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Providing New Evidence on Tourism Trade in Value Added

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Abstract

Despite significant work on tourism economics, notably with the Tourism Satellite Account, measures that quantify the direct and indirect roles of tourism in global value chains (GVCs) for a wide range of countries and industries are not yet available. Since tourism expenditures may not only generate value added in the country in which the expenditures are made, analysing tourism trade flows using conventional tourism statistics alone may provide a misleading perspective on the importance of tourism trade to economic growth, employment and income.

The OECD is undertaking work to analyse tourism from a Trade in Value Added (TiVA)² perspective. Trade in value-added describes a statistical approach which traces the value added by each industry and country in the production chain, and allocates the value added to these source industries and countries. Growing global value chains mean that a country's exports increasingly rely on significant intermediate imports, and value-added by industries in upstream countries. Analysing how much domestic value-added is created by a tourism export is crucial to better understand how tourism trade contributes to the economic growth and competitiveness of countries, and the impact of economic globalisation.

This paper presents this ongoing work to scope out the benefits and challenges of analysing tourism from a trade in value added perspective, and the potential to develop a longer term statistical agenda. It presents a first attempt to capitalise on the Inter-Country Input-Output (ICIO) infrastructure and the TiVA framework for tourism, and explore the new data, analysis and evidence such an approach could provide to enable analysis of the upstream effects of tourism and support tourism policy.

The paper illustrates how analysing tourism from a trade in value added perspective can shed new light on the relationships between the trade, production, and consumption of tourism services, including the benefits that accrue from tourism, and which industries benefit in particular. Improvements to the underlying official national statistics required to strengthen the statistical framework are identified, and estimates for OECD countries presented where possible. The paper concludes by outlining some of the statistical challenges and priority actions needed to make progress.

Keywords: Tourism economy, Trade in Value Added (TiVA), Tourism Satellite Account (TSA), value added, ICIO, globalisation, trade, global value chains, tourism expenditures, tourism policy.

² TiVA is a joint OECD-World Trade Organization Trade initiative which aims to increase understanding of the process of globalisation by providing insights into the value added created by each country in the production of goods and services that are traded and consumed worldwide.

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Providing new evidence on tourism trade in value added

The ability to measure the economic impacts of tourism provides policy makers with the evidence necessary to ensure that future policies are targeted to meet strategic objectives. Since 1948, the OECD Tourism Committee analyses and monitors policies and structural changes affecting the development of domestic and international tourism (www.oecd.org/cfe/tourism). The OECD guidelines on tourism statistics and the economic (e.g. the Tourism Satellite Account, [tourism competitiveness indicators](#), [sub-national measurement of tourism](#)) and social measurement of tourism are internationally acknowledged standards.

The OECD Tourism Committee's Working Party on Tourism Statistics and the Global Forum on Tourism Statistics provide platforms for methodological developments, exchange of views and experiences on developments in tourism statistics, and use for policy and business. OECD tourism data are accessible online, open and free, through the OECD Data Portal (<http://dotstat.oecd.org>). This database supports evidence-based analysis and policy performance through the provision of robust, comparable and timely data on tourism services for 50 countries.

The OECD Tourism Committee works closely with other OECD statistical bodies, notably the Committee on Statistics and Statistical Policy (CSSP), Members and Partners' national statistical authorities, and international organisations active in methodological developments and data collection, analysis and dissemination with the objective to further improve the quality and accessibility of tourism data, and more effectively demonstrate the added value of tourism to decision makers, in a timely and robust manner.

As part of its Programme of Work 2017-18, the OECD Tourism Committee is undertaking work to analyse tourism from a trade in value added perspective. This activity is building on wider ongoing work by the OECD on Trade in Value Added (TiVA). It is undertaken in close co-operation and with the support of lead OECD directorates working on TiVA issues and data, including the Directorate for Science, Technology and Innovation, and the Statistics and Data Directorate.

A framework for measuring tourism trade in value added

Tourism is one of the main economic sectors benefitting from globalisation. It is a networked industry which links and integrates different branches of the economy, and includes large multinationals and many small and medium enterprises. Tourism global value chains (GVCs) cover inbound and outbound tourism activities including distribution (travel agencies, tour operators), transportation, accommodation, culture and leisure.

Despite significant work on tourism economics, notably with the Tourism Satellite Account, measures that quantify the direct and indirect roles of tourism in GVCs for a wide range of countries and industries are not yet available. Since tourism expenditures may not only generate value added in the country in which the expenditures are made, but also result in additional imports – including by upstream providers to the tourism industry - analysing tourism trade flows using conventional tourism statistics alone may provide a misleading view on the importance of tourism trade to economic growth, employment and income.

OECD work to analyse tourism from a trade in value added perspective aims to take the first steps to build such measures, by capitalising on the statistical framework underpinning

trade in value added analysis and tourism data. A main driver of this work is the need to better understand the impact of economic globalisation, and its potential for capturing the true value of tourism in national economies.

What is trade in value added?

Trade in value added describes a statistical approach used to estimate the source(s) of value (by country and industry) that is added in producing goods and services for export (and import). It recognises that growing global value chains mean that a country's exports increasingly rely on significant intermediate imports, and, so, value added by industries in upstream countries.

For example a package tour exported by country “A” may require significant inputs, such as transport, food and beverages, and services produced in other countries. In turn these countries may use intermediate inputs imported from other countries to produce the goods and services exported to “A”. The trade in value added approach traces the value added by each industry and country in the production chain and allocates the value added to these source industries and countries.

Why is measuring tourism trade in value added important?

Analysing how much domestic value added is created by a tourism export is crucial to understand how tourism trade contributes to the economic growth and competitiveness of countries. Some economies have capitalised on global value chains by developing comparative advantages in specific parts of the value chain. For example, country “A” tourism exports may be dominated by large tour operators with a high level of foreign content, leading to a significant fall in the domestic value added generated by these operators. Other countries’ tourism exports may be dominated by the ski, surf or congress sector, or language courses and other educational services. The nature of these exports vary and will provide different levels of value added and jobs for the domestic economies.

Quantifying the value generated in the tourism value chain makes it possible to identify which type of tourism activities – and tourists - add more value, and help direct policies to encourage businesses to focus more on value rather than volume (OECD, 2017). Analysing tourism from a trade in value added perspective allows for a better understanding of these bilateral exchanges, and identification of source markets which generate more value added in the domestic economy. Looking at trade in tourism services from a value added perspective will also help to illustrate how upstream domestic industries (backward linkages) contribute to tourism exports, even if they have little direct international exposure.

Overall, analysing tourism from a trade in value added allows for having a better understanding of the direct and indirect impacts of tourism, tourism expenditures, and the role of upstream industries in supporting a healthy and competitive tourism sector (not only accommodation, but financial and legal services as well for example). Understanding upstream contributors and benefiting industries can also help to identify investment needs in the sector.

Measuring tourism trade in value added can particularly help to respond to key policy/statistics questions such as:

- How much value does tourism add to economies?
- Does tourism create additional trade?

- Do tourism services have ‘high or low’ domestic value added content?
- How does tourism compare to the rest of the economy?
- What is the upstream impact of tourism on other domestic industries?

Analysing tourism in the TiVA framework, and the underlying ICIO infrastructure³

Developed jointly by OECD and World Trade Organization, the Trade in Value Added (TiVA) initiative aims to increase understanding of the process of globalisation by providing insights into the value added created by each country in the production of goods and services that are trade and consumed worldwide. It address the double counting implicit in current gross trade flows, as intermediate goods and services may cross borders many times and do so increasingly with the rise of GVCs.

The OECD-WTO TiVA framework relies on the construction of the ICIO – inter-country input-output tables for the world (Table 1). These tables are constructed by combining harmonised⁴ national input-output tables (derived from harmonised national supply and use tables) with international trade in goods and services statistics, all adjusted to be consistent with the latest National Accounts main aggregates.

Table 1. Simplified Inter-Country Input-Output infrastructure

at basic prices

		Intermediate demand						Final consumption and capital formation			Direct purchases by non-residents			Output
		Country A		Country B		Country C		Country A	Country B	Country C	Country A	Country B	Country C	
		Ind 1	Ind 2	Ind 1	Ind 2	Ind 1	Ind 2							
Country A	Ind 1													X(A1)
	Ind 2													X(A2)
Country B	Ind 1													X(B1)
	Ind 2													X(B2)
Country C	Ind 1													X(C1)
	Ind 2													X(C2)
Taxes less subsidies...		... on intermediate products						... on final products						
		NTZA1	NTZA2	NTZB1	NTZB2	NTZC1	NTZC2	FA	FB	FC	FA	FB	FC	
Value added		V(A1)	V(A2)	V(B1)	V(B2)	V(C1)	V(C2)							
Output		X(A1)	X(A2)	X(B1)	X(B2)	X(C1)	X(C2)							

Key:	Cross-border flows of intermediate goods and services	Cross-border flows of final goods and services
	Domestic flows of intermediate goods and services	Domestic flows of final goods and services

International tourism activities captured here

Source: OECD Directorate for Science, Technology and Innovation.

³ The latest OECD set of ICIO tables is available for the years 2005-2015 and cover 65 economies and 36 unique industries based on ISIC Rev. 4. They are available online (<http://oe.cd/icio>). The latest sets of TiVA indicators are also available on the OECD website (see <http://oe.cd/tiva>).

⁴ Harmonised meaning common industry and product classifications (converted from national classifications if necessary) and, common table formats – practices vary across countries (and time) on how they construct Input-Output and Supply and Use tables.

From a tourism perspective, a key component from the harmonised national input-output tables is the data on *direct purchases by non-residents*. One relevant feature of the OECD ICIO tables is that direct purchases by non-residents within a country are identified separate to exports. Another feature is the identification of resident expenditures abroad in the national input-output tables, which can be incorporated into the ICIO framework to measure the direct and indirect effects.

For a description of the construction of the inter-country input-output data, see chapter “Measuring trade in value added” in the [Interconnected Economies: Benefiting from Global Value Chains](#) (OECD, 2013).

Developing a ‘value chain’ of tourism statistics for value added measurement

While a co-ordinated international approach is required to construct the ICIO database and develop the TiVA framework, national statistical institutes have an important role to play as providers of the underlying data for analysis of tourism activities and GVCs – with or without integration into the ICIO. These underlying official statistics have widespread recognition and approval, and represent the value chain of national statistics supporting analysis of tourism from a value added perspective. This includes:

- **National supply and use tables**, in which the domestic purchases by non-residents are specified not only in terms of the total expenses (as currently the case for most countries), but also by detailed product, as a subcomponent of household consumption expenditure.
- **Bilateral trade flow statistics**, with bilateral trade in tourism services statistics broken down by detailed product and country of origin of tourists. Tourists from different countries have different expenditure patterns, and analysing these from a value added perspective may additionally provide insights for policy makers.
- **Tourism Satellite Account**, which can be used to develop estimates of the value added created by tourism in countries in the absence of detailed information in the supply and use tables on the expenditures of non-residents by products.

Producing tourism trade in value added estimates at national level

National data can be used to analyse tourism from a trade in value added perspective and derive indicators on the direct and indirect value added generated by non-resident expenditures within the domestic economy. Pilot country cases are helping to show what is possible using the national statistical inputs, and to identify the challenges and issues which will need to be addressed to develop similar statistics building on expenditure data from the TSA and other sources. The cases of Canada and the United Kingdom are presented below⁵.

Canada is the only country to report domestic purchases by non-residents with a breakdown by product to the OECD. The 2012 data for Canada is available at basic prices, and with detailed breakdown across 65 aggregated industry and product categories, as defined by the OECD to harmonise and enhance the comparability of the supply and use tables.

⁵ Analysis for Canada and the United Kingdom has been prepared in co-operation with Statistics Canada and the Office of National Statistics in the United Kingdom, and the OECD Statistics and Data Directorate.

The United Kingdom has provided disaggregated data on domestic purchases by non-residents for the purposes of this analysis, allocated to fit in the 65 product categories defined by the OECD. The data is available for 2010 at purchaser's prices and has been converted into basic prices using the ratios of the final consumption expenditure by household data which is available in both purchasers and basic prices for each product.

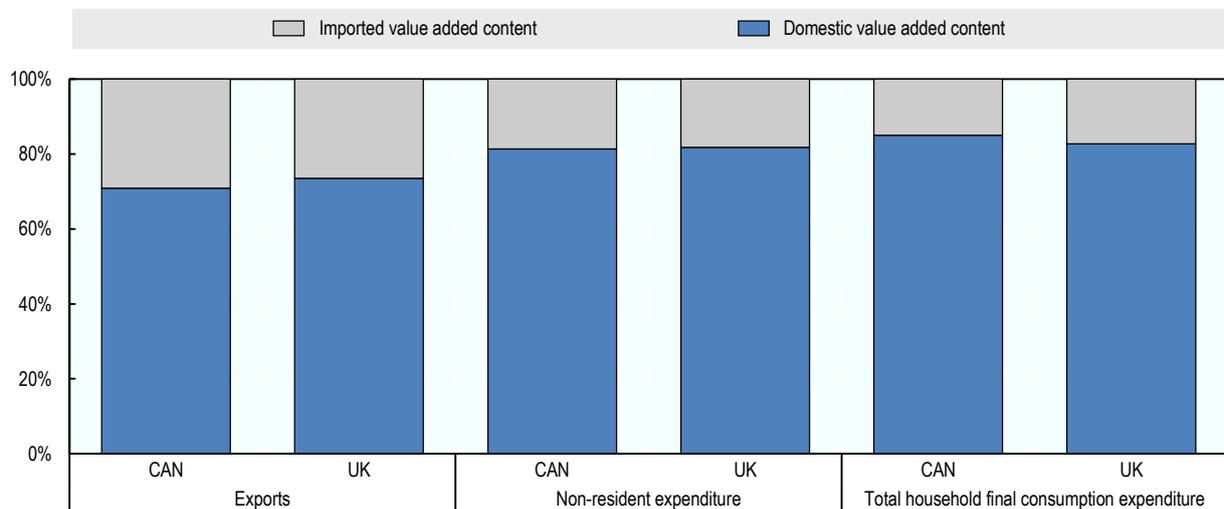
The supply and use table is then converted to an input-output table, from which a Leontief inverse multiplier was derived and used to estimate the direct and upstream impacts of final demand expenditure on tourism services. From this analysis, it is possible to identify the direct and indirect (in upstream industries) value added generated by non-resident expenditure on tourism-related goods and services in the reference country (domestic), and in other countries (foreign/imported).

From this analysis, the following indicators have been generated:

Domestic and imported value added content of selected final demand categories

The domestic value added content of non-resident expenditure – exports - in both Canada and the United Kingdom is higher, compared with overall exports (Figure 1). Whereas 1 CAD of exports generates 71 cents of Canadian value added, 1 CAD of non-resident expenditure generates 81 cents of Canadian value added. In the United Kingdom, whereas 1 GBP of exports generates 74 pence of value added, 1 GBP of non-resident expenditures generates 82 pence of value added. This is explained by the types of products and services that non-residents are more likely to purchase, compared with households in the reference economy.

Figure 1. Domestic and imported value added content in Canada and the United Kingdom



Source: OECD calculations based on Canada (2012) and United Kingdom (2010) SUTs. Calculations prepared by the Centre for Entrepreneurship, SMEs, Regions and Cities, and the Statistics and Data Directorate.

Non-resident tourism expenditure patterns in gross expenditure and value added terms

Tourism export patterns vary across countries, reflecting the types of products and services that non-residents purchase in different countries. These patterns also vary depending on whether measured in value or value added terms.

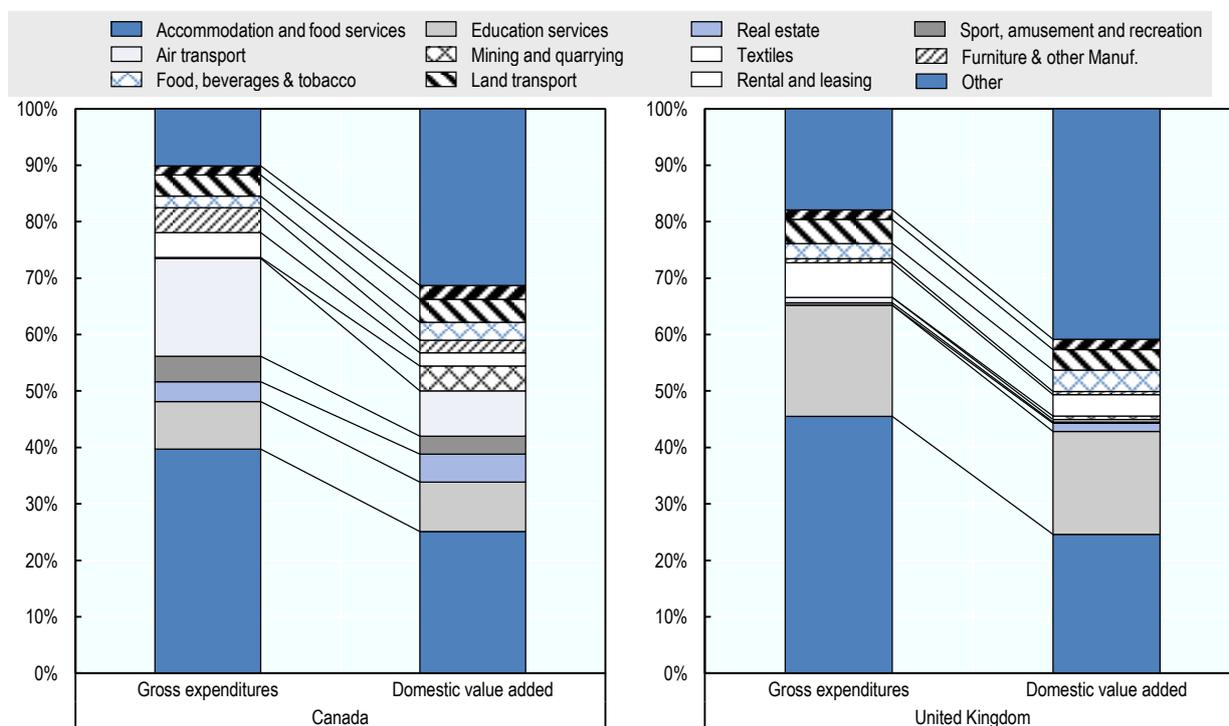
As might be expected, the biggest expenditure item for non-residents in both Canada (40% of non-resident expenditure) and the United Kingdom (46%) is accommodation and food services, when measured in gross expenditure terms. Beyond this, the pattern is somewhat different. Together with education services (20%), these two industries account for two thirds of non-resident expenditures in the UK, while in Canada air transport (17%) is the second biggest expenditure item, ahead of educational services.

Somewhat surprising for an island destination like the UK is the absence of air in the top industries capturing non-resident expenditures. It is unclear why this is the case, but it may be reflective of a combination of the relative size of the country (leading to less use of air transport within the country), or a relative lower cost of airfares and proximate source markets.

However, when examining the domestic value added generated by non-resident expenditures, a different pattern emerges. Whereas nearly 40% of non-resident expenditures are spent on accommodation and food services in Canada, this share is only 27% in value added terms. A similar pattern is found in the UK, where these expenditures account for 46% of total non-resident expenditures in gross value terms, falling to 25% when measured in value added terms. Instead, other industries become more important – pointing to their upstream role providing inputs to the products and services that tourists buy. These include education and real estate in Canada, and food, beverage and tobacco and financial services in the United Kingdom.

Comparing the relative role of industries in gross and in value added terms, Figure 2 illustrates the changes in relative importance of certain industries when analysing the value added embodied in non-resident expenditures, as compared to expenditures as such.

Figure 2. Importance of selected industries in expenditure and value added terms

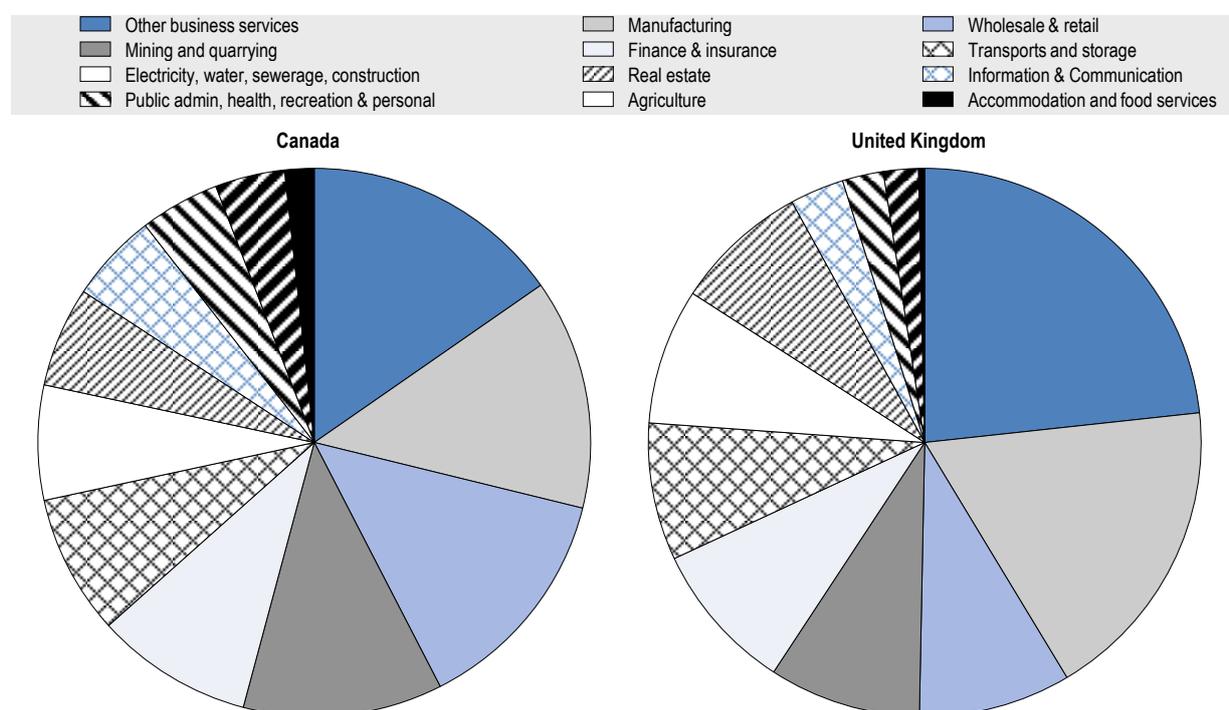


Source: OECD calculations based on Canada (2012) and United Kingdom (2010) SUTs. Calculations prepared by the Centre for Entrepreneurship, SMEs, Regions and Cities, and the Statistics and Data Directorate.

Indirect domestic value added generated by non-resident tourism expenditures

Analysing the domestic value added generated by non-resident expenditures means that not only the value added generated by those industries catering to tourists is considered, but also all the upstream contributions of other industries (Figure 3). Overall, in Canada each CAD of direct value added generated by non-resident expenditure generates an additional 70 cents of upstream value added. In the United Kingdom, each GBP of direct value added generated by non-resident expenditure generates an additional 48 pence of upstream value added.

The charts examine which industries are involved in such upstream contributions, and in both cases illustrate in particular the importance of services for the functioning of tourism, including other business services, wholesale and retail, finance and insurance, and ICT services. Many industries do not cater directly to non-residents, but because their outputs are used by those industries that do, production in such upstream industries is also dependent on non-resident expenditures (e.g. agriculture, advertising and market research). Using this type of analysis, it is also possible to identify the importance of tourism in the total value added of other industries.

Figure 3. Indirect domestic value added generated

Source: OECD calculations based on Canada (2012) and United Kingdom (2010) SUTs. Calculations prepared by the Centre for Entrepreneurship, SMEs, Regions and Cities, and the Statistics and Data Directorate.

Producing tourism trade in value added estimates at international level

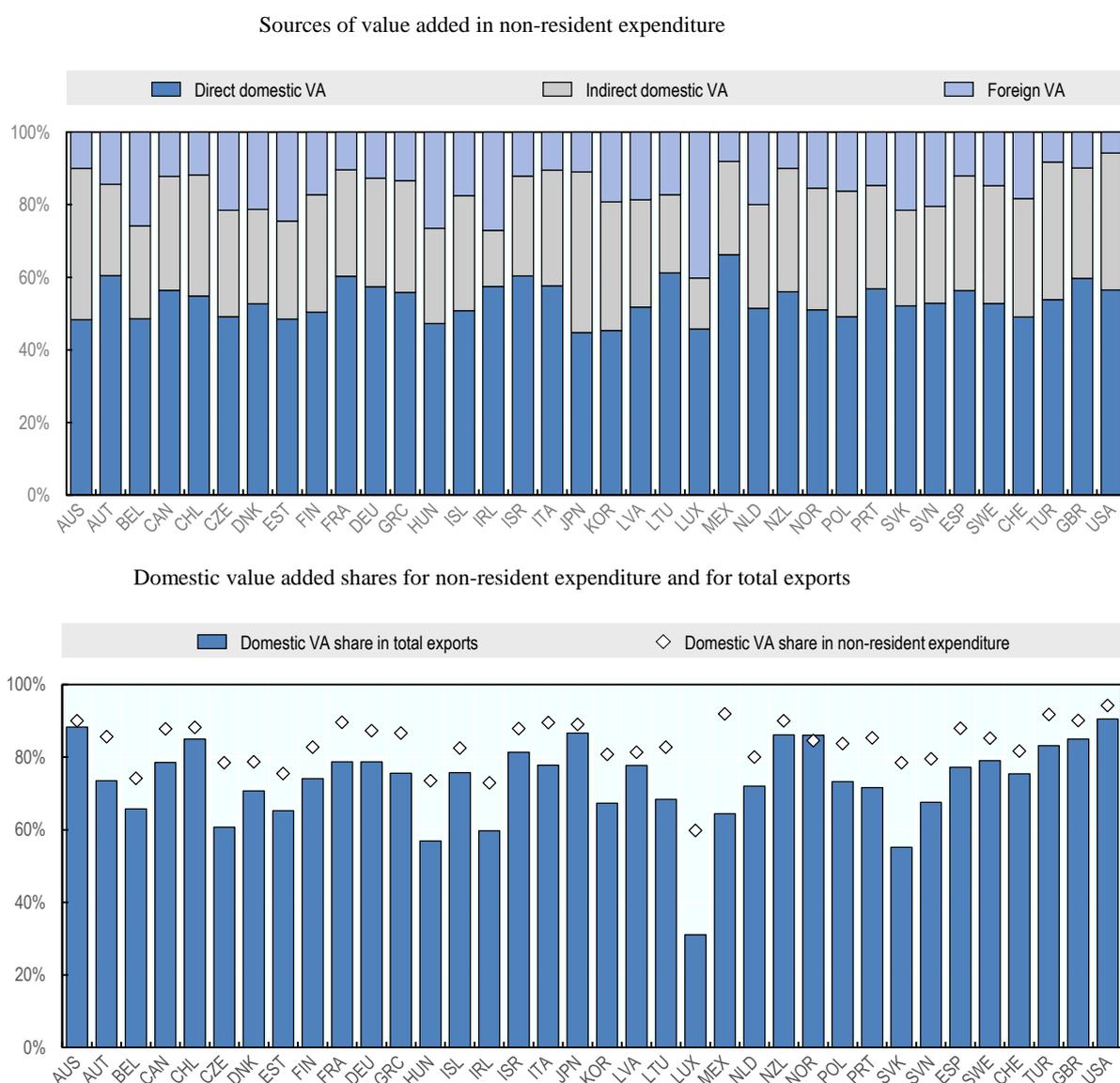
Going beyond the national level, and using the ICIO infrastructure outlined earlier, indicators can be developed to track, for example, the country and industry origin of value added in gross exports. The advantage of using the international tables is the possibility to obtain insights into the ultimate origin of value added (VA), and the ultimate country of final demand (as opposed to the intermediate) partner countries for imports and exports.

Analysis of tourism in the ICIO framework has generated the following indicators:⁶

Domestic value added created by non-resident expenditure

The bottom half of Figure 4 shows that the findings observed for Canada and the United Kingdom, namely that while not all non-resident expenditure results in domestic value added, their domestic value added share is higher than average (for exports) for the economy, holds across all countries for which the analysis was performed.

⁶ Analysis has been prepared with the OECD Directorate for Science, Technology and Innovation. Some variations are observed in data for Canada and the United Kingdom compared with the foregoing national analysis due to the transformations required to harmonise national data to construct the ICIO tables, and different source years.

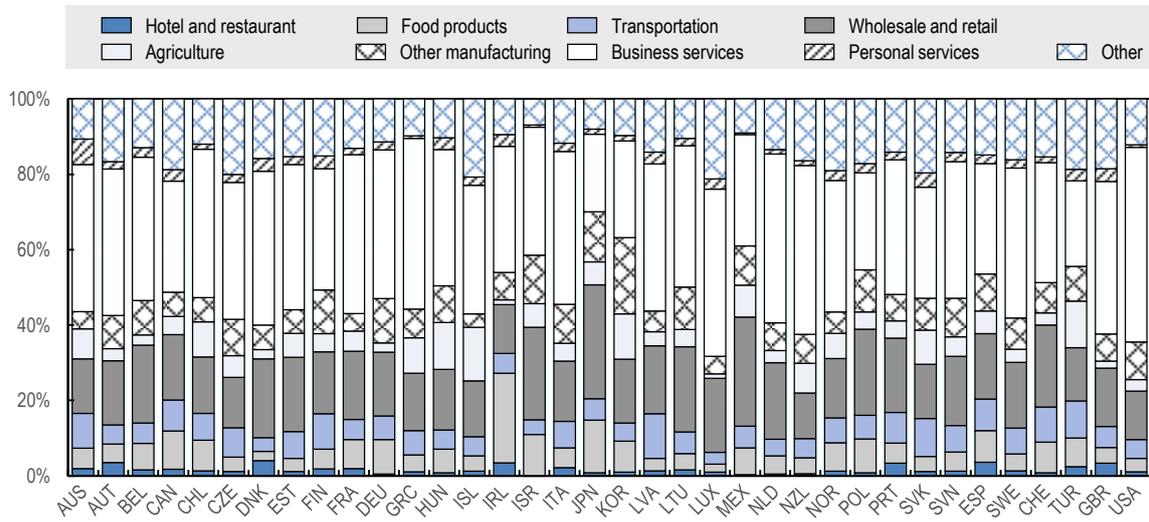
Figure 4. Value added generated by non-resident expenditure

Source: OECD Inter-Country Input-Output, 2018 (forthcoming, December 2018).

Upstream effects of non-resident expenditure

On average, across all OECD countries, 1 USD of non-resident expenditure results in 89 cents in domestic value added and 11 cents in foreign value added. The indirect domestic value added represents 34 cents while the direct domestic value added represents 56 cents. Looking at this another way, for each USD of direct value added generated by non-resident tourism expenditure, an additional 61 cents of indirect value added is generated in upstream industries. Figure 5 illustrates how the industries' contribution is distributed, pointing again, like in the national examples for Canada and the United Kingdom, to the important role of services as providers to those industries that produce the products purchased by non-residents.

Figure 5. Indirect domestic value added by source industry in non-resident expenditure

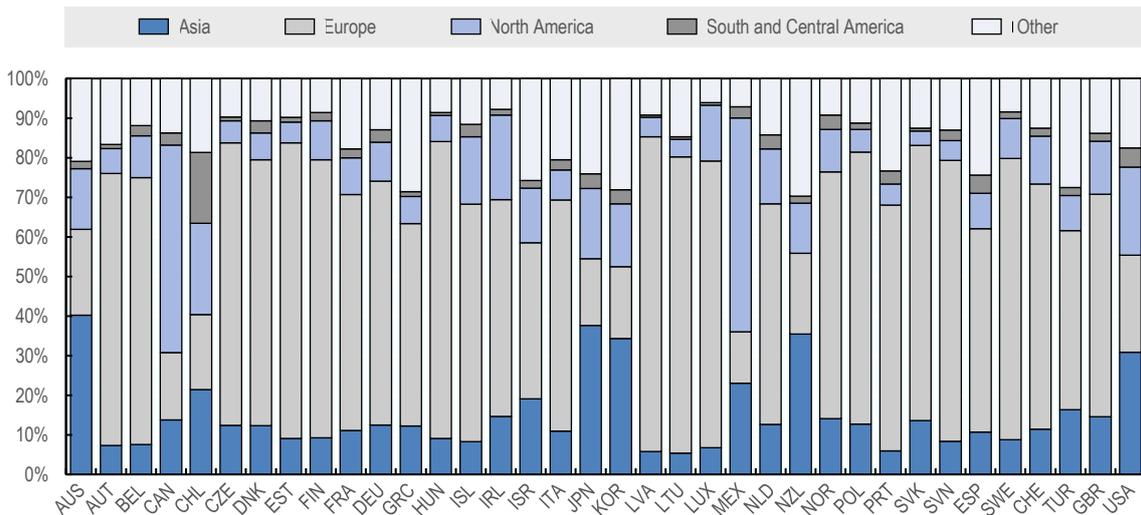


Source: OECD Inter-Country Input-Output, 2018 (forthcoming, December 2018).

Foreign value added created by non-resident expenditure by country of origin

While Figure 4 and Figure 5 could also be produced using national statistics (see the Canada and United Kingdom examples above), Figure 6 illustrates additional information that can be derived from an inter-country input-output table. It shows the regions of origin of the 11% foreign value added generated by non-resident expenditures in OECD countries.

Figure 6 Foreign value added by source region in non-resident expenditure



Source: OECD Inter-Country Input-Output, 2018 (forthcoming, December 2018).

Limitations of analysing tourism from a trade in value added perspective

A number of challenges and limitations are identified when analysing tourism from a trade in value added perspective:

- Non-resident expenditure data captures the expenditure of all non-residents in the reference country, including cross-border workers and passengers in transit, and do not fully align with inbound tourism expenditures in the Tourism Satellite Account and the International Recommendations on Tourism Statistics 2008.
- Business tourism expenditure are not covered, as non-resident expenditure is a component of final household consumption (business tourism expenditure is captured by intermediate consumption). Detailed information from other sources is required to incorporate travel for business purposes into the value added estimates for tourism.
- Expenditure by residents on tourism (domestic tourism) is not separately identified in household consumption in the supply and use table. Potential exists to use TSA data to estimate this; however, first results are unsatisfactory and likely to be over-estimated as it is difficult to isolate the expenditure by domestic tourists from wider resident expenditure on tourism-related goods and services.
- Breakdown of non-resident expenditure data by product is not available in the national supply and use and input-output tables of most countries. In these cases, the product breakdown for inbound tourism expenditure in the TSA is used to estimate these breakdowns, where available.
- However, the TSA does not provide the level of product detail available in the supply and use tables, and in the case of most countries, the level and detail of expenditure information in the TSA expenditure tables is not currently sufficient to detailed to prepare such estimates.
- For countries with no information on non-resident expenditures by product in the input-output, supply and use and TSA tables, product distribution shares of total from available countries with similar characteristics are used (i.e. in terms of size of population and GDP).
- Coverage of national statistics varies considerably, with many missing data points that need to be estimated (years, industries, products, demand categories, or combinations thereof).

Towards a stronger statistical framework to analyse tourism trade in value added

This paper illustrates that using a value added perspective to analyse tourism provides useful and additional insights for policy makers on the benefits that accrue from tourism, and which industries benefit in particular. Clear opportunities exist to expand this work towards more countries and over time, to allow for cross-country comparisons and the analysis of trends in the indicators presented. Detailed sectoral analysis, particularly when taking advantage of the more detailed supply and use tables that are nationally available, are also a promising avenue of analysis using the approaches outlined above.

Realising this potential will require action at both national and international level to improve the statistical framework, guided by a clear understanding of how the TiVA framework relates to the TSA and other tourism statistics.

National statistical institutes have an important role to play as the providers of the underlying national data, involving statisticians working on tourism, national accounts and trade statistics. There is also a clear role and need for an international organisation to co-ordinate and harmonise national statistics in order to create a multi-regional research tool. Such efforts are already underway and these efforts will need to be extended to take into account specific trade in tourism services issues.

Raising awareness of the opportunities which exist from integrating tourism into the TiVA framework will be important, to mobilise the political support, and resources, required to undertake this statistical work. This will also be necessary to bring together the different data (and actors) required to strengthen the statistical framework for analysing tourism using a trade in value added approach.

A related issue will be the need to ensure the output concerning tourism trade in value added is communicated in ways that are easily understood and interpreted by policy makers. Meaningful tourism trade in value added statistics and indicators should be presented in simple, unambiguous terms and efforts to develop robust tourism trade in value added indicators will need to be accompanied by effective communication to target audiences.

Statistical work needed to make progress

While much of the work to improve the underlying official national statistics sits with national account and trade statisticians, tourism statisticians also have a role to play, to ensure tourism-relevant issues are addressed. These include:

- **Greater granularity in national supply and use tables**, including in particular improvements in the breakdown by product of non-resident expenditure by product (as well as final consumption expenditures). Additional information on resident expenditures on tourism services would provide additional insights on the value added generated by tourism. This will require underlying surveys and tourism data sources to be more consistent with national accounts and the supply and use tables.
- **Improvement of the quality and coverage of the Travel item in Trade in Services** statistics, including more detailed service category breakdowns, full partner country information (both Balance of Payments travel services breakdowns are encouraged) and reconciliation of trade asymmetries for travel. Addressing the asymmetry issue should be a priority, building on ongoing efforts in this area, including the OECD-World Trade Organization Balanced Trade in Services initiative (BaTIS), and the specific work on travel statistics at EU level. Integration of new data sources (e.g. credit card) can also play a role.
- **Improvement of the implementation of the Tourism Satellite Account**, including the preparation of TSA Table 6 (and underlying Tables 4 and 5) with more complete and disaggregated data, specifically more detailed data on expenditures by CPA (Classification of Products by Activity) or CPC (Central Product Classification) product classification. More detailed information on expenditure categories by country/region of origin of the tourist (inbound and domestic), or by country of expenditure (outbound).
- **Better alignment and timeliness of data sources**, consistent with the supply use tables, national accounts, and bilateral trade flows statistics. For example, the development of more detailed TSA data on expenditure by product should preferably be undertaken in collaboration with SUT compilers to provide inputs for

non-resident purchases by product. Timely tourism statistics are needed, coherent with official estimates of gross output and value-added by industry and national accounts main aggregates of demand and trade, supplemented by bilateral trade statistics.

Potential extensions in the longer term

While the focus of the OECD work to date has been on linking tourism with the core TiVA framework, as the work to improve and extend the TiVA framework progresses and new data becomes available, this is opening up new possibilities to shed new light on a range of policy questions regarding tourism GVCs, including:

- **The impact of tourism on jobs and wages:** using National Accounts estimates on jobs and labour compensation by industry in combination with tourism expenditures and input-output coefficients.
- **The role of SMEs and large (foreign) operators and hotel chains in tourism GVCs:** which would require a disaggregation of national supply and use tables by ownership for these industries, along the lines of the methodologies developed by the Committee on Statistics and Statistical Policy (CSSP) Expert Group on Extended SUTs.
- **The impact of tourism in sustainability:** for example analysing CO₂ emissions embodied in the consumption of non-residents (travel exports), using National Accounts-consistent estimates of CO₂ emissions in combination with tourism expenditures and input-output coefficients.

Such analyses would in particular require more detailed information on CO₂ emissions, jobs and labour compensation, and firm size and ownership consistent with national accounts, in addition to in particular more detailed statistics on tourism expenditures by product.

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