, and to split total GDP and employment into direct and indirect components.

The objective is to be both as comprehensive as possible – to ensure the importance of Travel & Tourism sector is not under-estimated – and as consistent as possible. The aim of the research was to allow cross-country and cross-regional comparisons, so that global estimates of the contribution of T&T sector to GDP and employment can be derived.

The direct contribution of Travel & Tourism to GDP concern the following issues:

- So called 'Internal' spending on Travel & Tourism that include total spending within a particular country on Travel & Tourism by its residents and non-residents for business and leisure purposes.
- Government 'individual' spending - spending made by government on Travel & Tourism services directly linked to visitors, such as cultural attractions (e.g. museums) or recreational visitors (e.g. national parks).
- The direct contribution of Travel & Tourism to GDP that is in the research calculated to be consistent with the output of tourism-characteristic sectors (like hotels, airlines, airports, travel agents and leisure & recreation services) that deal directly with tourists.

- The direct contribution of Travel & Tourism to GDP is calculated from total 'internal' spending (made by the tourists or visitors) by netting out the purchases made by the different tourism sectors.

The total contribution of T&T refers to its much more wider impact on the economy (for example the indirect and induced impacts), in addition to direct impacts. The indirect contribution includes the GDP and jobs supported by:

- Travel & Tourism investment spending – this is very important aspect of current and future activity of the actors of that sector, that includes investment activity such as the purchase of new aircraft and construction of new hotels;
- Government 'collective' spending, which helps Travel & Tourism activity in many different ways as it is made on behalf of the 'community at large' – e.g. marketing and promotion in the area of tourism; public and not-public administration; security services; aviation; resort area security services, etc;
- Domestic purchases of goods and services by the sectors dealing directly with tourists - including, for example, purchases of food and cleaning services by hotels, of fuel and catering services by airlines, and IT services by travel agents. Imported purchases are not included as part of the indirect contribution as these represent leakages.

The next kind of impact refers induced contribution to the GDP and jobs, that is supported by the spending of those who are directly and indirectly employed by the T&T industry.

Very important aspect of the study is the demand and supply sides perspectives. The first perspective (demand-side) is based on overall spending in the country on T&T activity, made by households, businesses, overseas visitors or government.

They estimated the following demand-side components of T&T:

1. **Visitor exports** - spending in the domestic economy by foreign visitors. (with division on personal and business foreign visitor spending).
2. **Resident domestic Travel & Tourism expenditure** - spending in the domestic economy by domestic residents. (with division on personal and business spending). Also was made by spending abroad with division on domestic households and businesses (although this is not part of tourism demand for the domestic economy). However, spending in advance of a trip is included as part of resident domestic T&T expenditure.
3. **Government spending** on T&T, with division on individual and collective spending.
- 4 **Capital investment** associated with T&T, (private and public).

Internal tourism consumption is defined as the sum of the first and second component mention above plus government individual T&T spending.

Other demand elements mentioned in the methodology were government collective T&T spending and T&T capital investment. They both were included in the wider measure of the total contribution of T&T.

The definition of Travel & Tourism activity was used from the TSA: RMF (2008) and followed: *Travel & Tourism is “the activity of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not remunerated from within the place visited”*. In this definition was used term of “usual environment” to exclude the concept of ‘visitor’ persons commuting every day between their home and place of work or study, or other places frequently visited.

The used definition of “usual environment” in terms of distance, duration or locality has obvious some limitations. The definition of what kinds of travel and tourism activities are included in T&T may and do vary from time to time, place to place and country to country. To avoid this problem, the authors of the

methodology believed that the definition of Travel & Tourism must resist strict distance, duration or locality criteria. Their philosophy was to let those who travel determine with their data when and where to draw the line between “usual environment” and Travel & Tourism. In the methodology were made valuable division based on the area of the research/survey: a) Where there are transportation surveys that divide trips by mode, distance and purpose, they interpret “usual environment” for each mode and purpose of travel as the mean distance travelled plus two standard deviations. Two standard deviations are generally recognized by statisticians to be outside the norm. b) Where consumer expenditure surveys ask questions as to the amount of an expenditure made “out of town”, “on a trip”, or “on vacation”, they take this to mean outside the “usual environment”.

By using this way of find the border between the meaning of the term “usual environment” the focus was laid on the consumers, rather than by an arbitrary, and possibly inappropriate, distance cut-off.

All personal consumption before, during and after a trip, which is directly associated with the trip, (e.g. travel expenses, lodging, meals and various other purchases) were included in T&T consumer spending. Expenses incurred by friends, relatives and business associates on the traveller’s behalf are also included.

**Supply-side perspective.** According to TSA: RMF (2008) there are three supply-side economic aggregates which characterise the magnitude of Travel & Tourism:

- a) Gross value added of the characteristic Travel & Tourism industries (GVATI);
- b) Travel & Tourism direct gross value added (TDGVA); and
- c) Travel & Tourism direct GDP (TDGDP).

The first of these differs from the others in focusing on T&T characteristic industries, so it includes the output of these industries, whether they are supplied



to visitors or not (e.g. restaurant meals consumed by locals), while excluding output of non-tourism-characteristic industries supplied to visitors (e.g. shopping while on holiday).

The second and third supply-side concepts focus on output supplied to visitors whatever industry – characteristic or not – produces it. These two differ however in that value added is measured at basic prices while GDP is measured at purchasers' prices (i.e. includes net taxes on products and imports). None of these three concepts includes the indirect value added created by Travel & Tourism via its supply chain, nor its induced impact.

The WTTC / Oxford Economics approach essentially aims to measure the equivalent of the third of these concepts – Travel & Tourism direct GDP (TDGDP). They take advantage of the equivalence of the expenditure measure of GDP and the output measure when appropriately defined.

So Travel & Tourism's direct contribution to GDP is calculated as the sum of the demand components making up tourism consumption (personal domestic Travel & Tourism spending, business domestic Travel & Tourism spending, foreign visitor Travel & Tourism spending and government individual Travel & Tourism spending) minus supply-chain purchases (including imports) by Travel & Tourism providers.

Travel & Tourism's total contribution to GDP is calculated as the: Direct contribution; Plus indirect supply-chain purchases (but not imports), plus government collective Travel & Tourism spending, Travel & Tourism fixed investment; Plus induced contribution.

More details are available in the report on-line: **WTTC/Oxford Economics 2012 Travel & Tourism Economic Impact Methodology** March 2012. The above description was prepared on the basis of this report.

## 1.5. DMAI –Calculator (destination Marketing Association International Calculator).

The analysed Calculator of DMAI is a tool in quantifying the economic value of meetings at the destination level – by using the impact of particular event and in the end by the sum of them. "By including actual contract data in the model, the calculations of event impacts are incredibly robust," said Adam Sacks, founder and managing director of Tourism Economics Inc. "The combination of SMG's primary data with multiple survey, industry and government data sources provides a sustainable and credible foundation for impact analysis at the local level."

Once the data is entered in the electronic formular, the calculator comes up with a dollar (euro or other currency) value that represents the direct and indirect/induced economic impact of the event. It also tabulates the amount of local taxes generated for the destination. Additionally, this calculator breaks down money spent by different sources (visitors, exhibitors, organizers) and by sector (lodging, transportation, retail, recreation, food and beverage, and space rental). Finally, the calculator shows how many jobs the meeting supports, based on the economic impact.

DMAI used the calculator to estimate the economic impact of its 1100-attendee 2011 annual convention organized in New Orleans. The result was as followed: a \$1.1 million direct and \$2.1 million indirect economic impact for the host city (in total over \$3 milion). Additionally this event generated \$135,526 in local taxes and directly supported 621 jobs. CVBs collect most of the needed information from planners, hotels, the convention center, and local vendors. For sure it is a great challenge to capture all the data required by the calculator.

Each Destination Management Organization (DMO) is assigned a unique username and password which provides access to the model for their city. The creation of the calculation of the impact requires three steps. First, select the event

type, industry focus, duration, and year of event. Later, enter figures on attendees by type. In the end, enter available information on event costs and contract values. The calculator then creates a report which summarizes the economic impact of the event and its return on investment.

Data Sources used in the calculator for American market are eight different sources combining multiple surveys and government statistics. Geographic Focus of the calculator refers individual destinations. Quantified Output of the analysis deliver direct and indirect spending, jobs, wages, tax impacts. Used in the calculator platform is based on dynamic system for testing different event parameters, report creation and saving of events. The calculator is prepared for three types of the event: business meetings, conferences, and trade shows. In March 16, 2012 *“approximately 80 CVBs have signed on to use the tool, including the New Orleans Metropolitan Convention and Visitors Bureau”*. Read more: [http://meetingsnet.com/associationmeetings/news/event\\_impact\\_calculator\\_0316/#ixzz1qoIT5KDA](http://meetingsnet.com/associationmeetings/news/event_impact_calculator_0316/#ixzz1qoIT5KDA).

The online calculator is constructed with four tabs for CVBs to input data. The first tab called “Event parameters”. This screen includes fields to enter the basics — meeting dates, location, type of event (convention, trade show, business meeting), and meeting location (hotel, convention center). It’s also where users log the number of overnight attendees and day attendees, hotel room rates, and number of persons per room. It includes all attendees, not just those staying inside the contracted housing block. In the second tab there are hosting costs. Users track funds spent by the host city that would offset the economic impact of the meeting, such as discounts or in-kind services. The third tab refers to organizer spend. The CVB uses this tab to log what was spent on meeting space rental, food and beverage, audiovisual, Internet, security, and other services. In the last tab were prepare the places for tax rates (state and local sales and bed tax rates as well as local income tax rates) and any applicable tourism marketing district assessments.

Event Impact Calculator incorporates the eight complementary data sources:

1. Oxford Economics' 2010 survey of meeting planners;
2. Longwoods International's ongoing survey of U.S. household travel behavior in 100 cities;
3. Convention Industry Council's study on the Economic Significance of the Meetings Industry;
4. U.S. Bureau of Labor Statistics city-specific data on costs by sector (i.e. restaurant, retail, lodging, etc.);
5. City-specific sales, wage and employment multipliers;
6. City-specific tax rates;
7. DMAI's empowerMINT historical meetings database;
8. Input from the end user
9. SMG's primary data

## 1.6. Canadian Economic Impact Study (Foundation of MPI – Meeting Professional International)

### Methodology

The Study called CEIS (Canadian Economic Impact Study) made by Maritz Research was conducted in Five Phases:

1. Phase I: Supply side data collection – interviews with Venue Managers and Meeting Organizers
2. Phase II: Demand side data collection – interviews with Delegates, Exhibitors and Speakers
3. Phase III: Creation of Meetings Sector Accounting Framework & Direct Economic Contribution analysis
4. Phase IV: Indirect and Induced Economic Contribution modelling
5. Phase V: Final reporting

Data collection for Phase I & II utilized six different survey instruments mostly based on the online questionnaire, delivered using different methods:

- 1) email recruitment to online questionnaire, with email or telephone follow-up (Meeting Organizers & Exhibitors),
- 2) email recruitment and email delivery of questionnaire, returned by email, with email or telephone follow-up (Speakers),
- 3) telephone recruitment and email delivery of questionnaire, returned by fax/email, with email or telephone follow-up (Venue Managers),
- 4) online General International Population panel recruitment and online questionnaire (Delegates).

The economic analysis for Phase III (Creation of Meetings Sector Accounting Framework & Direct Economic Contribution analysis) involved the review and analysis of tourism demand and supply concepts used by the Canadian Tourism Satellite Account (CTSA), national level input-output tables and weighted tabulations of the Phase I & II survey data. In this phase were also used

the results of the National Tourism Indicators as a benchmark for tourism demand, tourism supply and tourism's direct contribution to the Canadian economy in 2006. The calculation of the direct economic contribution of Meetings Activity was influenced by the approach and concepts used by Statistics Canada.

The creation of the economic framework established in Phase III allowed to assess the direct contribution of Meetings Activity, next the calculation of indirect and induced economic contributions. This was made by the authors from the Maritz Research by using "impact" matrices and expenditure profiles specifically created to capture the full economic contribution of Meetings Activity to the Canadian economy.

The approach used by the authors to establishing the total Meetings Activity for a year had to rely on the supply-side. Sample lists of Meeting Organizers were not deemed to be comprehensive, as meetings may be organized by individuals whose primary responsibility is not meeting organization, and as a universe, the characteristics of this group are not well documented.

The Venue Managers survey allowed for an effective capture of data that could be projected to overall Meetings Activity. Moreover, the UNWTO definition of a "Meeting" requires the use of a venue, but does not require the involvement of a Meeting Organizer.

The Economic Contribution of Meetings Activities in Canada Study was conducted between January 2007 and May 2008, with the data collection occurring from the late spring to the early fall of 2007. Interviews were conducted to represent both the demand and supply sides of Meetings Activity: Venue Managers and Meeting Organizers (Supply side) and Delegates, Exhibitors, and Speakers (Demand side) – as mentioned in the first part of this description.

One of the surveys was the Meeting Organizers Survey. It was the most complex design of all the questionnaires, required an online execution. The nature of the questionnaire required computer assistance. Respondents were asked to answer questions on up to two of the possible six types of meetings, for both an

annual summary of their Meetings Activity and for specific individual meetings, and this required automated navigation to help respondents complete the survey.

Establishing the Accounting Framework. With the scope of Meeting Activities in Canada defined by the Phase I & II survey research, economic analysis first required determining what the Sector contains. With the Study guidelines and UNWTO report both pointing to the use of the Accounting Framework established for the Tourism Satellite Account, the following three steps were taken. The first step included review of the Canadian Tourism Satellite Account (CTSA) tables, and the National Tourism Indicators (NTI), Tourism Demand and Supply of Tourism Commodities tables, identifying those Tourism Sector commodities that have a Meetings Activity component. Second identification of non-Tourism Sector industries that are “meetings characteristic industries”, for inclusion in a Framework for the Meetings Sector. In the end establishing the tabular form of the Tourism-plus-Meetings industries that could be representative of a “Meetings Sector” extension to the CTSA.

The direct contribution phase of this study was focussed on a narrowly defined and quantified contribution of Meetings Activity on the Canadian economy. Meanwhile, the indirect and induced economic contribution phase uses an expanded approach to measure the full reach of Meetings Activity in Canada. Indirect economic contributions are associated with the sectors connected in backwards to the tourism and meeting industry (for example, industries supplying products and services to hotels). The second type of non-direct impact were induced economic contributions result from the household spending effects of income earned directly or indirectly as a result of Meetings Activity.

The above information about the research and additional one is available in the reports on the webpage: <http://www.mpiweb.org/Education/Research/CEIS>:

## 1.7. American Economic Impact Study

PricewaterhouseCoopers LLP (PwC) was engaged by Convention Industry Council to estimate the economic significance of meetings in the U.S. in **2009**. Assisting PwC in this effort was a team of industry researchers (the Economic Significance Study Research Task Force or the RTF.), which included representatives of ASAE, DMAI, MPI, PCMA, and USTA. This study represents the first definitive, quantitative, and research-based analysis of the economic contribution of face-to-face meetings to the U.S. economy.

### Terminology

It should be noted that this study tries to quantify the "**economic significance**" of meetings, which is not the same for the authors as the "**economic impact**." For purposes of the study, the concept of "**impact**" is reserved for changes to the economy that may result from a specific event or shock to the industry, whereas the "**significance**" or "**contribution**" measures the size and overall significance of the sector within an economy.

The definitions and guidelines outlined by the UNWTO served as a foundation for this study. UNWTO and its partners define meetings as a general term indicating the coming together of a number of people in one place to confer or carry out a particular activity. The key purposes of meetings are to motivate participants, conduct business, share ideas, and learn. Based on further refinement by the UNWTO and for purposes of analyzed study, the term "**meeting**" and its description above was further expanded to refer to a **gathering of 10 or more participants for a minimum of four hours in a contracted venue**. Meetings include:

- conventions,
- conferences,
- congresses,



- trade shows and exhibitions,
- incentive events,
- corporate/business meetings,
- and other meetings that meet the aforementioned criteria.

Meetings excluded social and recreation activities, certain educational and political activities, and gatherings for sales of goods/services such as consumer shows.

UNWTO also outlined components of the meetings sector to include "core" meetings industries.

They are as below:

- specialized meetings organizers;
- convention, congress, and exhibition centers;
- incentive houses and
- destination management companies;
- convention and visitor bureaus).

For other supporting entities are treated:

- accommodations,
- transportation,
- technical equipment,
- food services, speakers' representation services,
- stand construction,
- other support services,
- and auxiliary businesses.

Several of the mentioned above industries such as accommodations, transportation, and food services also relate to travel and tourism activity. Given the overlap of meetings and travel and tourism activity, UNWTO recommended that components of the meeting sector be identified through a complimentary set of tables to a nation's tourism satellite account. For the purposes of this study, an

extended approach to quantifying the significance of meetings activity was used, which captures the activities of the core meetings industries, meetings-related components of the travel and tourism industries as an extension of the Travel & Tourism Satellite Account (TTSA), and other relevant industries such as food and beverage.

**Direct spending** is defined as spending within the U.S. economy from purchases of goods and services attributable to the activity.

### **Methodology**

#### **Key objectives for this study there were as below:**

- Develop common data and terminology that can be used when discussing meetings and events.
- Provide data that can be used at the national level to evaluate the economic contribution that meetings and events represent to the overall economy.
- Provide a basis for ongoing benchmarking, forecasting, and trend analysis.
- Collect reliable data that can be used to influence government and international agencies to alter national statistics systems to include aspects of the economic activity of meetings and extend tourism satellite accounts to include and reveal meeting activities related to tourism.
- Adopt the definitions and approach developed by the UNWTO to estimate the contribution of the meetings industry comparable to measures for other countries.
- Develop a replicable methodology that allows for meaningful comparative benchmarking internationally.

### Limitations of the study.

- The definition of meetings is based on guidelines given by the UNWTO, which specifically exclude meetings of a certain type, size, and location. As such, the study does not capture the full potential contribution of all meeting-related activity. The economic activity associated with this segment specifically excluded from the study may be significant.
- Other effects of meetings such as those on productivity, knowledge sharing/training, and social benefits were not evaluated as part of this study.
- This study presents the economic significance of meetings at the national level and thus the meeting characteristics and economic activity for a particular destination will vary from these national estimates.

This study has quantified the direct, indirect and induced contributions of meetings activity in the U.S. in terms of employment, labor income (including wages and salaries and benefits, as well as proprietors' income), output, and value added (i.e., GDP). The direct contribution is measured as the employment (full-time and part-time jobs), labor income, output, and GDP within the industries identified as "direct beneficiaries" of meetings activity with respect to the source of spending. The indirect contribution is measured as the employment, labor income, output, and GDP occurring within other industries that provide goods and services to the "direct" industries. The induced impact is measured as the employment, labor income, output, and GDP resulting from household spending of income earned either directly or indirectly from the meetings activity. Together, the direct, indirect, and induced contributions comprise the total contribution of the meetings activity in the U.S.

The economic impact analyses in the study rely on the IMPLAN economic model, a well-known input-output modeling system developed by the Minnesota IMPLAN Group for estimating economic impacts and is similar to the Regional Input-Output Modeling System developed by the U.S. Department of Commerce. The model is

primarily based on government data sources. It can address a wide range of impact topics in a given region (county, state, or the country as a whole).

The study team conducted extensive research involving two key areas: the first involved the collection of primary data through surveys, and the second involved research and analyses of industry, government, and proprietary sources (collectively referred to as secondary data). These research and analysis efforts were conducted in parallel to each other, whereby PwC analyzed the results of the each effort and reconciled the data and analyses to develop the basis for the estimates of economic significance presented in this report.

### **Primary Research**

Surveys were distributed to audiences representing: 1) meeting organizers 2) venue managers; 3) destination marketing organizations; 4) delegates; and 5) exhibitors.

### **Survey Analysis & Adjustments**

Survey responses were analyzed to ensure data quality. This process involved several steps, including the following: for each survey, a point of completion for usable data was determined. In other words, responses that did not meet a minimum questions-answered threshold were not considered to contain usable data for the analysis.

Survey data was analyzed to ensure that responses met the definition of meetings. Responses were removed from the data set related to non-U.S., on-site, and too small (not meeting minimum UNWTO-threshold attendance) meetings.

Responses were also analyzed to ensure no other "bad data" was included. PwC removed responses that, based on experience and judgment, appeared to be invalid, inconsistent, unreasonable, or reported in error.

Outliers were removed from the dataset. Averages and standard deviations were calculated, and values that fell outside of three standard deviations from the average were removed from dataset for that question and other subsequent questions that the outlier value may have impacted. For questions specific to a particular meeting type or venue type, outliers were removed in association with the specific type of meeting or venue.

PwC has taken all possible precautions to ensure that responses did not over-represent or under-represent any one particular group, potentially leading to survey bias.

## Secondary Research

Secondary data played an equally important role as the primary surveys in the research and analysis process. Similar economic and non-economic information regarding meetings volume and expenditures from a supply and demand perspective was collected and analyzed. Government, industry, and PwC's proprietary sources were used in this process. Examples of these secondary sources included, but were not limited to the following: Government: Census Bureau, Bureau of Labour Statistics, BEA, OTTI, and others.

Industry: Business Travel News' Corporate Travel Index, USTA's Travel Economic Impact Model (TEIM), Meetings & Conventions (M&C) Meetings Market Report and the Meeting Facilities Search, DMAI's MINT data and convention expenditure data, the Centre for Exhibition Industry Research's Exhibition Industry Census and the Exhibition Industry Index, Smith Travel Research, Trade Show Week, Trade Show Exhibitors Association, and others.

Proprietary: Information contained within PwC's Convention Center Report, proprietary lodging market information contained within PwC's Hospitality Directions and related analyses, previous PwC studies involving the meetings industry, and other such sources.

Secondary data was also used for the development of populations for meeting organizers and venues allowing for data extrapolation. In addition, secondary data was used in the reconciliation process with the survey results and in benchmarking overall estimates.

**Variables used there were as follow:**

- Direct Spending by Commodity:
- Travel & Tourism Commodities:
  - Accommodation
  - Food and Beverage
  - Air Transportation
  - Retail
  - Gasoline
  - Recreation and Entertainment
  - Car Rental
  - Travel Services and Other Tourism Commodities
  - Other Transportation
  - Urban Transit
  - Rail & Water Transportation
- Meetings & Other Commodities:
  - Meeting Planning & Production
  - Venue Rental
  - Other Meetings-related Commodities

Economic contributions are presented in terms of the following:

- Output: Economic concept refers to sales or revenue.

- Contribution to GDP: Also known as the "value added." Refers to the additional value created at a particular stage of production. It is a measure of the overall importance of an industry.
- Value added consists of: employee compensation, proprietors' income, income to capital owners from property, and indirect business taxes.
- Employment: Consisting of full-time and part-time jobs.
- Labour income: Including wages and salaries, benefits, and proprietors' income.
- Taxes: Including federal taxes (personal income, excise, custom duty, social insurance contribution, and other taxes) and state and local taxes (corporate income, personal income, property, sales, social insurance contribution, and other taxes)

### 3. Evaluation of selected models

The overview of the identified models of the impact calculation presented in the previous part of this report allows the authors to try make some evaluation of them in general terms. This evaluation in the draft form was the basis for the discussion in Sierre during the Kick-Off Meeting. Its final form should be valuable source of knowledge for the partners during the workshop held after the Opening Conference held in the end of June in Krakow. Below in the table were accessed eight models on the basis of the information, that could be acquired.

The following criteria of evaluation were used:

- Dominant level of implementation of the model
- Country of identified implementation
- Implemented by some CVB (Convention & Visitors Bureau)
- International implementation
- Organization of implementation/ origin
- Kind of generated impact (direct, indirect, induced)
- Available calculator
- Necessary of calculating I-O model by region/city
- Implemented/ used in Switzerland
- Available to adjust to Krakow in timeframe of the project
- Available to adjust to Krakow in budget of the project
- Possibility of comparable the impact study with other cities worldwide
- Possibility/Probability to implement in other Polish cities in the next years
- Possibility/Probability to implement in the next years on the national level



**Table 1. Evaluation and syntesis comparison of selected economic impact models (part 1).**

Models	Criteria Dominant level of implementation of the model	Country of identified implementation	Implemented by some CVB	International implementation	Organization of implementation/ origin	Kind of generated impact (direct, indirect, induced)			Necessary of calculating I-O model by region/city	Available calculator
<b>TRIMS</b>	Regional	US	NA	No	Ministry of Tourism and Culture	Yes	Yes	Yes	Yes	No
<b>RIMS II</b>	Regional	US	NA	No	Beaureau of Economic Analysis	Yes	Yes	Yes	Yes	No
<b>IMPLAN</b>	Regional	US	NA	No	USDA Forest Service	Yes	Yes	Yes	Yes	No
<b>Fischer</b>	Regional	Switzerland	None	No	University	Yes	Yes	Yes	No	No
<b>WTTC</b>	National	Worldwide	NA	Yes	Oxford Economics for WTTC	Yes	Yes	Yes	Yes	No
<b>DMAI</b>	Event	US/ Worldwide	Over 80 worldwide (mostly in US, but also in Switzerland - Geneva)	Yes	Oxford Economics for DMAI	Yes	Yes	Yes	No	Yes
<b>MPI</b>	National	Canada, Denmark	Copenhagen	Yes	Maritz for MPI Foundation	Yes	Yes	Yes	Yes	No
<b>PwC</b>	National	US/ Mexico	NA	Yes	Pwc for CIC	Yes	Yes	Yes	Yes	No

**Table 1. Evaluation and synthesis comparison of selected economic impact models (part 2).**

Models	Criteria Implemented/ used in Switzerland	Available to adjust to Krakow in timeframe of the project	Available to adjust to Krakow in budget of the project	Possibility of comparable the impact study with other cities worldwide	Possibility/Probability to implement in other Polish cities in the next years	Possibility/Probability to implement in the next years on the national level
<b>TRIMS</b>	No	Difficult	Difficult	Low	Low	Low
<b>RIMS II</b>	No	Difficult	Difficult	Low	Low	Low
<b>IMPLAN</b>	No	Difficult	Difficult	Low/mean	Low	Low
<b>Fischer</b>	Yes	Yes	Yes	Low	Low	Low
<b>WTTC</b>	No	No	No	Low	Low	Low
<b>DMAI</b>	Yes	Yes	Yes	High	High	High
<b>MPI</b>	No	Yes	Yes	High	Mean/High	High
<b>PwC</b>	No	Yes	No	Mean/high	Mean/High	Mean/High

Source: Own preparation

\* Fischer Model and DMAI Calculator were analysed by the Swiss Partner.

**Conclusion from the above evaluation of the identified models allow the Authors of this report to suggest the Swiss Partner to consider together during the *Kick-Off Meeting in Sierre (14 May 2012)* and *Workshop in Krakow (in 25 June 2012)* among the following models **DMAI, Fischer and MPI**.**

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## 4. Sources

- Bonn M., *A comparison of three economic impact models for applied hospitality and tourism research*, *Tourism Economics*, 2008, 14 (4), 769–789, <http://www.cob.fsu.edu/content/download/47217/-327836/file/A%20Comparison%20of%20Three%20Economic%20Impact%20Models.pdf>
- Convention Industry Council, *The 2009 Economic Significance of Meetings to the U.S. Economy*, October 2010
- DMAI's New Event Impact Calculator—What's Your Convention Worth? [http://meetingsnet.com/associationmeetings/news/event\\_impact\\_calculator\\_0316/#ixzz1wosqWdEb](http://meetingsnet.com/associationmeetings/news/event_impact_calculator_0316/#ixzz1wosqWdEb)
- IMPLAN Vacabulary, <http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf>
- RIM2 Model, <http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf>
- *The Economic Contribution of Meetings Activity in Canada. Prepared for: Meeting Professionals International Foundation Canada. Prepared by: Maritz Research Canada The Conference Board of Canada. Meeting Professionals International, Dallas, Texas, U.S.A. 2008.*
- *The Ontario Ministry of Tourism and Culture*, <http://www.mtc.gov.on.ca/en/research/treim/treim.shtml>,
- *Treim system*, <http://www.mtr-treim.com/webtreim/en/tourist.aspx>
- *WTTC/Oxford Economics 2012 Travel & Tourism Economic Impact Methodology March 2012.*

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