THE IMPACT OF TOURISM FOREIGN DIRECT INVESTMENT ON ECONOMIC DEVELOPMENT:

AN ILLUSTRATION BY DEVELOPMENT OF A TOURISM SATELLITE ACCOUNT FOR WALES

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Abstract

The impact of Foreign Direct Investment (FDI) on economic development has been examined extensively in the academic literature. The positive effects of FDI generally hold if the host economies have sufficient level of development to absorb the benefits of FDI. However, the contribution of tourism FDI to economic development is largely unknown because of measurement difficulties in tourism FDI, data paucity and the relatively small scale of tourism FDI compared to total FDI flows. Host countries where tourism is one of the main or the only main income generating sector(s) often have a low level of development and rely heavily on tourism FDI. The low level of development in tourism intensive destinations makes the measurement of tourism impacts more difficult because there is often a high level of leakages from the tourism FDI in such economies. Therefore, then development of a clear and robust way of measuring the tourism FDI impact at such destinations has become important and necessary. This thesis uses the example of Wales, a relatively less developed region of the UK, to illustrate how the Tourism Satellite Account (TSA) can be altered in form to reveal the contribution of tourism FDI on economic development in terms of output, gross value added (overall and per worker) and employment. The non-regionally owned tourism businesses supply over half of tourism products/services and create more GVA in total than regionally owned businesses. Employees in the non-regionally owned businesses also have much higher productivity. This study additionally shows the factors (such as quality of labour, household income level, leakages) that are considered important for economic development can be better accounted and understood by appending a Tourism Social Accounting Matrix (TSAM) to a TSA, with additional benefits for more comprehensive economic development impact analysis and further modelling.

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Contents

List of Tables

List of Figures

Chapter 1 Introduction of the context

Tourism industries are expanding rapidly, and becoming more and more important worldwide, especially for developing countries. However, tourism-dependent nations often lack domestic capital and thus rely heavily on foreign sources of investment. There have however been very few studies measuring the impact of tourism Foreign Direct Investment (FDI) on economic development, especially when all tourism-specialized industries defined by the World Tourism Organization (UNWTO) are taken into consideration, related to this, data on tourism FDI are rarely recorded.

A Tourism Satellite Account can be a useful tool for measuring the impact of tourism FDI on developmentally important variables. Wales is the example location used in this thesis. It was chosen because Wales has the similar economic features as less developed tourism-intense countries, where understanding such issues is essential for policies. There are also several earlier versions of TSA available to inform analysis.

Lack of research on tourism FDI impact

Economic development comprises the improvement in the living standards, economic health, and is the focus of sustained actions taken by policymakers/communities. Economic development concerning improving living standards, keeping unemployment, prices and inflation low, and supporting local growth is a central objective of UK government policy (BBC, 2014, UK Government, 2015). In conventional economic development theories, physical capital, human capital, and technology are the three critical elements for economic growth and development (Solow, 1956, Romer and Chow, 1996). In the case of poorer countries, when those elements are not sufficient for economic development, Foreign Direct Investment (FDI) has been considered as one of the

ways to equip the national economy with physical capital. FDI also enables human capital growth through training provided, and potentially transfer technology from multinational firms to the host nations through infrastructure building and plants' operations (Carkovic and Levine, 2002, Blomström et al., 2001, Anyanwu, 2017).

Tourism similarly affects economic activities. It generates employment and tax revenues; stimulates investment in infrastructure, human capital, and technology; enhances local firms' efficiency by increasing competition; and facilitates the exploitation of economies of scale (Seetanah et al., 2011, Eeckels et al., 2012). Tourism may be considered as an alternative form of export and hence a prime source of foreign exchange earnings, which reduces the deficit in a country's balance of payments. Also, tourism contributes to exchanges of cultures and experiences between source and origin countries, thus enhancing social capital. More importantly, because of efforts in green tourism, tourism sector may also be an essential catalyst for the protection of the environment and wildlife (Croes, 2003, Sharpley and Telfer, 2014, Shahzad et al., 2017).

FDI is considered important for economic activity and growth (Guellec and Ralle, 2003, Crespo and Fontoura, 2007). However, there are very few academic papers that show how FDI in tourism generates growth (or vice versa), which is a particularly important issue in the tourism-dependent nations and regions (Andergassen and Candela, 2013, Pratt, 2015). This study uses the *de jure* method of tourism measurement (Hara, 2008), Tourism Satellite Account (TSA), to combine these analyses of the contribution of tourism and tourism FDI in Wales in 2013.

Measuring tourism FDI impact by TSA

The TSA functions as a very detailed snapshot of a tourism economy at a particular time. It describes the significance of the direct tourism demand within the

economy, regarding value added, operating surplus and employment by different type of visitors from the demand side of the tourism industries (Dwyer et al., 2008, Salma and Heaney, 2004), albeit in a gross rather than net fashion (Dwyer et al., 2007).

Whilst TSA can measure the impact of tourism-related activities in different countries, "the development of Tourism Satellite Accounts will unlikely solve the problems of generating and comparing FDI data."(WTO, 1998, WTO/OMT, 2002, Endo, 2006). This study however shows how the TSA is altered in form to measure the contribution of the FDI in terms of employment, value added, and productivity, and also to compare FDI attributes across different tourism-related industries or even across regions with the same TSA framework and databases. It fills the gap of tourism FDI impact in the literature, and it incorporates more important economic development factors into the current TSA framework.

This TSA structural alteration reveals the characteristics of tourism commodities supply, distinguished by ownership (regionally owned and non-regionally owned), and hence the contribution of investment in terms of the value added, output, productivity, and employment. In other words, TSA provides the measures of direct impact from the presence of the foreign capital across different tourism-related industries.

Endogenous growth theory suggests economic growth is linked with high intensity in R&D and with large-scale (Kremer, 1993, Grossman and Helpman, 1993, Romer, 1990). Tourism then becomes even more important to small economies that have characteristics different from large ones that can constrain development, when both the economies of scale and high intensity in R&D are not feasible. Tourism is often a vital sector of such economies because of comparative advantages in climate, distinct cultures, diversity, and heritage, mostly in small

island developing countries, and it is especially important if there is little other economic activity (WTTO, 1999, Hampton and Jeyacheya, 2013).

Nine out of ten most tourism-dependent countries are Small Island Developing States (SIDS) if tourism receipts as a percentage of GDP are the indicator, nine of the 10 of the countries that rely most heavily on tourism in 2014 include Maldives and Seychelles in the Indian Ocean, British Virgin Islands, Bahamas, Aruba and Anguilla in the Caribbean (Porter, 2016).

However, it can be challenging to raise capital for investment in tourism locally in those SIDS, where small size acts as one of the main obstacles to economic growth, and results in limited possibilities in import substitution with sufficient quantity and quality. Whilst FDI is a potential solution, it is not without drawbacks. Multinational companies can push out small, local entrepreneurs who find they cannot compete, due to domestic pro-globalization (FDI-friendly) policies, and the ability of MNCs to lever low-cost international loans to develop the local infrastructure, MNCs may then gain increasing control over the destination, with air travel expenditures, and those at foreign-owned hotels leading to high levels of economic leakage and profit repatriation. In Caribbean area, this figure is estimated at 70% (Singh et al., 2003, Drakakis-Smith et al., 1993, Scheyvens and Momsen, 2008, Pratt, 2015).

Revising the TSA to measuring the importance of non-local supply in the tourism economy thus comprises one of the first studies to analyse the actual economic impact of FDI on economic activity (and by extension, development), with benefits for those tourism destinations where the foreign ownership is one of the main concerns in the highly tourism-dependent economies. Previous econometric studies have sought causal direction from the FDI in general or in tourism to economic growth, but rarely show a consistency result due to the data variations,

econometrical methods applied, different data sample period chosen etc. The more important issue is that those studies have rarely shown the exact channels by which foreign-owned capital contributes to the economic development, for example, the previous studies have not shown how exactly the foreign capital in tourism industries contribute to GVA, employment and output, let alone in terms of in which tourism-related industries.

The alteration of TSA is for the purpose of measuring how the foreign (non-regional) and domestic (regional) ownership of tourism businesses affects channels where tourism affects the economic activity locally. The economic contribution in a few aspects, such as the employment and productivity (TSA-table 7); the comparisons between businesses of those 2 ownerships (TSA-table 5), illustrates how the ownership works on the channels that tourism can contribute to economic development in the tourism destination.

The additional TSA-table 11 (Tourism Social Accounting Matrix) is developed to consider more important factors such as the quality of labour (years of education obtained), the pro-poor nature of tourism industries (Ashley and Roe, 2001) (i.e. which income group benefits more), the social-equality effects (in terms of education/household income group and immigrant workers employed) and information on leakages in the products/services supply (purchase account) in the tourism industries in Wales while comparing the differences between the domestic and foreign ownership at the same time for the Purchase Account. It brings more intelligence in the TSA to measure the tourism industries impact and enables the future modelling of the total tourism FDI impact easier.

Wales as the example economy

Many SIDs depend heavily on tourism in terms of exports and contribution to GDP. Those countries share the following characteristics: small size, with implications for pressure on resources and limited economic diversity; remoteness and isolation, leading to challenges for trading but also to a unique biodiversity and cultural richness; and a maritime environment, leading to strong tourism assets but vulnerability to climate change (UNWTO, 2017). However, data scarcity is an issue in such destinations when seeking to carry out an analysis of the tourism FDI impact.

Wales was chosen in this study as the methodological illustration based on the following facts: Wales shares some similar characteristics with the SIDS in terms of the size of the Welsh economy; the general issue of the lack of physical capital in terms of local investment; outflow of human capital; a limited economic diversity and sector specialization in low-growth sectors and an equivalent under-specialization in high-growth sectors has resulted in output growth in Wales slower than UK average. Those characteristics are continuingly widening the prosperity gap between Wales and the rest of UK (Jones, 2000, Jones and Li, 2015, Jones, 2015).

In line with the sector specialization and the ownership of the establishments in Wales, private employment is relatively concentrated in few industries and occupations, often those in long-term decline, and the resulting nature of work is low value added, low earnings, and with lower rates of participation than the UK average. The continuing shift towards low-value service industries poses serious problems for Wales and employment is typically low-skilled and functionally narrow in the services sector. Agriculture, forestry and fishing are in long-term decline (but still supports 3% of employment). Public administration, defence,

education and health employed 33% of the workforce in 2013 in Wales (Statswales, 2017b).

In terms of the human capital in Wales, Wales has a higher share of part-skilled, unskilled and other occupations than the UK average. Skill shortages are perceived to be a greater constraint for Welsh employers than for those in the UK. Just under a third of employers in Wales had experienced a hard-to-fill vacancy as a result of skill shortages, Wales/UK earnings gap was nearly 12 percent during the same time (ONS, various years). The individuals educated in Wales probably take their required skills elsewhere because of the higher earnings in other UK regions (Jones, 2015, Pill et al., 2011).

The general low skilled labor pool, limited economic diversity, lack of local investment in physical capital, widening the gap from other parts of UK etc. are the same features that Wales share with those SIDs where FDI-related issues are important and tourism industry is of great importance.

Key findings

The Wales 2013 TSA developed as part of this thesis shows that the non-regional tourism businesses contribute more than half of the tourism GVA and output overall. Non-regional businesses supply 42%-95% of the tourism products/services among the 11 tourism-related industries, and overall non-regional businesses supply 52% of the tourism products/services, as shown in Table 17. Table 19 shows that non-regional tourism businesses contribute £1,126 million GVA directly, whereas regional ones contribute £1,074 million GVA directly.

Non-regional tourism businesses also have a much higher productivity across all tourism-related industries if GVA/FTE as the indicator. Productivity differences vary from 10% to 38 times as large for the non-regional businesses compared to

the regional ones, which was either because the size effect and structural differences between domestic and foreign businesses, for example, the taxi operators and long distance coach operators are the typical regional and non-regional tourism businesses in the Road Passenger Transport Services industry and they apparently have very different productivity in terms of GVA/FTE. Additionally, the non-regional businesses in some industries may nearly not exist in Wales, e.g. Water passenger transport services, so the very large productivity differences may because the dominance of the foreign businesses, and the productivity difference is purely indicative in those cases.

In Wales, tourism industries employ people who have obtained less number of years of education, e.g., overall, 26.2% of the FTEs in Wales in all the industries are educated to degree or equivalent level, whereas, only 16.35% of the FTEs in tourism industries have obtained education at degree or equivalent level. Immigrant workers employed are 40% in tourism industries and 33.3% overall. 67.1% of the FTEs in the tourism industries are from a lower income group (claiming state benefits) and 31.6% of the FTEs overall in Wales are from the lower household income group (claiming state benefits).

Summary

There has been extensive literature on the economic impact of FDI on host countries and economic impact of tourism. There are however few studies on the impact of FDI in tourism on economic development. This thesis explores the impact of tourism FDI on economic development in Wales and fills a gap of tourism FDI impacts in the literature. It compiles a TSA for Wales, initially structured to match the UK TSA and then with the structure altered to reveal the extent and economic contribution of tourism FDI. The approach complements established econometric growth models, which are often difficult to estimate because of the data scarcity in tourism FDI. The alteration of TSA provides a

snapshot of how exactly FDI in tourism contributes directly to GVA, employment, productivity and potentially (via modelling approaches) indirectly to the wider economy in a country/region during a defined time period.

The next Chapter summarizes the literature on the impact of FDI on economic development and growth, and on how tourism can contribute to economic development. It then reviews tourism industries and tourism FDI (Chapter 3), and TSA in Wales (Chapter 4). The compilation of the standard TSA is introduced in Chapter 5. The process of estimating a TSA for Wales in 2013 is explicitly shown in Chapter 6. The contributions of the newly structured TSA-table 1-7 and 7 extended are summarized in Chapter 7. This thesis also builds one more table in addition to the standard TSA, covering a TSAM (Chapter 8), TSAM and further developed TSA-table 5 and 7 to enable a better link of economic development with tourism and other social elements. Chapter 9 analyzes the limitations of this research and also suggests the future research directions based on this study. The outline of all the chapters are shown in the following Table 1,

Table 1 Summary of the Chapters

Chapter 1	Introduction
Chapter 2	Literature Review: FDI and economic development
Chapter 3	Literature Review: Tourism FDI
Chapter 4	Tourism and FDI in Wales
Chapter 5	Tourism Satellite Account Framework
Chapter 6	Wales 2013 Tourism Satellite Account-table 1 to 7 compilation methodology
Chapter 7	The potential contribution of the refined Tourism Satellite Account
Chapter 8	Tourism Social Accounting Matrix
Chapter 9	Limitations of this study and future research directions
Chapter 10	Conclusions

Chapter 2 Literature Review: FDI and economic development

2.1 Introduction

There are two kinds of foreign investment: portfolio foreign investment and FDI. FDI is a mechanism where firms invest a mix of capital, technology, management in creating goods and services outside their home economy, with models including setting up a new wholly owned affiliate, acquiring a local company and forming a joint venture in the host economy (Farrell, 2008, Moran, 2012). Unlike portfolio investment, FDI involves active management of foreign assets. Therefore it is more important to economic development than portfolio investment which is a passive investment in the securities of the host economy (Financial Times, 2017).

FDI has been seen as a potential source of income growth, employment increase and economic development for developing countries for decades. The attitude and policy of governments of the host destinations towards FDI have varied over time across the world, from focusing on the exploitation of natural resources around the beginning of the 19th century to becoming more concerned about the actual impact FDI had on the economy and increasing restrictions on FDI between the 1930s and 1970s (Lipsey, 2001). In the 1980s, it became more difficult for developing countries to access credit and the portfolio investment due to the Latin American debt crisis of the early 1980s. Consequently, the attitudes towards FDI were reshaped in developing countries (Lipsey, 2001, Biglaiser and DeRouen, 2006). FDI has shifted away from resources to manufacturing, services and high technology in the recent decades in general, although there are some exceptions, for example, Chinese multinational companies still have a preference for outward investments to hosts with high natural resource endowments (Pradhan, 2017). Many countries have increasingly attracted FDI to pursue the benefits from the foreign investment in the domestic economy (Aitken and Harrison, 1999, Anyanwu, 2017).

This chapter reviews the theoretical and empirical literature on the effects of FDI on economic development and summarizes the factors that affect such effects. It also lists the policy and methods by different governments in order to maximize the benefits of

FDI and minimize the cost of attracting such investment.

2.2 Theoretical literature

2.2.1 Positive impacts of FDI

Rostow argues there are 5 sequential economic modernization steps, with modernization having positive connotations in comparison to traditionalism. Underdevelopment and poverty are dual effects of traditional economic and social structures and the result of endogenous effects. In this context, development has to be exogenous, which involves social, political-institutional, cultural and technological 'modernization'(Rostow, 1960).

These five steps of economic development are linear and towards an evolutional higher development. They are (1) the traditional society, (2) the preconditions for take-off, (3) take-off, (4) the drive to maturity, (5) the age of high mass consumption. Rostow considers stages (1) – (3) to be self-sustaining. Once reach stage (4), investment becomes the critic role in economic development (Rostow, 1960). Foreign investment has a greater potential in stage (4) as it often involves technology and knowledge transfer when compared to the domestic investment (UNCTAD, 2007, Rostow, 1960). FDI may bring a desirable growth pattern by introducing new products, markets, technology, better management, marketing, creating taste and meeting needs. It also may introduce cheaper finance sometimes.

In addition, it promotes the economic integration by transmission of designs,technology and ideas, therefore may conducive to the total world welfare (Anyanwu, 2017). FDI flows were also found to lead the domestic stock market development and higher FDI flows can lead the development of the banking system in Africa (Agbloyor et al., 2013). FDI may additionally influence the domestic banking system and the stock market in the domestic markets to different extent in different host destinations (Zakaria, 2017, Kholdy and Sohrabian, 2008, Dutta and Roy, 2011).

Based on macroeconomic principles of trade, goods production costs differences are the main motive of trading between two countries described by neoclassical economics in the 1960s, which includes absolute cost advantages, product differentiation advantages, and economies of scale. Intrigued by the motivations of the multinational companies from the US, Stephen Hymer developed a framework beyond the existing theories and explained FDI and its motivations that previously had not been explained (Letto-Gillies, 2012).

In Hymer's theory, the motivation is the issue of control, firms would rather undertake FDI to be able to obtain a greater level of control than other international investment. The earlier theory based on neoclassical theories of capital movements explanation was criticized by Hymer because interest rate was considered as the main motive, Hymer clarifies that FDI does not necessarily mean the movement of funds between countries and moreover is often concentrated in certain industries, he argues that FDI would be in many industries and fewer countries if interest rate was the main motive. Another different observation against the neoclassical theories was FDI is not limited to investment of excess profits abroad, it could be financed by loans obtained in the host country, payments in exchange for equity.

The most important and obvious impact is physical capital accumulation from FDI among the economic growth important factors. The potential impact of FDI on economic growth can be through human capital accumulation and technology transfer (Guellec and Ralle, 2003, Anyanwu, 2017), and the spillover effect is the most widely recognized effects from FDI inflows on the economic growth which enhances job creation, capital accumulation and knowledge transfer (Zhang et al., 2010, Gorodnichenko et al., 2014).

There are five main channels of FDI spillover related to technological diffusion

(Crespo and Fontoura, 2007),

- Technology used by the multinational company is successfully adopted by the domestic company;
- The workers once worked in the multinational company can use different technologies work in the domestic firms;
- The large distribution networks and the related gain because of a better knowledge of consumer tastes in foreign markets;
- A more efficient use of existing resources and technology;
- Domestic firms can be suppliers or consumers of the multinational companies through backward linkages and forward linkages

Although FDI is seen as one the most important technology transfer vehicles and it contributes more to growth than domestic investment and technology. It only holds if the country has a minimum threshold stock of human capital, in other words, FDI can contribute only when the host economy can 'absorb' the advanced technologies brought by multinationals (Easterly et al., 1994). Moreover, technological progress was left as the residual that is unexplained in the growth framework (Romer, 1990), growth rates are seen as depending on the relative technology level of domestic country and the rest of the world; thus growth rates in developing countries are explained as a 'catch-up' process in the level of technology in the presence of FDI (Romer, 1993, Borensztein et al., 1998).

2.2.2 Potential negative impacts of FDI

The potential negative FDI impacts also receive more and more attention. These might include for example the deterioration of the balance of payments in the host country because profits are repatriated; multinational enterprises presented in the developing host economy lack of enough linkages with local communities and businesses, especially when the host economy is below the basic level of development (Kotrajaras et al., 2011). Moreover, there is always a potentially harmful environmental impact of FDI, such as the extractive and heavy industries; accelerated commercialization leads to social disruption in less developed countries, and the competition FDI brings may cause severe pressure in the national market. Host countries could also lose political sovereignty if those countries depend on internationally operated enterprises, and the advanced foreign technologies are not able to transfer through FDI in host destinations (Kurtishi-Kastrati, 2013). These potential negative effects also affect the link from FDI to economic growth (OECD, 2002).

It is suggested theoretically that the positive effect of FDI on economic growth may not emerge for many reasons. Generally speaking, the positive relationship between FDI and economic growth is considered to be conditional on a number of factors including the level of per capita income, human capital, the degree of trade openness, the depth of the financial market and potential crowding out effects for domestic firms (Kentor and Boswell, 2003, Herzer et al., 2008).

Some have also argued that foreign investment has an initial positive effect on growth but a negative effect on growth in the long run, as the infrastructure and institutions developed because of foreign investment are likely to need further foreign investment; and because of negative externalities such as unemployment, over-urbanization, and income inequality (Dixon and Boswell, 1996). Regarding

the complementarity between domestic and foreign investment, countries with a relatively high dependence on foreign capital exhibited slower economic growth than less-dependent countries, at least for the years 1940-1990 (Kentor, 1998). A different measure, foreign investment concentration, which is the percentage of total FDI stocks accounted for by the top investing country, also suggested a long-term negative effect on growth (Kentor and Boswell, 2003).

FDI via mergers & acquisitions is found to have a negative and significant effect on domestic entrepreneurship for the economy as a whole, and it is the developed countries in which the negative FDI inflow effect is strongest and statistically significant. The reasons are mainly because local enterprises fail to adopt the superior technologies in response to the competition FDI brings, the positive spillovers may also be limited, foreign firms additionally compete in attracting the scarce domestic resources, e.g. talented and skilled workforce (Danakol et al., 2017). This competition FDI brings in attracting workforce from domestic businesses is similar to the constant outflow of skilled labor force from Wales to London areas (Jones, 2015), the lower paid and smaller domestic enterprises have limited advantages to compete with the FDI or the more developed areas in attracting talented and skilled workforce although there could be potentially beneficial to the workforce.

2.2.3 Ways to maximize the positive FDI impacts

As literature suggests the benefits of FDI for countries are affected by a number of factors such as market distortions and destination government policy (Almfraji and Almsafir, 2014). A study of growth and FDI in the Pacific Island Countries (PICs) shows that the international community needs to find appropriate ways to assist PICs. Firstly, developed country governments must encourage firms to invest in this area without market distortions. Secondly, for both the source country

and the host country, governments need to find ways to maximize the impacts of FDI on economic growth (Feeny et al., 2014).

In the first case, three areas for facilitating the flow of FDI to developing countries are important in developed country policies, including the provision of national or multilateral political risk insurance; the avoidance of double taxation of profits earned abroad and regulation to combat bribery to prevent diversion of public revenues to private pockets. Regarding the second recommendation, the general lessons from the FDI and growth literature could be particularly applicable for PICs. Inadequate level of human capital, infrastructure, and financial institutional development limits the absorptive capabilities and leads to poor business environments, which will limit the impacts of FDI on growth further(Borensztein et al., 1998). The local research community assists and investigates ways to increase the impact of FDI on the economic growth in PICs, the greater effort on improving human capital and private sector development in PICs improve the investment productivity and therefore lead to a greater impact on economic growth (Feeny et al., 2014, Moran, 2010).

The positive impacts of FDI can be additionally maximized through the cooperation between public and private sectors, and other policies to improve efficiency in the following ways,

- The success of any tourism destination is largely determined by the infrastructure quality (UNESCAP, 2001). Public investments into the physical infrastructure, information and communication technologies and tourism infrastructure are the conditions of the competitiveness of the tourism destinations. The governments' encouragement of the environmentally friendly means of transport is also required for attracting FDI in sustainable tourism. However, many countries lack the resources for those functions, a public-private partnership is formed to enable a contract

between a public and private party, the private entity provides a public service or project (UNCTAD, 2010a).

- One of the important preconditions of most tourism projects is the availability of the qualified labour, government bodies and the private sector could cooperate to strength the general level of education and establish the specific training programmes to meet the demand of the tourism industry (UNCTAD, 2008b).
- It is also important that not to (1) make the loss of government too high (2) make the administration system too difficult (3) discriminate unduly against local investors. FDI incentives would never be a substitute for a good investment climate although they may be important in attracting investors (UNCTAD, 2010a).

2.3 Empirical literature

2.3.1 The mixed FDI impacts

Despite the potential theoretically negative effects of FDI on economic growth, empirical evidence largely shows a positive impact of FDI on growth in less developed countries, although the literature tends to have quite mixed results. For example, Nair-Reichert and Weinhold (2001) find FDI has a significant and positive impact on economic growth in a sample of 24 developing countries whilst Carkovic and Levine (2002) find FDI does not exert a significant, positive impact on economic growth in developing countries (however, some commentators have criticized this study as it was based on the assumption of the homogeneity on the coefficients of the lagged dependent variables). Based on panel cointegration and causality tests, Basu et al. (2003) find a bi-directional causality between economic growth and FDI in 23 developing countries over the period between 1978 and 1996.

They also suggest that for relatively open economies causality is bidirectional, while for relatively closed economies long-run causality mainly runs from growth to FDI. Tekin (2012) finds a positive and long-run Granger causality from FDI to GDP in a heterogeneous panel data of 31 developing countries. Ndiaye and Helian (2017) use a panel data method of 20 African countries between 2004 and 2013 to find how China's FDI affect African countries' economic growth through transfer of management skills, intellectual property, and technology. The empirical results show that China's FDI is an important element in the economic growth of African countries.

A 10% increase in the FDI to host GDP is associated with higher growth of about 2% in all countries on average, the effects of GDP growth fall to between 0.1% and 0.4% in the case of PICs, which may be explained by some empirical evidence that FDI displaces domestic investment in the region (Feeny et al., 2014). The economic growth of the Pacific region has been very disappointing and poverty in the region may be increasing partially as a result of domestic investment crowding out. As a result of limited resource base, small domestic markets and lack of economies of scale in the PICs, this is therefore of potential interest for tourism-based development. Those countries also heavily rely on assistance from other countries in the forms of foreign aid, trade, access to labour markets and FDI, therefore the growth return from FDI to the region has been very small.

By the instrumental variable estimation techniques, evidence for a positive impact of exports and FDI on economic growth is found in a sample of 66 developing countries between 1970 and 2000 (Makki and Somwaru, 2004). A panel data analysis provides evidence that FDI is relatively more important for high-income countries, while international trade is more beneficial to lower income developing countries (Wang et al., 2004). A selected set of East and Southeast Asian economies were found to display unidirectional effects from FDI to GDP, both

directly and indirectly through exports, and there also exists bidirectional causality between exports and GDP (Hsiao and Hsiao, 2006). Causal links between export, FDI and output for a set of Sub-Saharan African Countries in a panel co-integration setting support the export-led growth hypothesis for the five Sub Saharan African countries studied. The further finding is that there exists bidirectional Granger causality between FDI and exports in Ghana, Kenya and Nigeria, while the Granger causality runs from FDI to exports in South Africa and from exports to FDI in Zambia and there is a positive causal relation from exports and FDI to income for all five Sub Saharan African countries studied (Ahmed et al., 2010).

2.3.2 Interaction terms

Some of the empirical literature also considers the interaction of FDI with other factors while the impacts of FDI on economic growth is analysed. In a cross-country regression framework for 69 less-developed countries in the period 1970-89, inward FDI was found to have positive effects on growth through its interaction with human capital (Borensztein et al., 1998). There has been more and more attention given to FDI's interaction with human capital. In a panel data study for a sample of 18 Latin American countries during the period 1970-99, it stated that the country must have an adequate level of economic stability, and liberalized capital markets, as well as human capital to achieve a positive effect from FDI (Bengoa and Sanchez-Robles, 2003). Another panel data analysis of 84 countries for the period of 1970-99 found that FDI affects growth directly and also indirectly through its interaction with human capital (Li and Liu, 2005).

In a cross-country analysis of 78 developing countries, FDI had a positive effect on growth rates for higher-income developing countries, but not for lower income ones (Blomstrom et al., 1994). Finally, the trade regime also plays a role in the transmission of positive growth effects from FDI. An annual cross-sectional data

for 46 developing countries in a fixed effects model supported that the growth effect of FDI is positive in the export promoting countries but negative in the import-substituting ones (Balasubramanyam et al., 1996, Ghosh Roy and Van den Berg, 2006).

The main findings of the literature reviewed in terms of the influencing factors and impact of FDI on economic growth relation from 1994 to 2012 suggests the influencing factors include levels of human capital in host countries, financial markets development, open trade regimes, dependency on foreign investment, technological gap, the income level of host country, the quality of the political environment (Almfraji and Almsafir, 2014).

To summarize, FDI contributes to economic development through technology spillovers, physical and human capital accumulation, however the level of human capital, financial markets development, open market regimes in the host destinations tend to have positive effects on the impact of the FDI on economic growth, while the dependency on foreign investment and technological gap exert negative impacts on the FDI impacts on economic development, other interaction terms' impacts are rather mixed depends on the methods and countries chosen.

2.4 Conclusions

Both the theoretical and empirical literature largely suggests FDI is beneficial to economic development based on the right conditions: an adequate level of human capital, financial market development, and appropriate policy settings. The effects of FDI in less developed countries are then more uncertain as those countries are more likely to have an inadequate level of human capital and financial market development, high dependency on foreign investment and bigger technological gap, which negatively affects FDI impacts on economic development.

However, less developed countries might be in higher need of FDI, and tourism is probably one of the main sectors here (Chapter 3). Thus an understanding of the nature of FDI in tourism industries, and its impact (via various channels) on economic growth is of some importance. As the next Chapter shows, such analysis encounters a number of difficulties.

Chapter 3 Literature Review: Tourism FDI

3.1 Introduction

The development of tourism can spur economic growth in a number of ways. Key to employment growth would be the reaction of the business sector in growing to meet the requirements of a rising tourism demand. Because of the multiplier effect, the increase to the aggregate income due to tourism financial inflows has consequent contributions to public sector income (via taxes), and on to other sectors (e.g. cultural, health etc.). Tourism income as an income in foreign currency provides a way to finance imports of capital goods, which in turn leads to increased domestic investment, consumption and therefore economic growth (Gorynia et al., 2007).

FDI in tourism is however associated with both benefits and costs. Benefits include economic growth and development contribution, job creation, export development, additional sources of finance for the commercial expansion, technology transfer and innovation, and increased opportunities for global working (UNCTAD, 2007, UNCTAD, 2010a). The costs to the host countries relate to increased leakages from the tourists' expenditure, the potential to crowd out domestic investment and firms, loss of equity and control of tourism industries, and inappropriate form and scale of development. The question to ask of FDI in tourism is whether the benefits exceed the costs for the host country (Dwyer et al., 2010)

This Chapter reviews the scale and the data of tourism FDI first, then review the effects of the tourism industries on economic development, and the factors that could affect the impact of FDI on economic development. The importance of the tourism FDI is reflected by the reviews of the issues related to tourism industries

and tourism FDI. This Chapter also explains why Wales could be the appropriate example to conduct this research.

3.2 Background: tourism FDI-Scale and data

FDI is still relatively very small compared to other economic activities. Particularly with airlines, the alliance is more common than equity investment (UNCTAD, 2004, UNCTAD, 2007). Foreign investment in entertainment consumed by tourists is rare except for global brands such as Disneyland and LEGOLAND. Overall tourism has fewer transnational companies (TNCs) with brand recognition and investment compared to other activities such as manufacturing. Tourism's lack of globalization can also be illustrated by employment. OECD data shows in the restaurants and hotels, the average share of the employment in the foreign affiliated hotels and restaurants was only about 10% of the employment in this subsector. In addition, the level of transnationality is very low in tourism compared to other activities, only one of the top 100 non-financial TNCs ranked by foreign assets in 2002 is tourism-related firms, McDonald's, which falls into the restaurant of tourism categories (UNCTAD, 2006). There was no hotel and airline in the top 100 non-financial TNCs ranked by foreign assets. Most tourism activities are still the domain of local firms and often very small ones (UNCTAD, 2001).

Table 2 UK Outward FDI stocks in hotels and restaurants

Destination	1995	2000	2003	2004
1. Developed economies	**12 613.9**	**9 380.0**	**33 877.2**	**31 422.0**
Europe	9 506.2	6 046.4	23 979.2	24 351.1
North America	3 090.7	3 333.6	9 898.0	7 070.9
2. Developing economies	**680.5**	**217.9**	**2 013.1**	**898.1**
Africa	0.0	0.0	0.0	0.0
Latin America and the Caribbean	674.3	217.9	2 013.1	451.9
Asia and Oceania	6.2	0.0	0.0	446.2
3. Unspecified	**280.6**	**544.7**	**1 882.9**	**2 084.0**

(Source: UNCTAD FDI/TNC database) (UNCTAD, 2007)

** More recent data is not available*

Less than 12% of the worldwide FDI stock in hotels and restaurants is located in developing countries. However, there is also evidence from the UNCTAD survey, tourism-related FDI will increase considerably in the developing countries, especially in the areas where they are already located. The highest expansion plans for UK firms were in Asia, as shown in Table 2 (UNCTAD, 2007). The effect of tourism FDI in the less developed area may be very important to look at but there is little available tourism-related FDI available in those areas in the past few decades (although it may expand considerably in the next few decades).

More recent studies show that although developing countries tend to have a very low base level of tourism FDI inflows, they also have experienced rapid growth in the inflows. 21% of the world tourism-related mergers and acquisitions from 2002-2005 are in developing countries, which also hosted 70% of all tourism-related 'greenfield' investments (Barrowclough, 2007). Developed countries are estimated to receive two-thirds of the tourism FDI inflows, which is about the same level of the total FDI inflows (Dwyer et al., 2010).

Accurate data on the FDI volume in the global tourism economy is lacking due to the diversity of the tourism supply-side activity, and the differences with published standardised FDI statistics. Many countries moreover do not distinguish between domestic and foreign investors; managerial and franchising operations without having committed to any equity capital may lead to the gap between the official FDI data and the firms' activities in practice (Endo, 2006, Dwyer et al., 2010).

3.3 Tourism activities and economic development

Tourism intensive countries have higher growth rate than non-tourism intensive ones, Table 3 shows average growth rates between 1980 and 1999 for all countries where data is available and for subsets of countries specialized in tourism.

Table 3 Tourism specialization and economic growth

Specialization in Tourism and Growth (1980-1999)		
g	Specialization	Total Observations (both developed and developing countries)
0.9%		509
1.4%	10%	167
1.7%	20%	69
Specialization measures the proportion of Tourism receipts in Exports; g is the growth rate of real per capita GDP.		

Sources: (WorldBank, 2001, Summers and Heston, 2002, Sequeira and Campos, 2005).

Tourists themselves may not directly contribute to GDP or economic growth, however, the tourism industries they support might act as the demand driver for the human capital accumulation and thus contribute to economic growth which studies may miss. Moreover, the contribution of tourism to economic growth might be significant but with time-lags (Sequeira and Campos, 2005).

Besides the debate on whether tourism could contribute to economic growth significantly. Tourism has been targeted as an important sector for most governments, particularly for the developing countries (UNCTAD, 2013). From the late 20th century, the organizations such as OECD (Organization for Economic Cooperation and Development), UNWTO (World Tourism Organization) and WTTC (World Travel and Tourism Council) generally support the view that tourism is a powerful industry in promoting economic development and poverty reduction (OECD, 2010, WTTC, 2010, UNWTO, 2011b). While other literature concluded that tourism by itself cannot promote economic development, only when the necessary one or more elements exist, those factor includes geographical features, infrastructure provision, population characteristics, environment sustainability, labour availability, appropriate exchange and tax policies (UNWTO, 2011b).

The relationship between tourism industries and economic growth has been tested empirically by many researchers, and the results are quite mixed. The unidirectional causality from tourism industries to economic growth is supported by the earliest studies that have explored this relationship and some recent studies (Shan and Wilson, 2001, Cortez-Jimenez and Paulina, 2006, Seetanah et al., 2011). Economy-driven tourism growth can be found in some other studies (Lanza et al, 2003; Narayan, 2004). While some studies support that there is a bidirectional relationship between tourism industries and economic growth (Dritsakis, 2004, Durbarry, 2004). Many studies have also shown that tourism income generates economic growth by increasing employment, income and tax revenues (Page, 1999, Vanegas and Croes, 2003, Croes and Vanegas, 2006, Fayissa et al., 2008, Cardenete and Sancho, 2012, Eeckels et al., 2012). The causal relationship between tourism and economic growth have important policy implications for the tourism marketing and policy decisions, for example, tourism-led economic

growth is practical if the there is a unidirectional causality from tourism growth to economic expansion, economic development might be necessary for the expansion of the tourism industries if the opposite causality results are found (Oh, 2005).

3.4 Factors affect the impact of tourism activities on economic development

However, no consensus conclusions about the effects of the tourism on economic growth have been reached. A recent study in 2014 suggests the lack of appropriate investment climate could be problematic in the success of the tourism investment in the less developed countries (Sánchez-Rivero and Cárdenas-García, 2014). More developed countries have a better investment context, which simplifies the relationship between the tourism development and economic growth. The appropriate investment climate refers to a society with flexible regulations, effective financial market and mechanisms for the innovation diffusion; it includes all the necessary conditions to implement development process and increase the life quality of the local population.

Tourism investment is made on the basis of attracting more tourism inflows, which will lead to the tourism expansion and economic growth. However, economic growth does not automatically improve the social-economic conditions in which people live in, in other words, economic growth does not convert into economic development automatically (Jorgenson and Dietz, 2015). Government and international organizations highlight the appropriate regulations, innovation and productivity-enhancing activities are critical to allow the tourism investment to generate employment and wealth, which in turn will encourage the transformation of economic growth into the economic development (Sánchez-Rivero and Cárdenas-García, 2014). In addition, tourism might be a better industry than

agriculture and manufacturing to invest in improving the social-economic conditions because it is very labour intensive if such regulations and policies are in place (Ashley and Roe, 2001).

It is also vital to identify the significance of the inter-industry linkages between economic sectors for the development planning. Linkage analysis allows different sectors to be compared according to the interdependence of their production functions (Pratt, 2011). The econometric methods that are often used to measure the linkages between tourism sector and the other sectors and the impact of tourism on economic growth are Input-Output, SAM, and TSA. Different approaches are applied according to the statistical data availability (Wei et al., 2013).

3.5 Issues of tourism FDI

Brohman (1996) suggested the shortcomings associated with tourism industries in less developed area are mostly FDI-related, such as following issues,

- *a loss of control over local resources*
- *substantial overseas leakage of tourism earnings*
- *lack of articulation with other domestic economic sectors*
- *low multiplier and spread effects outside of tourism enclaves*
- *reinforcement of patterns of socioeconomic inequality*
- *widely fluctuating earnings due to global recessions*
- *environmental destruction*
- *Rising alienation among the local population, loss of cultural identity and social control to outsiders*

Brohman argues that foreign domination and external dependency can seriously reduce tourism's potential to generate broad-based growth. Less developed tourism sectors may be monopolistically controlled by transnational corporations,

and often replicates problems of dependency, internal disarticulation, and foreign exchange leakages (Brohman, 1996). The FDI-related problems are usually due to the foreign-owned export enclaves dominating less developed countries or limiting supply chain benefits. For example, Punta Cana, a Dominican Republic island, where TNCs construct small enclaves with their own essential services including power, waste and water management and access modes (UNCTAD, 2007).

Overseas leakage of the earnings is particularly related with the foreign domination of the tourism industry, especially with the tourism enclaves, where the foreign-funded investment covers hotel accommodations, restaurants, transportation links, travel agencies and other services. Imported goods and services often worsen the balance of payments in the host country because of consequent profit repatriations and payments. Data collected from different countries indicate that these leakages are often substantial, typically with the small countries where tourism sectors are dominated by foreign-controlled resort enclaves (e.g., 56% in Fiji, 50% in the Cook Islands, 45% for St. Lucia, 43% for the Bahamas, 41% for Antigua, Aruba, and Hong Kong, and 29% for Singapore) (UNCTAD, 2007).

The shortcomings of the 'lower multipliers' problem are associated with highly concentrated, large-scale, foreign-owned tourism firms, while higher multipliers are connected to more dispersed, smaller-scale, locally owned operations that are better linked to the local economy (Jones et al., 2003). Dominica has encouraged the development of small-scale, dispersed ecotourism complexes as an effective alternative to conventional resort enclaves (Weaver, 1991).

Different forms of tourism seem to have differential effects on spatial patterns of development with concentrated enclave-type tourism resorts as perhaps expected linked to spatial inequalities. In the Caribbean, a spatial polarization emerged in both the modern tourism industries, which is based on resort enclaves along the

most desirable coastal areas and the older agricultural-based economy (Weaver, 1991, Brohman, 1996). In addition, foreign domination in the tourism industries not only affects the economic aspect of the society but also the cultural identity in the host economy, therefore it is also feared because of its impact on economic and cultural independence, there is a potential damage to the communities and the environment (Brohman, 1996).

The high-end tourism requires "a luxury, sophisticated and highly standardized consumer product", which has little relationship with the less developed countries' production capacities. In this case, linkages are unlikely to be created because of the suppliers' inadequate production ability, especially in meeting the increasingly stringent standards in the tourism industry. Therefore it is suggested that the ownership and the control should be separated by the empirical study in the global hotel industry in order to improve the transferability of the foreign entrant's competitive advantages. The local market's absorptive capacity and the availability of trustworthy local partners differentially affect the ownership and control dimensions of the entry mode decision (Brown et al., 2003, UNCTAD, 2007).

3.6 The appropriateness of this study to Wales

Tourism can be an effective contributor to the economic development in places with natural, cultural and historical heritages, especially with the SIDS such as Maldives where tourism takes up to 80% of its GDP (Hara, 2008). However, those tourism specialized countries often have a high dependence on FDI because of the incapability of providing high standard tourism products. The negative side of tourism as a contributor to economic development are mostly FDI related, it is extremely important to explore the actual impacts of tourism FDI on the economic development of those SIDS, but few of them have the financial accounting and tourism research data available (Hampton and Jeyacheya, 2013, Brohman, 1996).

Wales in the UK is an excellent case destination to explore this relationship because tourism is politically and economically important in Wales and the region also has a deep dependency on non-regionally owned economic capital (much of this non-UK FDI) (Munday, 2000). In addition, Wales has one of the world first fully featured measurement tools for regional tourism economy (Munday, 2000, Jones and Munday, 2001). Therefore, Wales not only has the feature of the SIDS but also where tourism is important, and it is a place where the analytical tools are available, which can be further developed. The statistical approach used in this thesis (a 'bottom up' and fully featured Tourism Satellite Account) treats the region identically to a national reference economy, then with all extra-regional economic actors (tourists, firms) being 'foreign'.

3.7 Conclusions

Tourism activities sometimes may be the only means of development for the less developed countries, e.g. SIDS. They contribute to the economic development by creating employment, bringing foreign exchange, and developing the business sector. However, the causal relationship between tourism and economic growth is reported inconsistently in the literature, and issues related to the tourism-led growth in less developed countries are mostly FDI related. Meanwhile, the data on the tourism FDI is scarce because of the relatively small scale of tourism FDI and its poor recording. The negative side of tourism as the development tool is mostly FDI-related, high dependency on the tourism FDI often leads to high leakages and a loss of control over local resources, et al. An effective way of measuring the impact of tourism FDI becomes particularly important at the destinations where tourism is important and usually have a high tendency to rely on FDI because of limited resources. Wales is an ideal destination to host this study as it has the similar features as the SIDS, and the earlier measuring tool (TSA) is available,

which can then be further developed and enhanced to measure the critical tourism FDI impact.

Chapter 4 Tourism and FDI in Wales

4.1 Introduction

Tourism is one of the major contributors to the Welsh economy and has significant potential for growth in comparison to existing tourism in Scotland or when it is judged in terms of relative landmass, geographic features and visits (Welsh Government, 2013c, Welsh Government, 2013d). Wales has also been relatively successful in attracting FDI projects, and this Chapter reviews these past inward investments in Wales and related policy. Most importantly, it reviews the 'Branch Plant Syndrome' and ways in which it might be overcome; this issue is critical for FDI in peripheral areas and may have a parallel in tourism FDI. In summary, Chapter 4 explains the importance of tourism industries and FDI, suggests that issues related to FDI exist and are important to Wales.

4.2 Tourism in Wales

Wales TSA 2011 suggests that total tourism spending is £4.5bn, Tourism Gross Value Added (GVA) is £1.8bn and takes up to about 4.3% of total direct GVA of the Welsh economy (WERU, 2011). Once when the indirect impacts are added, the Tourism GVA increases to £2.5bn and it is about 6% of the whole economy. In 2011, 8.3% (88,300) of all full-time equivalent jobs in Wales were estimated directly supported by tourism spending (Welsh Government, 2013b, WERU, 2011). The total FTE employment rises to over 100,000 if the indirect effect is taken into account, which accounts for around 9.5% of all Welsh FTE jobs. The wider hospitality industry in Wales employed 9.2% (126,000) of the workforce if wider hospitality sectors such as hotels, restaurants and catering are included (Cain, 2016). Tourism-related employment in areas such as Pembrokeshire and Conwy, tourism accounts for nearly 1 in every 5 jobs (BHA, 2015).

Tourism occurs in all parts of Wales and the geographical spread of employment generated by the tourism is one of its key strengths in terms of its contribution to economic development. Tourism development in the economically marginal areas of Wales may be related to the improvement in the service industry base; i.e. for those areas with weak resident economic demand and hence limited retail, hospitality and other commercial services, the extra demand created by tourism may enable the provision of such services at a higher level (Jones and Munday, 2001).

Tourism supply chain additionally brings critical benefits to many small, indigenous businesses in Wales. For those small businesses, the important difference between success and failure is the income from tourism. Tourism plays a key role to reinforce a distinctive and compelling national identity for Wales as a place to visit, invest in and do business internationally and in the UK. The true culture and character can be reflected by tourism as well as the staging of major events, e.g. UEFA Champions League Final, Ryder Cup, Ashes and WOMEX 2013, they can also help to strengthen the global reputation of Wales (Welsh Government, 2013d, Welsh Government, 2013c, Jones et al., 2003) .

4.3 Welsh inward investment

4.3.1 Non-regional ownership of Welsh industries

In the Wales regional context, foreign is defined as all the non-regional ownership in this study. Munday (2000) suggests the acquisitions by foreign firms in the growth of the foreign manufacturing sector has been underestimated in Wales. Due to the paucity of data, limited attention has been paid to services sectors in Wales, even after the manufacturing FDI boom of the 1980s and 1990s, services FDI employ a similar number to manufacturing FDI. In this study, FDI includes all the

non-regional branch-plants as well as international direct investment, and data in this context may be scarcer.

In Thailand, it is estimated that 70% of all tourists' expenditure ended up leaving Thailand because of the leakages to the foreign-owned tour operators, airlines, hotels, imported drinks and food, etc (UNEP, 2000). Similar estimates for other less developed countries range from 80% in the Caribbean to 40% in India (UNEP, 2016). FDI in the hotel sector in Wales may have a similar leakage problem as Wales is also a relatively less developed area in the UK (Jones et al., 2003).

As the studies in Wales manufacturing sector show that the foreign-owned firms make fewer purchases in Wales than the domestic firms as the foreign manufacturing firms organize supply chains on a global basis to achieve scale and scope economies, once the purchasing is organized globally in the firms, they buy less from the local suppliers, the overall backward linkages in the manufacturing sector is low (Roberts 1996; Gripaios and Munday 2000; Munday 2000). There has been consequently an increasing dependency of Wales on foreign capital and Welsh economy has thus been very exposed to global events (e.g. Failure of Tata Steel in Port Talbot) (Roberts, 1996, Gripaios and Munday, 2000, Munday, 2000, Jones, 2017, BBC, 2016, Bowler, 2016).

4.3.2 Wales as a case of attracting FDI

Foreign-owned firms are often more superior to their domestic counterparts in terms of patents, managerial expertise, technology, knowledge and efficiency (Dunning, 1993). Foreign-owned manufacturing in the UK is estimated to have a 40 percent productivity advantage over domestic firms (Davies and Lyons, 1991). Non-regionally owned (foreign) firms in Wales are usually larger, higher paying and more productive, offering similar advantages over regionally owned (domestic) firms (Kelsey, 2015). The aim of attracting FDI inward investment is stimulating the productivity growth in the domestic sector through technology transfer, work

organization demonstration and other spillover effects.

The reasons for Wales' past success in attracting FDI are low labour costs, good road infrastructure and access to financial assistance (Brand et al., 1997). With the increasing competition of attracting the FDI inward investment, resources might be better used by improving the embeddedness of the existing FDI. The important indicator of the embeddedness is the backward linkages with the regional supply base. Indirect employment creation, technology and knowledge transfer are all closely related with the transnational context provided by the FDI backward linkages with the Welsh economy, low level of backward linkages contribute least to the regional growth (Hirschman, 1958, Munday, 2000).

The relative success of Wales in attracting FDI is also because the regional development across the UK is particularly imbalanced. There is severe unevenness in both the level and quality of the economic activity across different regions in the UK. The residential and industrial cost in the South East is very high, the pressure on the natural resources such as water and land is very high while there is a surplus of such resources in the Northern and Western area, the regions are also socially extremely imbalanced (ONS, 2016c).

4.4 Wales FDI policy review

In 2009, Welsh Economy Research Unit (WERU) conducted an extensive review of the economic evidence on the determinants and effects of FDI (Munday et al., 2009b). It provides an overarching review of matters related to the FDI determinants, MNE impacts, and also shows the consideration of the policy literature of intervening to attract foreign capital and support MNE activity.

When the foreign ownership in manufacturing and services industry base has increased, as a result, Wales has become more integrated into the global market. A conclusion is that constant innovation in the inward investment policy development is needed to attract and maximize the positive impact of FDI. In the Welsh context, foreign sector is associated with strong economic impact and a series of expects costs such as loss of loci and limited functionality. The FDI boom in the 1980s and 1990s has not led to an underlying change of the structure of the regional economy (for example in terms of GVA per capita), however, the alternatives were argued to be unlikely better in terms of the scale of benefits (Munday et al., 2009b).

With massive problems facing Wales in the 1980s, it is not clear whether there are alternatives to attract the foreign capital to fill the gaps led by the structural decline in the 1980s, especially when compared to regional policies to promote SME development, where additionality of policies resources is very difficult to establish (Wren and Jones, 2011, Driffield and Taylor, 2000).

Manufacturing has been the focus of FDI research in Wales, while the largest number of UK FDI jobs are in sectors including real estate, tourism and leisure, financial and business services. There is a lack of knowledge in FDI policy instruments of developing the service sector and more research needs to be focused on services sector, this research is intended to fill the knowledge gap of tourism services FDI in Wales, while an important conclusion in the Welsh context is that the future productivity growth is closely associated with the events in the foreign-owned sector. This study specifically compiles a TSA additionally with the ownership distinguished to investigate the productivity and other characteristics of the non-regional investments.

4.5 Branch plant syndrome and Wales as a case of embedding FDI

"The Welsh economy is highly dependent on the presence of a small number of large businesses. Out of Wales 230,000 enterprises, less than 1,600 are large businesses employing 250 or more staff. This 0.7% of companies accounts for more than 38% of private sector employment and 64% of turnover. Among their number are branches and subsidiaries of national and global corporations, as well as local businesses made good."(Kelsey, 2015)

The 'branch plant syndrome' refers to the negative economic growth consequences in the regions where economies are composed mostly by the branch plants that belong to multi-plant firms, it mainly concerns branch plants in less-developed regions within developed economies (Sonn and Lee, 2012).

The reasons for such 'branch plant syndrome' are the branch plants are remotely controlled by the headquarters usually from far distances. The initial investment may bring the short-term boom through the expansion of the sector, however, the boom would not sustain over long-term (Firn, 1975, Watts, 1981, Hallwood, 1986, Harris et al., 1988). The discussion of the branch plants issue was mainly intra-national and bi-national before the 1970s. After the 1970s, MNC started to locate the branch plants across the globe, the branch plants increasingly function as a part of the global commodity chains, rather than serve the local markets and local linkages. The increasingly globally dispersed commodity chains may strengthen the 'branch plant syndrome', consequently lead to increased investment flows towards regions within advanced economies (Phelps, 1993, Dicken, 2007, UNCTAD, 2010b).

Most of the regions in North America and Western Europe have had experiences of the deindustrialization and unemployment since the 1970s, and those regions

offer generous incentives to attract the branch plants as one of the means to decrease unemployment, however, this strategymay drain the government budget and result in inadequate investment in other areas, it is important to attract the quality branch plants than the financial incentives (Brown and Raines, 2000, Perrons, 2004, Wren and Taylor, 1999, Yamin and Sinkovics, 2009).

Before the 1970s, the 'branch plant syndrome' had been discussed mainly in Canada and UK regions, where received investments from US and England to a large extent (Sonn and Lee, 2012). Branch plants in Wales similarly serve the headquarters in England rather than focus on the local linkages and consequently lower regional embeddedness. The increased investment flows towards regions within advanced economies make this issue a more important concern on the allocation of the government budget in attracting such branch plants in order to create employment.

Embedding FDI is the process of overcoming the problem of 'branch plant' FDI. In developing countries, the most important criticism of FDI policy has been that it contributes very little to the value added of the investment in the regional economy. Multinationals mostly have a globally-integrated business model, the "branch plants" serves the local market, which is the only function of the vertically integrated supply chain (Buckley and Casson, 1999, Townroe, 1975).

The remittance of earnings and profits back to the parent company and the use of transfer pricing to reduce taxes paid in the host region is often criticized by 'financial leakage' problem of FDI, foreign investors are also accused of not making enough linkages to the indigenous firms directly or indirectly by demonstration effect. In the case of the low-skilled labour environment, given that technology is transferred from the multinationals to the indigenous firms, multinationals do not adopt the technology process to make it more appropriateto use in such environment. There is often very little sourcing of materials and

services locally, so the backward linkages are limited, and forward sales linkages or strategic collaborations are often very few as well in the regional economy. In addition, those “branch plants” are often a replica of another operation elsewhere in the multinationals’ group, the headquarters often have a wide choice of possible locations for any investment, those “branch plants’ attracted by investment incentives are relatively vulnerable to closure (Potter, 2002).

Evidence shows that low local management autonomy is more likely to be associated with the “branch plants” problems by doing simple assembly or production for local markets. While greater strategic independence is less likely to have those problems (Birkinshaw and Hood, 1998). Also, greater embedding of foreign affiliates in regional economies to achieve the degree of reinvestment, technology transfer, local linkages and business retention desired from foreign investment needs to be encouraged. It not only provides domestic industry with links to global markets and technologies but also enable foreign enterprises to create a high productivity environment, which is conducive to their retention in the region through enhancing from the following ways

- the relatively knowledge-intensive investment
- FDI investment, marketing, promotion and incentive provision can be better targeted,
- local business environment in terms of local skills, infrastructure, and technology base can be effectively enhanced (Potter, 2002)

Regional growth is increasingly to be considered as driven by innovation with the shift towards the knowledge economy, this in turn is considered as a collective endeavour rather than output is carried out by individual firms. Therefore, inter-firm networking and networking between firms and institutions would be the most effective mechanism for collective learning, in which through foreign affiliates’ supplier chain networks and collaborations with colleges and universities, they

play a critical role through enabling the diffusion of best practice production processes and technologies (Morgan and Cooke, 1998, Storper, 1997, Nieto and Santamaría, 2007).

4.6 Conclusions

In terms of GVA per capita, Wales is one of the less developed areas in the UK in 2015 (ONS, 2016c). Tourism is seen as one realistic option to stimulate economic growth in the marginal areas in Wales at a moderate cost. It provides a diversification mechanism to transfer declining commercial infrastructure to a growth sector (Bristow et al., 2000). Despite the similar scope of tourism products, the number of trips and total expenditure in Wales is relatively less compared to those trips in Scotland, which possibly implies underutilization of the tourism products.

Development of the tourism sector is then important for Wales, as is Foreign Direct Investment, and the conjunction of these two factors – together with the economic peripherality suffered by many tourism-intense less developed countries - makes Wales a relevant study in terms of the interaction between tourism FDI and growth. TSA is the appropriate approach to understanding these issue, Wales' long-established TSA project (and the existence of a developed UK TSA) is an ideal starting point from which to understand these issue. The development of such tool is even more important internationally for the less developed tourism-dependent countries, where similar issues exist and where an effective (an internationally standardised) measurement method is in demand.

Chapter 5 Tourism Satellite Account framework

5.1 Introduction

Tourism is a complex part of economic demand, covering many established industry sectors, and is invisible in Systems of National Accounts (SNA). The TSA is therefore established to measure the economic contribution of tourism in ways consistent and compliant with existing SNA. To measure the aggregated amount of tourism-related activities (for example, GVA) in the whole economy, one has to identify each existing industrial sector and search for the amount of tourism-related consumptions 'hidden' in the sales of these industrial sectors. TSA is thus not a model of economic activity but an accounting framework to record tourism supply/demand direct (annual) value (Hara, 2008).

TSA is the only official way to measure tourism activities using transparent methods and fitting within SNA aggregates. The TSA concept is nearly three decades old, but the documents that exhaustively explain the concepts and data requirements for a TSA were not formed until 2008 by principal international economic and statistical bodies (UNWTO, 2008).

This Chapter mainly introduces the standard TSA definitions, products/industries classification, the statistics, tables, the contribution of TSA and total impact analysis based on TSA. The introduction in Chapter 5 is in preparation for the actual TSA compilation in Chapter 6. It also explains the TSA development in Wales and the existing versions of TSA in Wales.

5.2 How TSA is defined

SNA records a set of complex information of economic flows and stocks in a national economy. SNA specifies how the macroeconomic aggregates are defined

and computed. It also defines five institutional sectors in a national economy, which includes nonfinancial corporations, financial corporations, general government, households, and non-profit institutions serving households (Kendrick, 2012).

With tourism, various aspects of producing and consuming activities connected with tourism may appear in detailed classifications of activities, products and purposes. However, as specific tourism transactions and purposes appear separately only in a few cases, the only feasible method to estimate total tourism contribution is to elaborate a specific framework for tourism, which allows adaptation of the various classifications and measurement of additional aggregates, such as national expenditure on tourism, it may cover intermediate and final consumption (Commission of the European Communities, 1993, Frechtling, 2010).

The development of the TSA concept was inspired by a presentation at UNWTO's International Conference on Travel and Tourism Statistics by Statistics Canada in 1991 calling for establishing a credible way to compare tourism-related activities to other industries in a national economy (Frechtling, 1991). With the cooperation of UNWTO experts and the assistance of OECD, WTTC, International Labour Organization (ILO) and other organizations, the adoption of International Recommendations for Tourism Statistics 2008 (2008 TSA RMF) was progressed effectively by the United Nations Statistical Commission in March 2008 (Massieu, 2008). TSA comprises 10 (although not all are always estimated) inter-related tables that show the size and distribution of different forms of tourism consumption in a country and contributions to national income, employment and other macroeconomic measures of a national economy (UNWTO, 2008). The constituent tables of TSA are shown in the following Table 4,

Table 4 The Constituent Tables of Tourism Satellite Account

Tables	Coverages
1	Inbound tourism expenditure by products and classes of visitors
2	Domestic tourism expenditure by products, classes of visitors and types of trips
3	Outbound tourism expenditure by products and classes of visitors
4	Internal tourism consumption by products
5	Production accounts of tourism industries and other industries (at basic prices)
6	Total domestic supply and internal tourism consumption (at purchasers' prices)
7	Employment in the tourism industries
8	Tourism gross fixed capital formation of tourism industries and other industries
9	Tourism collective consumption by products and levels of government
10	Non monetary indicators

(UNWTO, 2008)

Subsequently, a primer of the TSA was published to provide an overview of the TSA with its concepts, definitions and structure and a set of characteristics that distinguish it from other economic impact measurement methods (Frechtling, 2010). It explained the relationship of TSA and SNA with detailed attention to the macroeconomic aggregates TSA defines for the tourism activities.

UNWTO has stated that approaches that do not employ TSA definitions, concepts, and structure exaggerate tourism's contribution to GDP and labelling such approaches as TSAs effectively damages the credibility of valid TSA estimates (UNWTO, 2008). In order to avoid the conflicts and the inaccuracy of the

application of the TSA, it is wise to distinguish the approach of TSA by recommending standards that identify valid TSAs.

The standards to distinguish the TSA by UNWTO from other tourism measurement systems are as following (UNWTO, 2008),

- It elaborates the interconnected tables as accounts, which are consistent with the supply and use tables of SNA;
- It excludes indirect, induced and multiplier effects of tourism and only limits measurement to the direct economic contributions;
- The data of the specific Tourism Characteristic Products that are sold directly to visitors are provided and the conventionally-defined industries producing these products;
- It presents four main macroeconomic aggregates: Internal Tourism Expenditure, Internal Tourism Consumption, Tourism Direct Gross Value Added and Tourism Gross Domestic Product.

TSA only counts direct activity although it can be a good basis for Input-Output modelling and may be open to criticism in that it ignores other welfare issues, however, TSA can be developed to address these criticisms of not counting the welfare issues (Jones and Munday, 2007, Jones et al., 2017), which will be illustrated in Chapter 8.

The progress in the production of TSAs thus comprises a consistent tourism activity accounting that can be set alongside national income accounts and by extension reveal other development-important factors (UNWTO, 2016). As the TSA links and reconciles tourism products supply and demand, it provides similar definitions and approaches to those used to measure other economic activity. In other words, TSA provides the possibility of comparing tourism with other areas of economic activity by its economic contribution. Improvements of the

underlying statistical sources and surveys are essential to the development of the TSA. Progress has been made in the development of TSAs at the subnational level. These TSAs have also provided a better opportunity to estimate the local economic visitation effects through modelling approaches (Jones et al., 2010b).

5.3 TSA contribution, tables and statistics

TSA measures how important tourism activity is in the national or regional level. It was designed to ‘‘provide a common reference framework for countries to use in the compilation of tourism statistics’’ (UNWTO, 2008) and presents a system of definitions, concepts, classifications and indicators that are internally consistent, and facilitates the link.

The contribution of completing TSA includes macroeconomic aggregates describe the size and economic contribution of tourism; detailed data on tourism consumption; production accounts of the tourism industries such as data on employment, linkages with the other productive economic activities and gross fixed capital formation; a link between economic data and non-monetary information on tourism (OECD et.al., 2008).

Tourism expenditure is the amount of money paid for the acquisition of consumption goods, services, and valuables for and during the trips. Tourism expenditure categories are defined based on the country of residence and the transactors involved. Different forms of tourism and tourism consumption are presented in the following Table 5,

Table 5 Forms of tourism and categories of tourism consumption

Tourism Forms	**Tourism Consumption Categories**
Domestic tourism: comprises the activities of a resident visitor within the country of reference either as part of a domestic trip or part of an outbound trip.	Domestic tourism consumption: is the tourism consumption of a resident visitor within the economy of reference ;
Inbound tourism: comprises the activities of a non-resident visitor within the country of reference on inbound trips.	Inbound tourism consumption: is the tourism consumption of a non-resident visitor within the economy of reference.
Outbound tourism: comprises the activities of a resident visitor outside the country of reference either as part of an outbound trip or as part of a domestic trip.	Outbound tourism consumption: is the tourism consumption of a resident visitor outside the economy of reference.
Internal tourism: comprises domestic and inbound tourism, that is, the activities of resident and non-resident visitors within the country of reference as part of domestic or international trips.	Internal tourism consumption: is the tourism consumption of both resident and non-resident visitors within the economy of reference. It is the sum of domestic tourism consumption and inbound tourism consumption.
National tourism: comprises domestic and outbound tourism, that is, the activities of resident visitors, within and outside the country of reference either as part of domestic or outbound trips.	National tourism consumption: is the tourism consumption of resident visitors, within and outside the economy of reference. It is the sum of domestic tourism consumption and outbound tourism consumption.

Source: 2008 TSA:RMF, p19 (UNWTO, 2008)

Tourism internal demands include tourism consumption, tourism fixed capital formation and tourism collective consumption, therefore for the measurement and analysis purpose, products and productive activities are required. The tourism products classification includes not only consumption goods and all other products have some relationship with tourism; tourism activities are for those typically produce tourism characteristic products. As products and industries do not have a strict one-to-one relationship between them. Two similar characteristics products produced by two different industries would be classified in the same products category (UNWTO, 2008).

The following Table 6 presents the categories of tourism characteristic consumption products and activities, these 12 categories can be applied to the TSA. The first 10 groups are for international comparison. The last two categories in the table are country-specific.

Table 6 List of categories of tourism characteristic consumption products and tourism characteristic activities

Products	Activities
1. Accommodation services for visitors	1. Accommodation for visitors
2. Food and beverage serving services	2. Food and beverage serving activities
3. Railway passenger transport services	3. Railway passenger transport
4. Road passenger transport services	4. Road passenger transport
5. Water passenger transport services	5. Water passenger transport
6. Air passenger transport services	6. Air passenger transport
7. Transport equipment rental services	7. Transport equipment rental
8. Travel agencies and other reservation services	8. Travel agencies and other reservation services activities
9. Cultural services	9. Cultural activities
10. Sports and recreational services	10. Sports and recreational activities
11. Country-specific tourism characteristic goods	11. Retail trade of country-specific tourism characteristic goods
12. Country-specific tourism characteristic services	12. Country-specific tourism characteristic activities

Source: 2008 TSA:RMF, p30 (UNWTO, 2008)

In supply-side statistics, establishments are classified according to their main activity that is determined by the activity generates the most value added. Following the 2008 TSA RMF, TSA is generally made up by 10 tables that derived

from the tables in SNA. These tables are aggregate tables intended to promote homogeneity among countries. In the first stage, the aim is to compile TSA-tables 1 to 7 and TSA-table 10. At a minimum, the TSA must include a detailed presentation of supply and consumption, in terms of goods and services acquired by visitors (TSA-table 1-4) and of the industries that produce them (TSA-table 5), as well as an overall confrontation of their components, as this constitutes the core of the TSA system (TSA-table 6). Appendix I shows the actual standard TSA-tables and introductions of the internationally defined and comparable form.

Tourism-related economic effects are measured by the total additionality of tourism expenditure with allowances made due to any leakages from the economy, and ideally considering any displacement effects. Simple estimated tourism expenditure addition or more complex economic models are all employed to explore the economic effects of tourism expenditure in the literature. Net tourism expenditure or local inputs spending multiplier in the reference economy are often target variables for measurement (Agrusa et al., 2009, Paul, 2005, Fletcher, 1989).

However, the measurement of TSA-tables is not the net impact, the impact of the foreign ownership also needs to be measured from the linkages and leakages between those businesses and other businesses, and its interaction with other factors (Mbaiwa, 2005, Incera and Fernandez, 2015, Banerjee et al., 2016).

5.4 Total impacts measurement based on TSA

The interrelated indicators developed by the TSA can be used to estimate the change in the income flow resulting from the additional tourism demand associated with visitors. Tourism impact studies are concentrated on assessing the impact of tourism demand/supply shocks by Input-Output multipliers analysis and Computable General Equilibrium (CGE) models to study the overall impact of the tourism demand/supply shock (Blake et al., 2008, Incera and Fernandez, 2015).

TSA is in a similar structure as Input-Output table, it can be incorporated into the Input-Output table to measure the indirect effect. Final demand by products/industry of origin, intermediate consumption, and in some cases the product or industry of destination are all shown in an Input-Output table, which is the also the comprehensive production function in regional economic analysis. The standardized Input-Output table establishes the technical coefficients matrix, each cell gives the required value of an input for the production of 1 unit value of output. By including the product/industry of destination, it is able to differentiate the goods and services produced locally and the inputs and capital goods imported, which in general do not generate a chain of domestic output, and leakages can be considered and measured (Archer and Fletcher, 1996, Tomohara, 2016, Kweka et al., 2003, Polo and Valle, 2008).

Input-Output table represents the interdependence between different production processes, where linkages indicate those interdependencies. Linkages and leakages are two concepts that can be identified and measure the magnitude of the tourism demand economic impact analysis. Leakages occur when the earnings and demand generated by tourism are not retained in the economy, it often happens in the form of importing goods and services catering tourists from other economies or through other distribution or redistribution form of the primary income in tourism. Similar as the indirect effect, leakages not only include the direct tourism consumption/investment/intermediate consumption, but also the inputs and the gross fixed assets to produce the direct consumption/investment goods, and other several rounds of production of inputs and capital goods (UNCTAD, 2008a).

The overall economic impact in Input-Output analysis is based on the direct effects and indirect effects on a wide variety of variables. The direct effect is the immediate effects of the additional demand on production processes and supply of goods and services in terms of additional value added, goods, and services. The

final demand change due to the visitors' activities stimulates additional demand for inputs, labour and capital in a chain, this chain continues through several rounds until exhausted by leakages. (UNWTO, 2008). This chain of effect supports the activities directly serving the visitors is called the indirect effect. Indirect effects are generated through linkages to the local community, those linkages serving tourism generate additional value added, employment and tax income. When household consumption is considered in the chain, the increase of the income distributed to the labour force and the productive capital owners generate the goods and services demand rise through household consumption, those additional demands generated by the additional income/consumption resulting from the incremental visitor demand are called the induced effects. Induced effects are usually estimated by SAM, where the households are endogenized (Hara, 2008). CGE modelling is explained more in Chapter 9.

5.5 TSA in Wales

Wales and Andalucia are the global regions with the first fully-featured regional TSAs, both for the base year 2000. The accounts have been presented at various UNWTO publications and events and have been of some interest globally. In 2010, the Wales 2000 TSA was fully updated and recompiled to the base year 2007 TSA, the direct economic importance of tourism in Wales was estimated in terms of GVA and employment. It has an extension of tourism environmental impacts analysis with direct environmental impacts of travel to and from Wales by visitors and enables better policy analysis (Jones et al., 2010c, Jones and Munday, 2007).

The Wales 2007 TSA data collected as part of the wider Welsh Input-Output (IO) Project, and with much of this in visitor-related sectors, facilities or at events. The IO-tables effectively provide details on the 'supply side' of the TSA. Tourism expenditure data are collated from a variety of tourist surveys (household, transit

and at-destination) to inform the TSA ‘demand side’ of the TSA. The quality of tourism data at the regional level is not ideal as the collection and analysis have been under-resourced over a number of years: some sources are complete and of high quality, whereas others suffer from partial coverage or are somewhat out of date (Jones et al., 2010c).

5.6 Conclusions

Tourism is not revealed in the SNA due to the complexity of tourism interactions and is instead hidden across a wide variety of industries. Tourism demands a proportion of the products/services in one industry for the visitors’ consumption. Therefore the TSA has been developed by UNWTO and its partner organizations to measure tourism industries in a comparable way as other industries that are included in the SNA. Its specific definitions, classifications and structure are defined in the official documents (2008 TSA RMF). Wales has the one of the world’s first regional TSA built for the base year 2000. This thesis aims to build Wales TSA 2013 that matches the UK TSA 2013 with further development in its structure to enable more functions of TSA as the tourism measurement tool. Other details on the estimation of the Wales TSA are available from the earlier studies (Jones et al., 2010a, Jones et al., 2010c, Jones and Munday, 2007, Jones et al., 2003)

Chapter 6 Wales 2013 Tourism Satellite Account-table 1 to 7 compilation methodology

6.1 Introduction

This thesis aims to reveal the extent of the non-regional tourism capital ownership in Wales within a TSA analytical framework, with the expectation that such issues matter for the link between tourism activity and economic development. This is important because, particularly in emerging economies, FDI in tourism industries may have important development implications, but economies tend to have less relevant data available to enable traditional econometric growth analysis (Andergassen and Candela, 2013).

This study contributes to a better understanding of tourism's impact on economic development in two key ways:

- Firstly, it enables an estimate of the economic contribution in terms of employment, GVA and tax from both regionally and non-regionally owned businesses, indicating not only their relative contribution (and hence the level of 'foreign dependence' and potential repatriation of profits/other value added, but also the extent to which non-regional businesses might be more productive (in terms of GVA per FTE) than local businesses
- Secondly, a Tourism Social Accounting Matrix (TSAM) is developed for tourism to reveal the role of human capital in tourism products, and establish the extent to which tourism industries employ workers of different education, income levels etc. compared to other industries, with the potential to consider whether such activities might be characterized as 'pro-poor' in these ways. TSAM as the additional development is explained in Chapter 8, it additionally reveals the leakages information in terms of the non-resident employment and purchases made

outside of the region.

This Chapter introduces the background, the data sources and the construction methods. It provides the detailed data collection, data sourcing and estimation for each TSA-table 1 to 7, it also summarizes the estimation and construction difficulties, and the limitations of the TSA-tables in this study statistically and methodologically. It is the detailed compilation information for the first of the two major contributions of this study as described above.

6.2 Background, definitions and statistics

A Wales regional TSA is compiled for 2013 with the supply side spilt between non-regional and regional ownership, distinguished within a structure that matches the UK TSA for 2013, thus reconciling supply and demand for tourism-specified and tourism-related products in aggregate, including

- Accommodation
- Food and beverage
- Railway passenger transport
- Road passenger transport
- Water passenger transport
- Air passenger transport
- Transport equipment rental
- Travel agencies & other reservation services
- Culture, sport and recreation
- Exhibitions & conferences
- Other consumption products

TSAs not only include the tourism characteristic products, tourism-related products, but also other products as well, the definitions and classifications of the tourism characteristic products, tourism specialized products are shown in the

Table 7,

Table 7 Tourism Industries/Product Classifications: New Zealand

Tourism Product/Industry	Definition
Tourism Characteristic Product	A product that would cease to exist in meaningful quantity, or for which the level of consumption would be significantly reduced, in the absence of tourists. In the TSA a tourism characteristic product has a tourism product ratio greater than or equal to 0.25.
Tourism-Related Product	A product for which tourists purchase greater than 0 and less than 25 percent of its production (i.e. a tourism-related product has a tourism product ratio that is greater than 0 and less than 0.25).
Tourism Specific Product	Either a tourism characteristic product or a tourism-related product.
Tourism Characteristic Industry	An industry that meets the following criteria: • At least 25 percent of the industry's output is purchased by tourists (i.e. the tourism industry ratio is greater than or equal to 0.25); or • The industry's characteristic output includes a tourism characteristic product.
Tourism-Related Industry	An industry where: The industry is not a tourism characteristic industry and where; • Between 5 percent and 25 percent of the industry's output is purchased by tourists (i.e. the tourism industry ratio is greater than 0.05 and less than 0.25); and • A direct physical contact occurs between the industry and the tourist buying its products (hence manufacturing and wholesaling industries are not tourism-related industries).

Source: (Jones et al., 2004)

There are 2 approaches to build TSA: 'top-down' and 'bottom up' approach, 'top-down' approach involves national totals for key indicators allocating across regions, while the 'bottom up' approach involves adapting the guidance of *2008 TSA: RMF* in building effectively a national TSA at regional level by treating the region as a 'nation' and treating the area outside as 'foreign' (Jones et al., 2009). The difficulty in the latter is that it is considerably more demanding of first-hand data from surveys and interviews, and generally involves local institutional engagement. The two approaches are compared as Table 8 in terms of needs, benefits and problems.

Table 8 'Top-down' and 'Bottom-up' approach in building TSA

Some Advantages & Disadvantages of TSA-R and R-TSA			
	Needs	***Benefits***	***Costs***
TSA-R [Top Down]	• Proactive central statistical office • regionally stratified national surveys	• relatively quick • may be inexpensive • regionally comparable • benefits from central expertise • credibility in central government etc.	• limited no of variables • may not account for regional uniqueness • inflexible to policy needs? • Low potential for 'spin off' analysis
R-TSA [Bottom up]	• developed regional account • regional tourism consumption data • adequate technical human capital	• flexible to policy need • full suite of results • detailed understanding of regional tourism economy • base for additional analyses	• long term option • costly • non-standardised across regions • risks fragmentation of TSA development

Source: (Jones et al., 2009)

A full TSA can only be constructed by the areas which have a set of economic accounts preferably supported within an Input-Output table. The TSA is constructed from the national accounts is essentially a 'top down' approach. Where suitable 'bottom up' approaches exists, data may be far richer than that reported in the TSA even if it cannot be incorporated into the account.

There are two ways to estimate the Regional-TSA (R-TSA) indicator from the national SNA, expenditure based estimation and employment based estimation. Expenditure based estimation is given by total tourism receipts within the reference region for a given year. Expenditure based estimation estimates total turnover and output of the tourism activities in a region based on the distribution of national aggregates. However, it is a less useful way of measuring the economic importance the tourism because some of the tourism spending within the region might be used to purchase the goods or services from outside of the region. In addition, the proportion taken by the (national) government as taxes cannot be counted as the direct economic injection to the (regional) economy although the

community could still benefit from the collective consumption by the government. For Example, in the extreme case of the money spent on petrol in the UK, 75% goes to the government, 20% is the "leakages" to the oil and refining industries wherever it is based. Eventually, only 5% of the initial tourism expenditure stays into reference regions (Jones et al., 2004). This estimation approach overestimates the true tourism dependence in the regional economy.

Employment based estimation is to estimate how much employment in the tourism-related industries such as accommodation, food and drinking services, travel agencies and attractions are tourism-dependent. However, this approach is likely to not count the tourism-related employment in the "non-tourism-related" industries and underestimate the true tourism dependency. Definitions of the industries, occupations statistics that are "tourism-related" vary greatly across time and geographies, tourism industries are where seasonal and part-time workers are very common, surveys are often not designed to accurately capture the employment and the level of owner management and self-employment, in addition, failure to account for the informal and hidden workers, whose output are included in the SNA, could also cause underestimation of the tourism dependency (Jones et al., 2004). In the ideal case, a 'bottom up' R-TSA will estimate all relevant demand, supply and employment characteristics for the regional economy.

In this study, the TSA is built from a mix of methods, relying on regionalized UK aggregates, the regional elements of UK-national surveys and administrative data, and locally collected information, it is fully developed to UNWTO (2008) standards and benefits from bespoke regional estimates of tourism supply and demand by commodity, and hence tourism ratios and estimates of Tourism GVA (TGVA), dependent employment etc.

As Wales is a region of the UK, it does not have a full SNA from which a TSA can be easily constructed. However, Cardiff University has, with partners, developed a suite of Input-Output Tables for the region over recent decades (as well as TSAs), and these accounts were invaluable in aiding the construction of the 2013 TSA in a fully-featured state (WERU, 2011, Jones et al., 2010a).

6.3 Wales 2013 TSA-table 1 to 7 introduction

According to the 2008 TSA RMF, TSA is generally made up by 10 tables that employ the nature and the framework of the SNA (UNWTO, 2008). The 10 tables included in the document 2008 TSA RMF, as Appendix I (standard forms and descriptions) shows, are purely illustrative of the work to be undertaken, and should be only considered as a guide for presenting TSA data. The adequate format should be decided by each nation or country with consideration in its tourism reality and scope of available data. Table 9 is the summary of TSA-table 1-10 (UNWTO, 2008).

In the first stage of this study, the aim is to compile TSA-table 1 to 7 that match the structure of the UK TSA 2013, as TSA-table 8 (Tourism gross fixed capital formation), TSA-table 9 (Tourism collective consumption by products and levels of government) and TSA-table 10 (Non-monetary indicators) in the guidance of 2008 TSA RMF are not applicable due to data limitation. Therefore Wales TSA 2013 only includes TSA-table 1-7 from the standard form.

Table 9 Summary of TSA-table 1-10

Information Provided	Tables
Foreign and domestic tourist consumption spending	1-4
The contribution of tourism to GVA	5
The contribution of tourism to the trade balance	6
The tax receipt attendant on tourism activity	6,9
The linkages between the tourism sector and the industry groups	6,8
Tourism industry capital spending	8
Comparing the scale, scope and performance of the UK tourist industry between different countries/regions	1-10

Wales TSA-table 1 focuses on inbound tourism. Overnight and same day visitors are the two main types of the inbound tourists. Transit passengers can be an additional category. Transit passengers in Wales only take up a negligible part out of the total tourists and thus only 2 categories of visitors are reported in Wales TSA-table 1: overnight visitors and same day visitors. Wales TSA-table 2 indicates the domestic tourism expenditure, this also includes the expenditure of outbound tourists made within the reference economy (before or after their main destination). TSA-table 3 presents outbound tourism expenditure i.e. expenditure made when residents outside the reference economy. Wales TSA-table 4 includes inbound tourism expenditure from TSA-table 1, domestic tourism expenditure from TSA-table 2 and other (non-cash) components of tourism consumption as the internal tourism expenditure. Other components of tourism consumptions, services. TSA-table 1 to 4 describe the important tourism component, tourism expenditure. This not only includes what the visitors pay but also producers' expenditure for visitors' benefit (for example, free admission to museums subsidized by governments).

Wales' TSA-table 5 presents the tourism industries production accounts and other industries in the economy of reference. As stated earlier, because the relatively higher concentration of foreign capital in Wales, and the relatively more

importance in tourism industries, the cases of the 'non-resident provides' is defined as headquartered outside of Wales to suppliers of the visitors may be significant (Munday et al., 2009a). A key contribution of this project is the estimation of the visitors' expenditure on domestic trips from foreign-owned tourism-related businesses and its separation from those domestically owned businesses. Thus TSA-table 5 disaggregates each industry production column into regionally owned and non-regionally owned businesses as suppliers, which is the main structural alteration from the standard TSA-table 5.

Wales TSA-table 6 includes domestic production supply (aggregate of regional and non-regional businesses) and imports, is compared to tourism consumption, and the tourism ratios calculated. These ratios are then applied to industry GVA to estimate the GVA attributable to tourism for each of the industries that serve visitors, here the structure of the Wales TSA-table 6 matches that of the UK TSA (UNWTO, 2008).

Wales TSA-table 7 shows the tourism employment data that matches the structure of 2013 UK TSA-table 7. The structure is extended to include the regional and non-regional GVA, GVA/FTE, output/FTE of each tourism-related industry.

Further development of Wales TSA-table 11 as the additional TSA-table is explained in Chapter 8.

6.4 Data collection: Wales tourism economy research survey and interview

The 'core tourism sector businesses' sampling frame was drawn from a variety of sources, mainly from Visit Wales website, Booking.com, Caravan and Camping sites, also individual business websites. The samples include all the tourism-

related businesses listed on the Visit Wales website, and a few more businesses from other websites (Booking.com et.al.) as additional. A number of local government tourism departments also helped in spreading the emails of the surveys to their database. In total, 2562 surveys were designed to be sent out, however, about 2000 were sent out successfully given there are a few of the emails listed are invalid. Some are valid but with full inboxes, a few businesses had closed down, several big heritage sites groups have the same email address for all the sites under the same corporate group, a number of public sector tourism attractions could not participate as purchases were made centrally.

Survey forms vary slightly between accommodations, restaurants and tourist attractions categories because of the nature of their sale combinations is different. The 'shortfall' of the survey forms is that only limited information about input sourcing and very general geographic sourcing information could be collected due to the survey form, which was initially designed to minimize the time the respondent has to spend on one survey to improve the response rate. However, the individual views/suggestions on the matters of the tourism development and industries in Wales and other effects were all targeted during the face-to-face interviews.

The online surveys were set up on the Bristol Online Survey (BOS) and collected primarily financial purchase, labour use and cost information, which was intended to be used to estimate the subsector's input characteristics, as well as on the customers' geographic origin. Data collected itself includes turnover, profit/loss, wages and employment, the percentage of customers from outside of the region. Face-to-face interviews additionally collected the information as a supplement of the online surveys, together with the survey information, provides the most up to date primary data to adjust the 'bottom-up' regional TSAs from various national surveys to the regional and updated level.

Appendix V shows the Ethics Approval Form from Cardiff University, as well as the 3 survey questionnaires, and the interview guidance questions, more questions were being asked where relevant. Appendix VI attached is the Informed Consent Declaration for conducting research interviews.

In order to improve the response rate of the surveys, emails were personalized by, preferentially the managers' names (where a phone call or other information revealed this), or the businesses names. Emails were preferred to be sent directly to the managers. The overall response rate (including face-to-face interviews) was around 6% (81 surveys, 25 interviews), which was achieved after significant and sustained effort even with the help of the local authority. Both the online surveys and interviews required detailed financial information (based on earlier Input-Output surveys undertaken in the region). Therefore, the actual TSA-table 1-7 are estimated largely from published data sources, with the survey and interview data useful for discussion and other context, e.g. revealing interesting information on how the public sector invests in, pays for and delivers some visitor cultural services. Surveys and interviews data is also used for the further development of TSA-table 11 for indicative purposes due to wider data constraints.

There are approximately 1400 accommodation businesses, 300 restaurants and 1100 tourist places, survey emails are sent twice to those businesses, there are 47, 4, and 30 surveys completed respectively from those 3 types of businesses. Interview introduction letters were sent to the businesses selected from the total database from the Visit Wales, 25 interviews were completed with all 3 different types and sizes of tourism businesses, the expenditures data are collected for a smaller number of businesses because the institutions such as council owned museums, where data is not allowed to disclose completely or it is difficult to distinguish the cost from the total costs of the local authority.

Table 10 shows the details on coverage of the types of businesses and regions of Wales among online survey returns and the interviews undertaken,

Table 10 The Type of Business and Location Coverage of the Survey Returns and Interviews Undertaken

Participants	Businesses and Locations	Interviews (25)	Surveys (81)	Total (106)
Type of Businesses	Accommodation	5	47	52
	Restaurant	1	4	5
	Tourist Attractions	15	30	49
	Other Businesses*	4		
Region of Wales (Defined by Visit Wales)	Llandudno and Colwyn Bay	3	7	10
	Anglesey	0	1	1
	Denbighshire	0	8	8
	Snowdonia	1	8	9
	Ceredigion	0	3	3
	Mid Wales and Brecon Beacons	2	18	20
	Cardiff	3	6	9
	South Wales Valleys	3	2	5
	Wye Valley and Vale of Usk	2	7	9
	Glamorgan Heritage Coast and Countryside	4	2	6
	Carmarthenshire	2	5	7
	Pembrokeshire	3	8	11
	Swansea	2	4	6
	Other Locations**	0	2	2

**Other Businesses represent tourism-related businesses apart from accommodation, restaurant and tourists attractions.*

***Other Locations represent locations could not be identified from the survey.*

The online survey returns and the interviews undertaken in total cover a wide variety of tourism businesses and all the regions in Wales with more returns on where tourism industries are more important, such as Llandudno and Colwyn Bay, Mid Wales and Brecon Beacons, Pembrokeshire. The type of businesses is listed according to the survey question options designed. The region of Wales is divided and listed according to the region list of Visit Wales, as in Table 10 on Visit Wales website when the data was collected.

Potential error sources in the data include response errors (poor recollection of details, result from questionnaire design), non-response errors (refusals to be interviewed, failure to make contact especially when the non-respondents differ from respondents), and sampling errors are also significant. Those errors exist for both the ONS survey data and the survey/interviews data collected specifically for this research. The significance of the estimation error is explained later and indicated in Appendix IV.

6.5 Wales 2013 TSA-table 1 to 7 construction approach

6.5.1 Data sources and tourism products classifications

The construction of the Wales TSA 2013 is based on a regional TSA framework matching the structure of the UK TSA 2013. Wales is treated as a 'national economy' in the sense of building the TSA. The 3 main aspects (demand, supply and employment) of the regional TSA are estimated and discussed by using a variety of data sources including a mix of local and UK-regionalised data, a primary survey and a number of interviews as Table 11 shows,

Table 11 Selected Key Sources for Estimation of the TSA-tables

TSA-tables	Key Sources
TSA-table 1-4	• UK TSA 2013 • IPS 2013 • GBDVS 2013 • GBTS 2013 • 2015 CAA Passenger Survey Report • Morgan Stanley Airport Survey 2005 • 2011 Census data • Other data including ONS official data
TSA-table 5	• UK TSA 2013 • FAME • BSD(IDBR) 2013
TSA-table 6	• UK TSA 2013 • Wales TSA 2007 • Wales Input Output Table 2007 • Other ONS official data
TSA-table 7	• UK TSA 2013 • Nomis • Annual Population Survey 2013
Further Context	• Wales Tourism Economy Research Surveys 2016 (81) • Wales Tourism Economy Research Interviews 2016 (25)

IPS 2013: International Passenger Survey 2013
GBTS 2013: Great Britain Tourism Survey 2013
GBDVS 2013: Great Britain Day Visits Survey 2013
BSD (IDBR) 2013: Business Structure Data (Inter-Departmental Business Data) 2013
All the data sources are referenced and linked in Appendix III and Glossary Acronym is attached in Appendix X

GBTS mainly provides information of the GB overnight visitors on domestic trips. Visitors in North Ireland take only a very small percentage of the total GB visitors and leisure trips in Northern Ireland is seldom recorded in surveys, data coverage excludes trips by GB residents to Northern Ireland and it has been dealt within the UK-TSA 2013 (Bodey and White, 2016). GBTS also has the breakdown of

expenditure information in Wales in terms of the number of trips, and nights stayed, expenditures both in total and breakdowns in types of accommodation, modes of transportation, activities taken on the trips, etc. GBDVS 2013 is in a similar form as GBTS 2013 but for day trippers.

As shown in Table 11, the TSA tables 1-7 are constructed using a hybrid methodology, starting from the UK TSA 2013 framework and Business Structure Database (BSD), undertaking several rounds of mechanical adjustment to account for regional difference in the tourists' expenditure patterns in the tourist's demand side and the ownership of tourism businesses in different sectors in the tourists' supply side according to GBDVS 2013, GBTS 2013, FAME, Wales TSA 2007, Wales Input Output 2007 etc., This method involves drawing together the various data from ONS, both UK and Wales-level, bolstered by Wales TSA 2007, and Wales Input Output table 2007.

Appendix II presents Wales TSA-table 1-7 and TSA-table 11. To enhance reliability, a detailed description of the estimation process for each individual cell of the TSA-tables is presented in Appendix III, covering the specific sources used, and the estimation(and any subsequent adjustment) process.

This thesis reveals a number of areas where data (published and primary) are insufficient to complete a robust estimate of tourism supply, demand or employment at the regional scale: this assessment is important for any future research development. Appendix IV thus provides a broad indication of the quality of the estimate using a 'traffic light' system that replicates that used in the First Steps UK TSA for 2000 (Jones et al., 2004); the cells coloured with green are estimated likely most accurate, based closely on official data, the yellow ones are those estimated indirectly from other data sources, but where the estimate is unlikely to contain significant error. Then the red coloured ones are those need a better quality of data, and the estimation is largely indicative; better quality of data

is needed.

The individual production functions, labor use and local sourcing estimates for tourism ‘sub-sectors’ are thus necessary. Core tourism industries/products and the SICs are defined and classified in Table 12 (Bodey and White, 2016, UNWTO, 2008).

Table 12 11 Tourism Characteristic Products/Industries

Tourism Industries	SIC2007	Description
Accommodation for visitors	55100	Hotels and similar accommodation
	55202	Youth hostels
	55300	Recreational vehicle parks, trailer parks and camping grounds
	55201	Holiday centers and villages
	55209	Other holiday and other collective accommodation
	55900	Other accommodation
Food and beverage serving activities	56101	Licensed restaurants
	56102	Unlicensed restaurants and cafes
	56103	Take-away food shops and mobile food stands
	56290	Other food services
	56210	Event catering activities
	56301	Licensed clubs
	56302	Public houses and bars
Railway passenger transport	49100	Passenger rail transport, interurban
Road passenger transport	49320	Taxi operation
	49390	Other passenger land transport
Water passenger transport	50100	Sea and coastal passenger water transport
	50300	Inland passenger water transport
Air passenger transport	51101	Scheduled passenger air transport
	51102	Non-scheduled passenger air transport
Transport equipment rental	77110	Renting and leasing of cars and light motor vehicles
	77341	Renting and leasing of passenger water transport equipment
	77351	Renting and leasing of passenger air transport equipment
Travel agencies & other reservation services activities	79110	Travel agency activities
	79120	Tour operator activities
	79901	Activities of tour guides
	79909	Other reservation service activities
Cultural activities	90010	Performing arts
	90020	Support activities for the performing arts
	90030	Artistic creation
	90040	Operation of arts facilities
	91020	Museums activities
	91030	Operation of historical sites and buildings and similar visitor attractions
	91040	Botanical & zoological gardens and nature reserves activities
Sporting & recreational activities	92000	Gambling & betting activities
	93110	Operation of sports facilities
	93199	Other sports activities
	93210	Activities of amusement parks and theme parks
	93290	Other amusement and recreation activities
	77210	Renting and leasing of recreational and sports goods
Country-specific tourism characteristic activities	82301	Activities of exhibition and fair organizers
	82302	Activities of conference organizers
	68202	Letting and operating of conference and exhibition centers

(Bodey and White, 2016, UNWTO, 2008)

6.5.2 UK Tourism Satellite Account 2013: sources & methods

UK TSA 2013 is one of the most important data sources of Wales TSA 2013 construction. The UK TSA is constructed in a similar way to the discussion above and on the supply side from economy-wide industry surveys and UK Supply and Use Tables (SUT). Estimation is extremely complex because surveys and the SUT are reported some tourism sectors plus tourism affiliated sectors.

A meeting with the TSA-responsible team within ONS on 08/07/2016 was an important element in informing regional TSA construction. This wide-ranging meeting covered:

- Key sources used in UK TSA estimation
- Processes of triangulation, adjustment and reconciliation between disparate and often non-matching survey data
- Use and interpretation of administrative (company accounts, tax etc.) data
- Information derivable from Input-Output and SNA structures, and related issues
- Use of indirect intelligence in filling difficult estimation gaps and appropriateness for regional setting
- Potential and actual policy and practitioner use of TSA, and future development.

This intelligence gathering was of critical importance to ensure the Wales TSA matches the 'spirit' not just the structure of UK TSA estimation. The core source for 2013 UK TSA- table 1 is also the IPS 2013. Interviews are conducted each year as both UK and international travellers leave the UK, and data collection is stratified to reflect different transport modes. IPS provides expenditure on visits to the UK by overseas visitors, combined with the estimates of the expenditure paid

to the UK carriers by the inbound tourists.

2013 UK TSA- table 2 refers to the expenditures of domestic tourism of the UK resident. Domestic tourism consumption, therefore, describes the tourism consumption within the UK economy of UK residents, which may occur within the UK either as UK residents travel within this country for a number of purposes or make expenditures in the UK for purposes which take them abroad. This can include spending at ports or expenditure on outbound flights on UK carriers and this is all accounted for within the TSA.

UK 2013 TSA-table 3 shares the same classifications, breakdowns and principles of valuation, it requires information on outbound tourism consumption by product and category of visitor. A number of surveys such as GBTS, GBDVS, IPS and other data are used to guide the required estimates. GBTS provides an analysis by purpose and duration of a trip. IPS includes the broad expenditure data, and the detailed expenditure information is available within the SUT. IPS captures expenditures of UK residents in relation to their trips, with travel commission deducted if trips are booked through travel and/or tour agent. In the case of the outbound tourism, final reported estimates only include expenditures incurred abroad outside the UK.

The UK TSA 2013 provides the general breakdown of total expenditure by tourists in the UK, which is derived from SUT, SUT is part of the UK National Accounts system. They are annual tables, constructed 18 months after reference year, they include 4 tables for each year. SUT relates the supply and demand of products and split into intermediate and final demand. The Households' Final Consumption Expenditure (HHFCE) table has 2 columns of information about non-resident household expenditure in the UK and UK resident household expenditure abroad. Those 2 columns are used to estimate the total inbound expenditures in UK TSA-table 1 and outbound expenditures in UK TSA-table 3.

The tourism sectors are very aggregated in SUT and make matrix, the make matrix was provided by the ONS TSA-responsible team and was available for the TSA construction for this thesis. Creation of the make matrix is not adequate to create the UK TSA-table 5. The inadequate details to fully illustrate the nature of the UK tourism economy, for example, the tourism ratio has limited practical use because it varies widely across accommodation, restaurants and bars, and recreation activities.

Annual Business Survey (ABS) 2013 is used to determine the number of enterprises in tourism industries in UK TSA-table 7, APS 2013 is used to determine the proportions of self-employed individuals in the tourism industries, and it is also used to split the 'accommodation' and 'food and beverage serving activities' in TSA. Annual Survey of Hours and Earnings (ASHE) 2013 is used to determine the average hours worked to better determine the full time equivalent. Business Register and Employment Survey (BRES) 2013 is used to determine the proportion of tourism characteristic industries in UK TSA-table 7 (Bodey and White, 2016).

For the reason of UK TSA 2013 and SUT are all constructed for the reference year of 2013, datasets extracted from ONS databases are all from the base year of 2013, in order to construct the regional TSA based on consistent and correctly adjusted data, Consumer Price Index (CPI) is considered to convert all the data that is not based on 2013.

6.6 Estimation of the 2013 Wales TSA-tables

This section presents Wales TSA construction process for TSA-table 1 to 7, covering data sources, key variables and reliability/accuracy issues. Some especially interesting or notable factors are also highlighted.

6.6.1 Wales TSA-table 1

TSA-table 1 to 4 describe tourism expenditures of the demand side. Tourism expenditure is disaggregated into the overnight and same-day visitors. Wales TSA-table 1 focuses on inbound tourism, i.e. any tourists in Wales come from the residency origins outside of Wales. The inbound trips are classified by the residency origin of the arrivals instead of the nationality,

$$
\begin{aligned}
&Total\ Inbound\ Tourism\ Spending\ in\ Wales\ by\ All\ Visitors \\
&= Spending\ by\ Day\ Visitors\ from\ the\ Rest\ of\ UK\ (GBDVS\ 2013) \\
&+ Spending\ by\ Overnight\ Visitors\ from\ the\ Rest\ of\ UK\ (GBTS\ 2013) \\
&+ Spending\ by\ International\ Visitors\ to\ Wales\ (calculated\ from\ IPS\ 2013)
\end{aligned}
$$

Equation 1

- IPS 2013 provides estimates of the expenditure on visits to England, Scotland, and Wales by overseas visitors. From the IPS 2013, inbound tourism spending is £21,258 million in UK, £352 million in Wales, which gives a ratio of how much the inbound tourism expenditure in UK TSA table-1 is from the international inbound tourists.
- GBDVS 2013 and GBTS 2013 include the inbound excursionist ratio (multiplied by the total tourists' expenditure would be the excursionist expenditure) and overnight visitors expenditure in Wales, combined with the inbound tourists' expenditure from outside of GB are the total inbound expenditures to Wales.
- In the UK TSA 2013, tourism products are classified as 12 categories, which are according to the standard classification as the 2008 TSA RMF, 12th category, the country-specific goods are other consumption products in UK TSA 2013, it includes "special shopping", personal

transport costs and expenditure on services such as education.

- The ratios of Wales inbound tourism expenditure to UK ones in the UK TSA-table 1 give the estimation of the inbound tourism expenditure in Wales in 12 categories, which is proportional to the 12 UK inbound tourism expenditures as the first round of allocation from the total tourism expenditure to the expenditures in the 12 tourism products categories in Wales.

In the first column, all visitors spending in Wales, the total amount of the expenditure is calculated according to Equation 1, then allocate the total expenditure according to the 2013 UK TSA-table 1, because Wales TSA 2013 shares the same products classifications as the UK TSA 2013, then the difference in Wales is that in those 12 tourism products classifications, the consumptions of the Railway passenger transport services, Water passenger transport services, and Air passenger transport services are very different in Wales compared to UK. In this study, all the businesses with headquarters outside of Wales are defined as non-regionally owned.

- All train operators, including Arriva Trains Wales, Cross Country, Great Western Railway, Virgin Trains are all non-Welsh owned, so the consumption structure has to be adjusted to reflect non-regional provision.
- Similarly, the short-distance waterway transport is assumed as recreation activities, then the Ferry lines, Stenaline, Irish Ferry, Fastnet are either Swedish or Irish owned. There are 2 airports in Wales, Cardiff and Anglesey. In 2013 Cardiff Airport was owned until end-March by a Spanish company then taken into regional government ownership.
- No airline was owned by a Welsh company, the airline between the two Welsh airports was operated by a Czech company in 2013.

All the inbound tourists' expenditure is assumed in relevant non-regionally owned

businesses largely leaves the region, except the payment for the employees working in the region. Therefore there is a second round of adjustment from the first round of the tourism total expenditure allocation,

The expenditures in Railway, Water and Air passenger transport industries remained in Wales are calculated as Equation 2.

$$Expenditure\ Remained\ in\ Wales\ in\ Industry\ A$$
$$= The\ Number\ of\ Employees\ in\ The\ Local\ Unit\ (BSD\ 2013)$$
$$\times\ Weighted\ Median\ Pay\ of\ The\ Tourism\ Industry\ A\ (ASHE\ 2013)$$

Equation 2

$$Weighted\ Annual\ Pay\ (Tourism\text{-}related\ Industry\ A) = \sum_{i=1}^{i=n} \left(\frac{The\ number\ of\ FTE\ in\ subindustry\ i\ of\ tourism\ industry\ A}{The\ number\ of\ FTE\ in\ tourism\ industry\ in\ A} \times Median\ of\ Annual\ Pay\ of\ Subindustry\ i \right)$$

Equation 3

The further adjustment here would be to replace the expenditures in these 3 passenger transport industries into the new estimations from the Equation 2, which are £119m, £22m, £13m respectively for the Railway, Water and Air passenger transport services.

There is a total expenditure decrease in the inbound table because this part of expenditure mostly leaves the region and it is not actually the demand in Wales. Then the expenditure from the day visitors and the overnight visitors for those 3 categories are divided according to Equation 4,

$$Excursionist\ Expenditure\ in\ A$$
$$= Total\ Expenditure\ in\ A \times \frac{Day\ Visitors\ Exenditure}{Overnight\ Visitors\ Expenditure\ + Day\ Visitors\ Expenditure}$$

Equation 4

Then the expenditure of inbound overnight visitors in Wales would be the total expenditure minus the excursionists' expenditure. For example,

$$Excursionists'\ Expenditure\ in\ Railway\ Passenger\ Transport$$
$$= £119m \times \frac{£1113m + £11m + £1105m}{(£913m + £403m + £2580m) + (£1113m + £11m + £1105m)}$$
$$= £43m$$

$$Overnight\ Visitors'\ Expenditure\ in\ Railway\ Passenger\ Transport$$
$$= £119m - £43 = £76m$$

TSA-table 1 is largely estimated based on the official data, only the 3 categories of tourism products (Railway, Water, Air passenger Transport) are indirectly estimated by the employees' salary payment, which is the proxy of the expenditures remain in the region as there is no such direct data available, therefore it is largely green apart from those 3 categories' estimation are in yellow as shown in Appendix IV.

6.6.2 Wales TSA-table 2

The total expenditures on the domestic overnight and excursionists visitors are from the GBTS 2013 and GBDVS 2013, allocated according to the expenditure

information in UK TSA 2013, and further adjusted (for Wales TSA) by the breakdown information provided in GBTS 2013 and GBDVS 2013. For example, the ratio of people coming to Wales travelling with railway to the ratio of people visiting UK travelling with railway, see GBTS 2013 page 80, would indicate how the expenditure ratio in railway could be adjusted from the UK TSA 2013 to Wales TSA 2013, all the other expenditure ratios would be adjusted accordingly. Estimations and adjustments are the same as Equation 5,

$$\begin{aligned} &Ratio\ of\ Wales\ Domestic\ Tourism\ Expenditure\ in\ A \\ &= Ratio\ of\ UK\ Domestic\ Tourism\ Expenditure\ in\ A \\ &\times \frac{\frac{Number\ of\ the\ Wales\ Domestic\ Visits\ use\ A}{Total\ \ Wales\ Domestic\ Visits}}{\frac{Number\ of\ UK\ Domestic\ Visits\ use\ A}{Total\ UK\ Domestic\ Visits}} \end{aligned}$$

Equation 5

$$\begin{aligned} &Wales\ Domestic\ Tourism\ Expenditure\ in\ A \\ &= Adjusted\ Ratio\ of\ Wales\ Domestic\ Tourism\ Expenditure\ in\ A \\ &\times Total\ Wales\ Domestic\ Tourism\ Expenditure \end{aligned}$$

Equation 6

$$Adjusted\ Ratio\ of\ Wales\ Domestic\ Tourism\ Expenditure\ in\ A\ is\ to\ adjust\ all\ such\ 12\ Ratios\ of\ Wales\ Domestic\ Tourism\ Expenditure\ in\ A\ so\ that\ they\ sum\ to 100\%$$

For example, in 2013 there are 122.91 million domestic visits in UK, in which 9.93 million visits were in Wales. 0.75 million visits used Railway transport in 9.93 million Wales visits (7.6%) and 18.09 visits in 122.91 million UK visits (14.7%) used railway as transport. The difference in these ratios can be used as a guide to adjust the expenditure patterns of UK domestic tourists to Wales. The majority of the categories can all be adjusted according to the GBTS 2013 due to the lack of

any information on regional purchasing or relative price levels of these. There is business trips data available in GBTS 2013 page 99, Table 2.4 to adjust the exhibitions & conferences category to a regional total.

Therefore, the rest of the expenditure proportions are all adjusted to new percentages according to GBTS 2013 for overnight visitors, and day visitors for GBDVS 2013 survey. Finally adjust the new percentages again so that all the percentages of the different products categories add to 100%. According to GBTS 2013, tourism expenditure in Wales of Welsh resident is £318 million, multiplied by the final adjusted percentages of each products categories, to give domestic tourism expenditures in 12 categories. Similarly, according to GBDVS 2013, tourism expenditure of day visitors in those 12 categories are calculated from the domestic day visits expenditure at £1,948 million.

The domestic expenditures in TSA-table 2 in those 3 categories are adjusted according to the GBDVS 2013 and GBTS 2013 instead of only the employees' payment remained in the region, this is because for Wales-resident tourists leave a higher proportion of railway, ferry and airway passenger transport output in the region as local residents are more likely to use local ticketing.

UK 2013 TSA-table 2 also estimates the domestic expenditure of UK resident outbound tourists. In the absence of official statistics or coverage in UK tourism/household surveys, the Morgan Stanley Survey of Airport Spend 2005 is used to estimate the domestic expenditure on outbound trips for Wales in 2013 (following UK TSA process). The CAA Passenger Survey Report 2015 provides the number of the Welsh resident passengers use Cardiff Airport annually (a proxy for 2013), and the split of the passengers travel to the rest of the UK and to other countries. The assumption here is that people travel to UK are excursionist, travel to other countries are overnight visitors. Then the domestic expenditure of the Welsh resident's outbound trips between the day visitors and the overnight visitors

can be estimated. The number of the visitor's time the expenditures would be the total domestic expenditure for outbound trips. CPI is applied to adjust the total expenditure by visitors to 2013 (ONS, 2017b).

TSA-table 2 has the yellow cells as they are allocated firstly from the total expenditures of GBTS 2013 and GBDVS 2013, then adjusted according to the visitors' consumption category (Domestic trips), or allocated from the UK-TSA outbound trips information, the ones that are directly available in the survey are in green, all the totals are in green as they are just calculated by adding up the sub-categories.

6.6.3 Wales TSA-table 3

The outbound expenditure of the Welsh resident is combined with 2 parts, the expenditure in rest of the UK and international expenditure, the outbound international expenditure of overnight visitors and excursionists is available in the IPS 2013, the expenditure in the rest of the UK by Welsh resident can be found in the GBDVS 2013 and GBTS 2013 for the excursionist and overnight visitors respectively.

$$\begin{aligned} &Overnight\ Visitors\ Expenditure \\ &= International\ Outbound\ Overnight\ Visitors\ Expenditure\ (IPS\ 2013) \\ &+ Overnight\ Visitors\ to\ The\ Rest\ of\ UK\ Expenditure\ (UKTS\ 2013) \end{aligned}$$

Equation 7

$$\begin{aligned} &Expenditure\ of\ Wales\ International\ Outbound\ Excursionists \\ &= Expenditure\ of\ Wales\ International\ Outbound\ Overnight\ Visitors\ (IPS\ 2013) \\ &\times \frac{Expenditure\ of\ UK\ Outbound\ Excursionists\ (UK\ TSA\ 2013)}{Expenditure\ of\ UK\ Outbound\ Overnight\ Visitors\ (\ UK\ TSA\ 2013)} \end{aligned}$$

Equation 8

$$Excursionists\ Expenditure$$
$$= Expenditure\ of\ Wales\ International\ Outbound\ Excursionists\ (IPS\ 2013)$$
$$+ Experience\ of\ Day\ Visitors\ to\ The\ Rest\ of\ UK\ Expenditure\ (UKDVS\ 2013)$$

Equation 9

Then allocate the overnight outbound expenditure proportionally according to the UK TSA-table 2 and 3 for the outbound overnight visitors, because about 47% of the expenditure is from Welsh residents as the international outbound tourists, and 53% of the expenditure is the Welsh residents take holiday outside of Wales but in the UK according to IPS 2013, GBTS 2013 and GBDVS 2013,

$$Outbound\ overnight\ expenditure\ in\ A$$
$$= 0.47 \times international\ overnight\ expenditure\ share\ in\ A\ (UK\ TSA - table\ 3) + 0.53 \times domestic\ overnight\ expenditure\ share\ in\ A\ (UK\ TSA - table\ 2)$$

Equation 10

The difference in the Wales TSA-table 3 is that the outbound excursionists are mostly those visit the rest of the UK instead of other countries, so the expenditure allocation follows the UK TSA-table 2 shares, UK domestic excursionist expenditure, instead of the international excursionist expenditures in UK TSA-table 3.

Note that the estimation of TSA-table 3, covering non-reference economy spend, has no influence on the level of regional tourism ratios, GVA or dependent employment. TSA-table 3 are all in green in Appendix IV because the total

expenditures are available in the surveys, the allocation is according to UK TSA-table 3.

6.6.4 Wales TSA-table 4

Wales TSA-table 4 summarizes internal tourism expenditure, which is combined from inbound tourism expenditure in TSA-table 1 and domestic tourism expenditure from TSA-table 2, with the following categories of other tourism consumption goods as shown in 2008 TSA RMF, para. 4.41 (UNWTO, 2008).

Services associated with vacation accommodation on own account

This item includes all imputed accommodation services of

- Accommodation on own account
- All other types of vacation home ownership
- Expenditure related to their acquisition that is not capitalized as part of the investment. For instance, charges for time share exchanges;

Tourism social transfers in kind (except refunds)

This includes non-market services provided by governments and non-profit institutions serving households that benefit visitors and exceed the values paid by the visitors themselves:

- Costs of museums
- Performing arts
- Short term education
- Health services provided short term in special establishments, etc.;

Other imputed consumption

This item includes all other imputed items, including services benefiting visitors for which they do not pay, such as costs of vacation residences or camps provided by producers for the benefit of their employees.

Using information from the 2011 Census, plus UK SUT, imputed rental for

households is £160,487m, among those homes, 2.8% are second addresses, among which 11% of them are holiday homes. The proportion of the total second homes in Wales are then calculated according to the 2011 census England and local authorities' data, multiplied by the total imputed rental of the second homes as holiday homes, to then estimate the 'other' components of tourism consumption in Accommodation services for visitors (£160m).

The Other components of tourism consumption also includes the social transfers in kind and other imputed consumption, in Wales it is mainly the cost of museums, the museums in Wales are largely subsidised by the government so that they can offer free entry, the data available is the operational cost of the total national museum costs from the confidential data resource, which is about £7 million in total.

The Other consumption products expenditure in the Other components of tourism consumption is calculated as following,

$$Wales\ Other\ Components\ of\ Tourism\ Consumption\ in\ Other\ Consumption\ Products$$
$$= Wales\ Internal\ Tourism\ Consumption\ in\ Other\ Consumption\ Products$$
$$\times \frac{UK\ Other\ Components\ of\ Tourism\ Consumption\ in\ Other\ Consumption\ Products}{UK\ Internal\ Tourism\ Consumption\ in\ Other\ Consumption\ Products}$$

Equation 11

Note that the subsidy of some services – specifically railways and museums – has implications for the calculation of accurate tourism product ratios from TSA-table 6. This is discussed further in Chapter 7.

TSA-table 4 has most of the cells in green because they are the summary of the other tables, while the 2 estimations, the Other components of tourism consumption is estimated on the official data, but there are proxies involved. Other consumption of tourism consumption in Cultural activities is available in a

National Museum documents, but it is merely indicative and most probably downward biased.

6.6.5 Wales TSA-table 5

In TSA-table 5, all the cells show the production accounts of the tourism industries and other industries. Estimation between national and regional TSAs can be achieved using two procedures, regionalizing national data (top down method) or by means of direct regional statistical information (bottom up) (Jones et al., 2003, Jones et al., 2009). The total national accounts of the tourism businesses and other related businesses in UK are from the BSD, the introduction and the data origin of the BSD are shown in Appendix VIII.

As stated in the introduction of the BSD, the size and the structure of this dataset makes it is the most appropriate datasets to extract the data needed for the Wales TSA 2013 with the supply ownership distinguished given the data availability. The ABS 2013 and Fame (ONS, 2017a, FAME, 2017) are 2 other databases where additional information and adjustment needed. Appendix IX is the introduction of these 2 databases. Museums' operations are included in TSA-table 5 instead of table 9 is because museums were not free to enter in Wales in the past, then the government subsidized some of them to offer free entry, it is very difficult to split this sector between market and non-market, which could be a point of future research.

In the TSA for Wales 2013, TSA-table 5 and TSA-table 7 are the tables to measure the economic impact of the tourism FDI on GVA and employment factors for regional economic development. The key difference between TSA estimated here and other TSAs (regional and national) is that the reference-economy owned businesses and those present in the economy are distinguished but with a head office outside of TSA reference economy. The total turnover and number of

employees data is extracted from the BSD for the accredited researcher of ONS with restricted secure access.

In the BSD, the data are divided into 'enterprises' and 'local units'. An enterprise is the overall business organization. A local unit is a 'plant', such as a factory, shop, branch, etc. In some cases, an enterprise will only have one local unit, and in other cases (such as a bank or supermarket), an enterprise will own many local units. The businesses listed on the BSD accounted for almost 99% of economic activity in the UK. Only very small businesses, such as the self-employed are not found on the BSD.

Therefore, the total turnover and the number of employees in Wales are extracted in 2 forms, one is for local units according to SICs 2007 into 11 categories, and another is for the enterprises' units according to SICs 2007. All the businesses with headquarters in Wales are assumed to be all Welsh-owned business, the total employment and turnover for all the local units would be the total businesses operated in Wales.

The total turnover by tourism enterprises in Wales would be the locally owned businesses, the total turnover in the specified tourism industry categories local unit deducted by tourism enterprises would be the output of the non-regionally owned businesses. One of the main aims of this research is to distinguish and compare how the two types of ownership would contribute to the regional economic development differently in terms of GVA, productivity and employment.

The procedures of data extraction and estimation are as follows. The data is firstly selected by the district codes, and there are 22 districts and district codes in BSD in Wales, as attached in Appendix VII. Then the SIC 2007 5 digits codes group are used to extract and classify the tourism-related businesses into 11 groups with 11 turnover numbers and 11 numbers of employees for enterprise units in Wales, 12^{th} category, Other Consumption Products, are not extracted as the exact SICs

included in this category in UK TSA 2013 is not clear. The turnover data is not collected for the local units, however, the total number of employees in each tourism characteristic industries group in Wales are collected, therefore the total turnover of local units could be estimated accordingly to the average turnover per employee, adjusted by the productivity difference between the regionally owned and non-regionally owned businesses in this industry from FAME and BSD data, Table 13 shows the productivity difference for each of the 11 tourism specific industries,

Table 13 Productivity difference between regionally-owned and non-regionally owned tourism businesses

Products	UK turnover(£)/ employee	Wales turnover(£) /employee	Productivity Difference
Accommodation services for visitors etc	71,776	52,608	1.364
Food and beverage serving activities	50,670	44,915	1.128
Railway passenger transport services	139,384	130,282	1.070
Road passenger transport services	118,372	42,871	2.761
Water passenger transport services	136,181	47,099*	2.891
Air passenger transport services	306,961	216,939*	1.415
Transport equipment rental services	434,620	138,896*	3.129
Travel agencies & other reservation services	388,872	281,523	1.381
Cultural activities	118,699	46,749	2.539
Sport and recreation activities	103,368	46,960*	2.201
Exhibitions & Conferences	150,538	43,301	3.477

*Data with * is from BSD, the rest of the productivity data is from FAME.*

Productivity Difference is calculated by UK turnover/employee divided by the Wales turnover/employee, UK and Wales's productivity differences are calculated according to the total businesses in the UK and businesses headquartered in Wales.

These 2 productivity difference will be used as indicators of the productivity difference between non-regional and regional businesses.

Average turnover per employee in regional firms could be calculated from the BSD data, adjust the average turnover in the following way, Local Units (LU) stands for all the companies in Wales, Enterprise Unit (EU) stands for regionally owned companies in Wales,

$$Total\ Turnover\ of\ LU\ = Total\ Turnover\ of\ EU + \frac{Total\ Turnover\ of\ EU}{Number\ of\ Employees\ in\ EU} \times (Number\ of\ Employees\ in\ LU - Number\ of\ Employees\ in\ EU) \times Productivity\ difference$$

Equation 12

The estimation of the total turnover of the different products category is as following, regionally owned companies total turnover and number of employees in 11 SIC 2007 categories can be extracted from BSD by district code and SICs 2007 in the Enterprise dataset 2013. The total number of employees could be extracted by district codes (Appendix VII) and SICs 2007 from the BSD Local Unit dataset 2013, then the total turnover for each tourism products/industries categories of total businesses and therefore regionally-owned companies can be calculated accordingly as Equation 12. Then UK TSA 2013 provides the production function of each of the 12 tourism characteristic industries to allocate the total turnovers across the 11 tourism products/industries categories proportionally.

Although the non-regionally owned businesses might behave differently from the regionally owned businesses, businesses in Wales which are headquartered outside of Wales, either in UK or other countries, are assumed to be operated in the same manner as those in the rest of UK, as Wales is a small open economy compared to the rest of the UK, the non-regionally owned businesses in Wales would be the same as their foreign counterparts in terms of operation, supply chains. So the total turnover of the regionally/non-regionally owned tourism businesses is proportionally distributed across the 11 tourism products/industries by the same production function as in the UK TSA 2013. Therefore, homogeneity is assumed for the production function between the regionally and non-regionally owned businesses. The 12th category, other consumption goods' supply is calculated from

the ratios of total tourism products from the 11 tourism specific products to the 12th category in UK TSA 2013.

Note that this assumption of homogeneity between regional and UK-wide operations will be problematic if tourism firms allocate different functions to different regions. However, in the critical cases – hotels, accommodation, railways etc. these firms are serving markets across the UK in similar ways, unlike manufacturing firms where production is very place-specific, and the homogeneity assumption is prior reasonable. This issue is returned to in later discussion.

An important issue in this study is how to identify the behavioural difference between the regionally owned businesses from the non-regionally owned ones. Surveys, as the 3 forms are attached in Appendix V, were distributed across the majority of the tourism-related businesses in Wales, including all the accommodation places, restaurants, tourists' attractions. Interviews, as the general interview question form attached in Appendix V, are conducted with the hotels, bed &breakfast, tourist attractions, museums, restaurant and adventure businesses in Wales (see section 6.4).

In TSA-table 5, estimation in Railway, Meetings and Conferences are in yellow because there is statistical confusion in the BSD data, then the FAME data, either number of employees or total assets are used to estimate indirectly. Other Industries' estimation in red is because there is no direct official data available (no SICs to draw data) and they are estimated based on the TSA-table 5 by ratios purely. The rest of the cells are in green in Appendix IV as they are drawn from the BSD data, allocated and estimated according to the UK TSA-table 5 and FAME data.

6.6.6 Wales TSA-table 6

Wales TSA-table 6 confronts and reconciles supply of tourism products and internal tourism consumption in matching prices. It derives from TSA-table 4 and

TSA-table 5. The first columns (Output of domestic producers) is from TSA-table 5. The next column, information on imports by product was derived from the various sources detailed below. In this context, 'imports' would be non-Welsh productions so both imports from outside of UK and the imports to Wales from rest UK are included. However, most tourism commodities are services so cannot typically be imported at point of use so these are a minor part of tourism supply. Total imports of products and services in Wales are estimated on the HM Revenue & Customs website (Rest of world imports Wales 2013) (HM Revenue & Customs, 2013)and Wales TSA 2007,

$$\begin{aligned} &Imports\ in\ Wales\ 2013 \\ &= Rest\ of\ World\ Import 2013 \\ &\quad + \frac{Rest\ of\ UK\ Imports\ in\ 2007}{Rest\ of\ World\ Imports\ in\ 2007} \\ &\quad \times Rest\ of\ the\ World\ Imports\ 2013 \end{aligned}$$

Equation 13

Total estimated number of imports are then allocated to the products according to the 2013 UK TSA-table 6.

The third element of TSA-table 6, Taxes less subsidies on products nationally produced and imported estimated imports plus taxes less subsidies is calculated as following,

$$\begin{aligned} &Taxes\ Less\ Subsidies\ on\ Products\ Wales\ 2013 \\ &\quad = Domestic\ Supply\ Plus\ Imports\ Wales\ 2013 \\ &\quad \times \frac{Taxes\ Less\ Subsidies\ on\ Products\ UK\ 2013}{Domestic\ Supply\ Plus\ Imports\ UK\ 2013} \end{aligned}$$

Equation 14

Railway and Museum are subsidised to a larger percentage in Wales (Gordon, 2014,

RailUKforum, 2013), as the government transfer from the UK and the Welsh Government to subsidize the Museums to a large extent so they can offer free entry (Gordon, 2014). Then the next columns in TSA-table 6 are Domestic Supply at purchaser prices (the sum of the previous 3 columns), Internal Tourism Consumption (TSA-table 4), and Tourism Ratios (Internal Tourism Consumption divided by the Domestic Supply of the Tourism products).

The column headed "imports" represents supply within the domestic economy of imported goods and services, including transport services provided by non-resident and insurances bought online from the non-regional insurers. The column of the value of taxes less subsidies on products, concerning domestic output and imports.

Tourism ratio estimated in TSA table 6 represents the extent to which the industry or the product is tourism dependent, the ratio is the percentage of products purchased by the tourists. It enables the policy makers to see which industries are most affected by changes on tourists' consumption. Industries including retail and wholesale are important industries in terms of tourists' expenditure, and they would not be classified as tourism-related due to their extremely large sizes.

TSA-table 6 are largely in green as they are either from the other TSA-tables or official data directly, the Taxes less subsidies are mostly in yellow because the subsidies are different in Wales compared to UK in related industries apart from the Railway and Cultural activities are in green because they are from the official data, the rest of the cells in yellow are estimated according to relevant ratio in UK TSA-table 6.

6.6.7 Wales TSA-table 7

Wales TSA-table 7 displays the number of jobs created by tourism characteristic industries and other related industries. Seasonality, high volatility of the tourism

working conditions, and lack of formality of many work contracts in small and micro businesses are major challenges of deriving meaningful tourism industries employment figures.

Number of Local Unit as the first column of the TSA-table 7, the data is from BSD as the number of the local units, which makes the calculation for the average jobs classified by sex and status of employment for tourism industries possible.

Employment data are extracted from Nomis according to the location (Wales), and SICs 2007. The first block of the employment data in TSA-table 7 is the number of jobs by status in Employment according to a simplified status in employment classification (Employees, Self Employed) as two sub-columns. There are 3 divisions of sub-columns, Male, Female and Total. The number of employees is divided by the gender information from the Annual Population Survey (APS) 2013, APS provides the gender information of employees in a broad category of tourism industry. The number of self-employed is divided by gender according to the gender ratio of employees and self-employed in UK TSA table-7 as following,

$$\begin{aligned} &The\ Number\ of\ \ Self\ Employed\ in\ Gender\ A\ in\ Wales \\ &= The\ Number\ of\ Employees\ in\ Gender\ A\ in\ Wales \\ &\times \frac{The\ Number\ of\ Self\ Employed\ in\ Gender\ A\ in\ UK}{The\ Number\ of\ Employees\ in\ Gender\ A\ in\ UK} \end{aligned}$$

Equation 15

Then total self-employed number would be a sum of the self-employed in both genders.

The second column block is employee in part time and full time two column categories. The intensity of the labour force used is expressed in terms of the number of jobs and hours worked and full-time equivalent to wipe out the part-time jobs (2 part-time job is equivalent to 1 full-time job) to make the measurement comparable. Then applying the corresponding tourism ratios to these tourism

products categories and estimate the employment data for each industry and summing these results. When this kind of measurement is applied, the assumption is the production function of each product consumed by visitors are all the same as the output of this industry. Tourism Direct Employment and Tourism Direct FTEs are calculated from the total employment and FTEs multiplied by the tourism ratios, which are from the TSA-table 6.

TSA-table 7 has the Employees by gender and Self Employed by gender are in yellow in Appendix IV because they are estimated from the broad industries category from APS 2013, there is no direct information available.

6.6.8 Wales TSA-table 7 extended

Wales TSA-table 7 extended separated the total employment into regional and non-regional, which is based on the domestic and foreign output ratio in the same industry information from TSA-table 5. However, as shown in Table 14, the foreign businesses tend to be more productive, so adjust the ratios of the employment between foreign and domestic by considering both the productivity difference and the actual output difference. The detailed employment data by SICs is only available in BSD and Nomis, employment data is available in ABS and APS but in very broad categories. Nomis does not include the domestic/foreign ownership information, therefore BSD is still the most appropriate database for estimation, although the productivity difference was for turnover/employee, it is still a good proxy of output/FTE to estimate the number of foreign FTEs estimation, as shown in Equation 16,

$$Foreign\ FTEs = Total\ FTEs \times \frac{Foreign\ Output}{Total\ Output \times\ Productivity\ Difference}$$

Equation 16

Then the FTEs employed by the regionally owned businesses will be the total FTEs deducted by the FTEs employed by the non-regionally owned businesses. The TSA-table 7 extended also includes the GVA/FTE and output/FTE of each industry to compare the productivity difference in different industries, GVA and output for both the regional and non-regional are from TSA-table 5.

The measurement here is only limited to the tourism characterized industries as the FTEs in the Other Consumption products is not available. Not all volume of employment found in a given industry relies on tourism consumption and there is employment in non-tourism industries that partly depend on tourism consumption. The measurement of the employment refers to the restrictive quantification according to the statistical meaning and coverage.

TSA-table 7 extended has the regional and non-regional FTEs in yellow as they are indirectly estimated based on the TSA-table 5 and FAME/BSD data. The rest of the cells are in green as they are most directly drawn from Nomis.

6.7 Statistical and methodological limitations

This section summarizes the estimation issues along the TSA-tables building process, includes important definitions, statistical,methodological and conceptual limitations to estimate the tourism statistics for TSA construction.

6.7.1 Demand side estimation

Demand estimation of the tourism consumption is the estimation of the amount of the domestic products is purchased from the expenditure by tourists because part of the expenditure accounts for tax or imports, only the remainder comprises regional economic demand, inducing a new circulation of production and consumption. In the process of demand estimation, the total expenditure by product/industry and tourist type are estimated.

One of the most important limitations is the published data, the surveys, the tourism expenditure categories are not consistent with the tourism products categories in TSA. The disaggregation of those broader categories in the surveys involves the use of proxy data as appropriate. The more difficult issue is to estimate the tourists' demand in industries that are not directly related to tourists and hence is not revealed in tourism surveys: in the case of the TSA such issues are addressed with the presentation of a supply-demand reconciliation for all 'non-tourism' products, but it may be that some errors exist here. Such issues are revealed further should the TSA be developed into a full Input-Output model, where expenditure and supply must be disaggregated across all industries (Jones et al., 2009).

Information from the other data sources which report on purchases of individual products was used to disaggregate information from the GBTS 2013. Information about the ratio of visitors coming to Wales to the visitors coming to UK was the main source to adjust, reallocate, and disaggregate total expenditures of each category. Clearly, the quality of the original datasets in constructing TSA is critical: no nuanced and careful adjustment that converts the data to TSA framework can make up for poor original estimates.

6.7.2 Second homes

The issue related to second home is the housing services provided by second homes on own account or free of charge. The difficulty within the national accounts is the use of the supply of the products involves consumption of the products but the payment is often not directly related with the duration or the frequency of the trips, and the cost of such products only have a distant relationship with the actual level of use. Homes might be rented out and result in an economic transaction, use by different members of the household free of charge constitutes a within-family economic value transfer which is very difficult to

identify in national accounting frameworks. Similar properties in the rental market would give an indication to estimate the economic value of such services, or the level of the mortgage plus associated maintenance if the rental data information is not available. So the treatment of the second homes is not internationally comparable as the importance of services vary enormously between countries/regions (Jones et al., 2004, UNWTO, 2008).

6.7.3 Services for tourists and residents

It is still impossible to analyze the relative importance of tourism subsectors given the most disaggregated UK national Input-Output sector. Lack of the differentiation between the recreation activities aimed at tourists or residents is another issue in constructing the TSA from the established Input-Output (Jones et al., 2003).

A proportion of the tourism specific products is still consumed by the "resident", one of the major intentions in improving the accuracy of the tourism statistics is to exclude the expenditures by the resident which may be just the "routine" of the residents' life.

6.7.4 Variation in the definition of tourists

To construct the TSA, the basic statistics are collected by surveys only covering the 'traditional' tourists, UNWTO defines visitors as "IRTS 2008, para 2.9: A visitor is a traveler taking a trip to a main destination outside his/her usual environment, for less than a year, for any main purpose (business, leisure or other personal purpose) other than to be employed by a resident entity in the country or place visited. These trips taken by visitors qualify as tourism trips. Tourism refers to the activity of visitors."

The "touristic" nature of day visits depend on a few factors, including the length

of the trips from home in terms of time or distance, the frequencies in visiting the destinations, and the crossing of regional or administrative boundaries. TSAs are often not comparable between countries mainly because of the interpretations and treatment of day visits in TSA structure could be differing to a large extent, particularly with the TSAs constructed with the 'bottom up' approach.

The definition "outside of the usual environment" is easy to understand for overnight visitors, but it is more important for day visitors, who could be either leisure visitors and not included in TSA or tourist and the expenditures are included in TSA depends on whether the trip is made outside or within their usual environment.

6.7.5 Gross Value Added

In the way that TSA is constructed, a number of assumptions are used to relate particular inputs to the output of production processes of industries, therefore the results are not directly observed and reconciled with the statistical data, it has a modelled component. The reason for this is because value added is strictly associated with the production process and cannot be assigned among the outputs of the process.

The value added of tourism industries is derived from TSA-table 5, compared to the tourism consumption estimation, TSA-table 5 relates the value added produced from the 'tourism characteristic' products within the reference economy. There are several indicators relating to tourism economy which are only available where TSA-table 6 has been fully estimated. The single most important of these is tourism value added, which is defined as the value added generated by the internal tourism consumption.

Tourism direct GVA and tourism direct GDP theoretically should be independent of the possibility of identifying tourism industries and the details used to calculate

the tourism direct GVA and tourism direct GDP, however, GVA is difficult to observe from the production process, and has to be estimated by industries that produce this product. The accuracy of the measurement strictly depends on how precisely the assumptions are made.

By applying tourism product ratios to tourism industry value added (and employment) that the products tourists buy are 'typical' of those (possibly multi-product) industries in their value added (or labour-intensity) characteristics. This may clearly not be true.

6.7.6 Employment

It has been very difficult to estimate the tourism-dependent employment because of the measurements on the self-employment, owners' labour by industry and the information on the part-time or full-time employment are very difficult. The construction of the TSA-table 7 enables the measurement of the tourism-dependent employment. The precondition is that it is assumed the labour intensity is the same across both the tourism and non-tourism-related output of the industry while it is usually not the case.

The micro-businesses are very common in tourism activities, these are difficult to be recorded in Surveys. In addition, the high seasonality and volatility of the hours worked for the employees in tourism industries make the estimating of average part time hours more difficult.

6.7.7 Business tourism

The final demand made by business visitors or the supply of business tourism products including trade fairs and conferences are two components of the business tourism. One important limitation of distinguishing the business tourism is that IPS and GBDVS/GBTS include expenditures of the business tourists, which is

treated as the demand side of the tourism products/services of TSA, while some of the supply side data such as trade fairs is not available, meetings and conferences supply side data is available as the 11th tourism characteristic products in TSA-table 5.

The business tourism issue is regarding the expenditure made by either the company or employees directly, whether those purchases could be treated as final consumption of the intermediate consumption. Businesses' expenditure on behalf of the employees who travel is included in the TSA consumption (McNicoll, 2004). UK Meetings Satellite Account has been developed as a solution of business to business conference spending (Jones and Li, 2015).

6.7.8 Informal tourism

The "informal" economy, which includes the unrecorded labour use (cash-in-hand or family members' unpaid efforts), are often largely illegal and difficult to estimate. SNAs provide no estimates of such economy. TSA follows the established international guideline and SNA definitions, no attempt has been made in the UK TSA to estimate the scale of such activity. Although tourism featuring the small-scale production, which involves large casual and seasonal labour and it might be important to consider such economy (Jones et al., 2004).

Emerging companies such as Airbnb, which is recently established but it has expanded extremely fast and is selling many millions of room nights annually now, however, many Airbnb rentals are illegal due to short-term rental regulations (Guttentag, 2015). The legal issue and tax concerns require regulatory flux and possible resolutions and it is increasingly important that SNAs and TSAs can somehow estimate those informal activities.

6.8 Conclusions

SNA alone is not adequate for the TSA construction, numerous databases and methodological processes underpin the TSA. The estimation of the Wales TSA 2013 from UK TSA 2013 is largely a process of disaggregating, distributing, and adjusting by the available surveys, databases, and earlier version of Wales TSA by targeted disaggregation of existing vectors and reporting activities separated from other activities.

Data available is often not enough for a complete and robust allocation of appropriate cells. The process of adjustment and allocation based upon published statistics other than the national statistics, for example where travel mode information in GBTS gives inference about the expenditure of the visitors in Wales as compared to the UK. The accuracy and reliability of the tables vary due to data quality, timeliness and suitable disaggregation.

The details of the estimation and the discussions for individual vectors and cells are also explained in Appendix III, a selection of special cases and issues are specifically and separately addressed to deal with conceptual and data problems. The general formulas and sources of estimation are all summarized in Chapter 6, including the limitations of those estimations.

Chapter 7 Results of the refined Tourism Satellite Account

7.1 Introduction

Wales TSA 2013 is constructed to reveal the contribution of FDI and other developmentally important factors in tourism industries in Wales. This chapter reports the main results of Wales 2013 TSA-table 1 to 7. The comparison of the tourism ratios between Wales and UK provides a better understanding of the difference between nature of different tourism industries in Wales and UK. The statistics on the different tourism products/industries in Wales provides a better understanding of the output and employment of all the tourism industries. The gender ratios of employees in tourism industries show more evidence of the gender equality effects by promoting tourism industries as it is one of the important aspects of the sustainable development.

The information of output, employment and productivity differences based on different ownership shows that the non-regionally owned tourism businesses contribute more to GVA and productivity, although they may (relatedly) employ fewer people. The detailed information with regarding the differences between those two ownerships from the Wales TSA 2013 are explicitly explained and compared in this Chapter.

7.2 General results of Wales TSA 2013

7.2.1 The contribution of inbound visitors in Wales

UNWTO statistic shows that the total international tourist arrivals are increasing by 3.3% a year between 2010-2030 to reach 1.8 billion by the end of this period (UNWTO, 2011a). UK accounted for 2.9% of the total international arrivals in 2015, it represents a 5% increase in the volume of the overseas visitors from 2014. Overall, statistic shows tourism industry in UK has an alluring prospect. However, in all the total international arrivals, London accounts for 54% of all inbound visitor spend, the rest of England 34%, Scotland 8% and Wales 2% (Visit Britain, 2016). Wales has 9% of UK land-mass, 4.4% workforce, 3.3% UK total GVA in 2015 (Jones and Bryan, 2000, ONS, 2017c, Statswales, 2017b), compared to the land-mass, workforce, GDP in Wales, international inbound tourists spend in Wales maybe smaller than it could be although tourism is important in Wales (Welsh Government, 2013e).

In 2015, the 3 top international arrival markets in terms of the number of visits to the UK were France, USA and Germany, which accounts for 30% of the total international visits in UK. The top 3 markets in terms of visitor expenditure were still the same markets with a different order (USA, France and Germany), accounting for 27% of all international visitor expenditure in the UK (VisitBritain, 2016). USA is the biggest international visitor spend market in the UK. One popular reason for visiting Wales is genealogy, especially in North America, with many visitors coming to Wales to explore their family and ancestral roots. It has been estimated that 1.8 million United States citizens have Welsh ancestral roots (Internet Archive Census, 2007). Five out of the first six Presidents of the USA were of Welsh descent and the country has had no fewer than ten Welsh-connected

Presidents in all, including former presidents, Abraham Lincoln and Thomas Jefferson (Carradice, 2010).

Figure 1 The number and the percentage of international visitors in Wales in 2013

(Source, IPS 2013)

Attracting international visit arrivals could be targeted more specifically, such as genealogy visit to Wales from the USA market. As shown in Figure 2, the majority international visitors in Wales is still from Europe, then the second largest group of visitors is the North America countries, mainly from USA. The earlier FDI study also shows that in 1981 USA companies owned 77 of 144 foreign enterprises in Wales (Munday, 2000). The causal relationship of FDI and tourism was investigated in China by employing the Granger causality test under a VAR framework (Tang et al., 2007, Zapata and Rambaldi, 1997). The one-directional causality from FDI to tourism is identified, which explains the rapid growth of tourism industry in China in the past few years. There might thus be links between USA as the biggest tourism spender and FDI investor in Wales (VisitBritain, 2016, Munday, 2000).

Literature also confirms that FDI is influenced by the earlier trade relations, geographical and cultural proximity to the host countries (Culpan and Akcaoglu, 2003). Cultural and language similarities between host country and home country of the multinational companies are easier to facilitate the process of planning, development, managing tourism facilities abroad (Go and Ritchie, 1990). A study of Turkish companies invest in the Central Asia countries, including Kyrgyzstan, Kazakhstan, Uzbekistan, Turkmenistan, shows that tourism specific investment in the Central Asia countries shares three advantages, ownership advantages, location advantages and internationalization advantages. Location advantages depend on the host country's economic characteristics, analysed economically, socially, culturally and politically. Social and cultural factors consist of the psychic distance, which implies the geographical, cultural, political and linguistical closeness between the home and host country (Kantarci, 2007). In the context of the Turkish firms, the possession of both the capital, skilled human resources, strategic leadership, domestic and overseas experiences, combined with the geographic and cultural proximity to the Central Asia counties provide Turkish tourism firms the advantages to be outstanding over other competing companies, both in terms of the general FDI and the tourism specific investment between 1980 and 2005 (Culpan and Akcaoglu, 2003, Kantarci, 2007). In the context of Wales, the reason that USA as the major FDI investor in Wales may because that USA has similar advantages in terms of the cultural, social, geographical, political, linguistically, psychic closeness and proximity to Wales as the same advantages of Turkey to Central Asia countries.

Wales as the reference region, the visitors from outside of Wales are shown in Table 14, which is calculated from the Welsh Tourism Economy Survey 2016 undertaken on the BOS for this study. There were about 2000 tourism-related businesses including accommodation places (hotels, B&B, guest house, camping

sites, caravan park), restaurants, tourist interest places (museums, heritage sites, theme parks, tour operator, events venue). The responded surveys spread equally among the businesses survey population and geographical locations (Table 10). The total number of the surveys and interviews completed with valid data (some are unable to answer this question) is 104, among which an average 60% of the customers in the Welsh tourism-related businesses are from outside of Wales, 40% of the customers are considered local/from Wales.

Table 14 Customer origins of tourism businesses in Wales

Customer Origin	Percentage
Wales	40
Outside of Wales	60

Source, Welsh Tourism Economy Survey, 2016

Table 15 The number of businesses and the percentage of customers from outside of Wales in the Survey

Customers form outside of Wales	*Number of Businesses in the Sample*
0%-20%	*17*
21%-50%	*21*
51%-90%	*37*
91%-100%	*29*

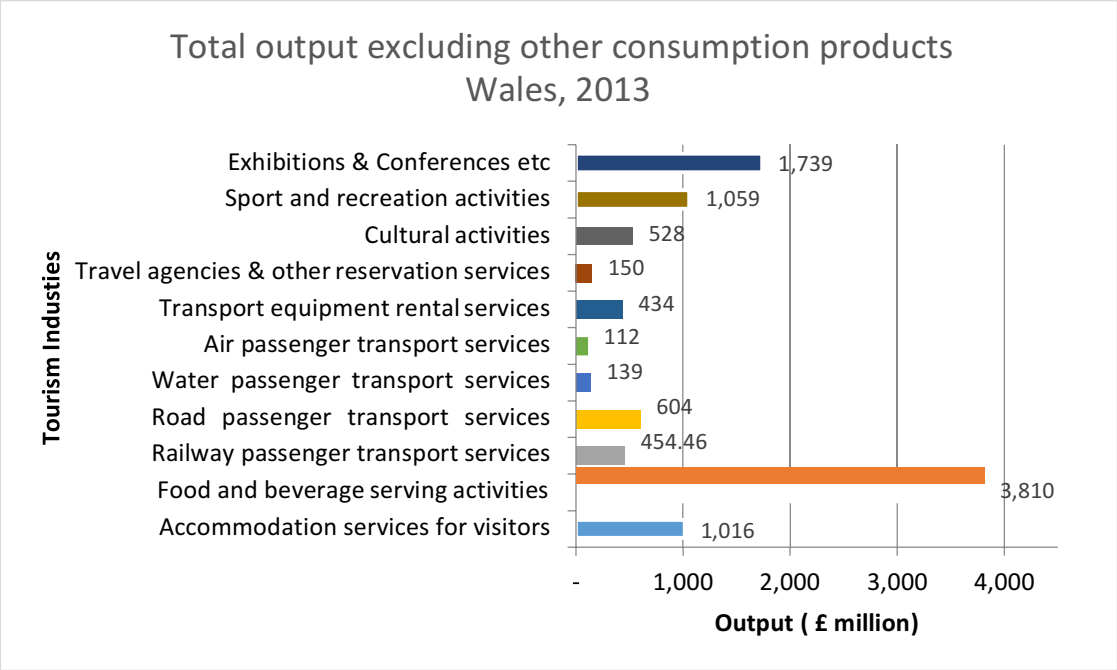
Source, Welsh Tourism Economy Research Survey, 2016

As in Table 15, there are more details about the number of businesses that have a range of percentages of customers from outside of Wales, most of the businesses have more customers from outside of Wales, 37 (29) out of 104 businesses in the sample have 50%-89% (90%-100%) customers from outside of Wales. Especially the cohort of 90%-100% is the 10% quantile that has the most number of businesses in, which shows that a large proportion of the tourism-related businesses highly depend on the visitors from outside of Wales.

7.2.2 Tourism-related products/services in Wales TSA 2013

Output

Figure 2 Total tourism output of 11 tourism specialized industries in Wales in 2013



Source, 2013 Wales TSA-table 5

As in Figure 2, the Food and beverage serving activities, Conferences & Exhibitions, and Sport and recreation activities take up 38%, 17% and 11% of the total tourism specialized products output. As a result, among the total output of the 11 tourism specialized products, 48% of total tourism products is supplied by the regional businesses, 52% is supplied by the non-regional businesses, which is less 'foreign' when compared with 53% non-regional supply ratio when the Other consumption products are included, as shown in Table 16,

Table 16 The percentages of tourism products supplied by non-regionally owned businesses in different industries

Tourism Products	Supply percentage of the non-regionally owned businesses
Total 11 Tourism-specialized Industries	52%
Other Consumption Products (12th Tourism Products/Industries Category)	53%
Total Tourism Products (All 12 Industries Category Included)	53%

Source, Calculated from 2013 Wales TSA-table 5

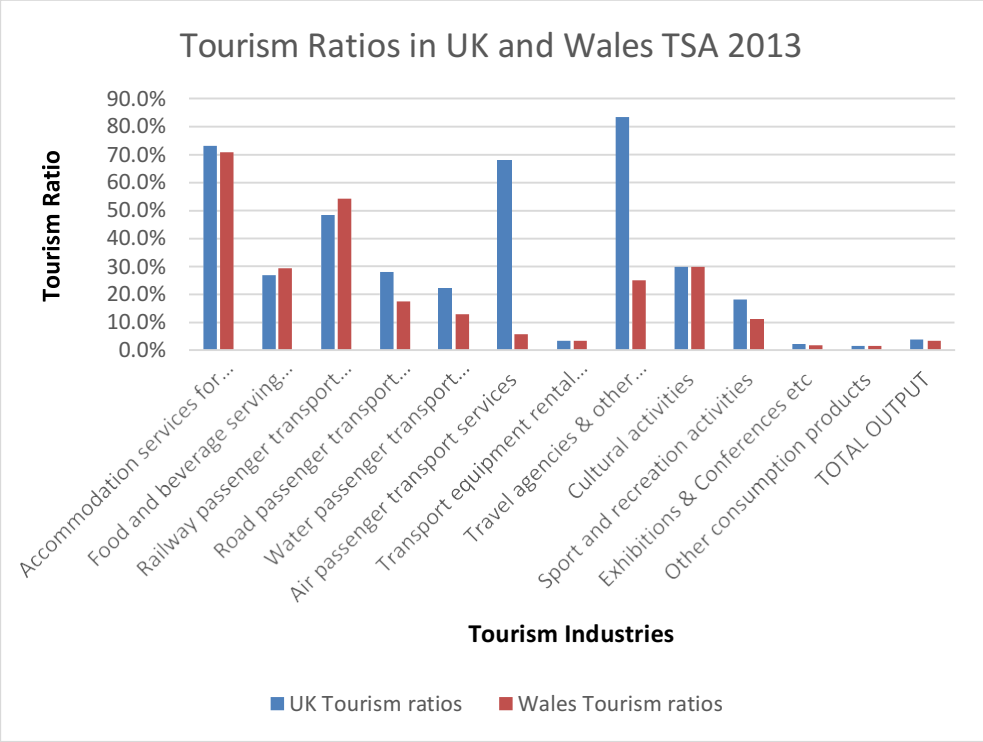
The reason is that firstly the tourism specialized industries tend to be small scale and easy to start-up, especially with food and beverage businesses, therefore the Other Consumption Products industries tend to have more 'non-regional' ownership and investment. Secondly, Other Consumption Products category actually supply the majority of the tourism products in total, therefore although industries such as Railway, Water and Airway passenger transport services are dominated by foreign suppliers, they only account for 3%, 5%, 6% of the total output even without Other Consumption Products included. Therefore, when the Other Consumption Products is included as the 12th tourism industries category, the percentage of the tourism products supplied by the foreign-owned businesses is higher (increased from 52% to 53%), shown in Table 16.

Tourism ratios

In Wales TSA-table 6, 'tourism dependence' of each tourism characterized industries is shown. Tourism characterized industries are highly dependent on tourists' expenditure. For example around 70.8% of the hotel sector was tourism-dependent. The percentage of the hotels that are not 'tourism dependence' would be for wedding facilities, function rooms and licensed premises. 'Tourism-

dependency' employment can be deducted by tourism ratio in Accommodation in Wales as the total tourism ratios are lower in Wales TSA 2013.

Figure 3 Comparison of the tourism ratios between the UK and Wales TSA 2013



Source, 2013 Wales TSA-table 6

In Wales TSA-table 6, tourism ratio is the internal tourism consumption (from TSA-table 4) divided by the total products/services supply in Wales (TSA-table 5), as shown in Figure 3, the tourism ratios from the UK TSA 2013 and Wales TSA 2013 are compared, the industries categories that share very different tourism ratios with UK are the Air passenger transport services, Sports and recreation activities, Travel agencies & other reservation services. Tourism ratios represent how 'tourists-dependent' of the industries are, it means how much percentages of the supplies of the products categories are consumed by tourists. The higher the tourism ratio is, the higher 'tourists-dependency' this industry has.

Wales has relatively lower tourism ratios in Accommodation, Road Passenger

Transport, Water Passenger Transport, Air Passenger Transport, Sports and recreation activities, lower tourism ratio means the expenditure from tourists account for lower percentages of the total supply. There are products/services supplied in those industries in Wales that are not designed and consumed by tourists, for example, there is a large aircraft maintenance service factory in Wale, which offers services in the Air passenger transport industry but those services are not demanded by tourists directly, and it would be one of the main reasons why tourism ratio is much lower in Wales that it is in the UK.

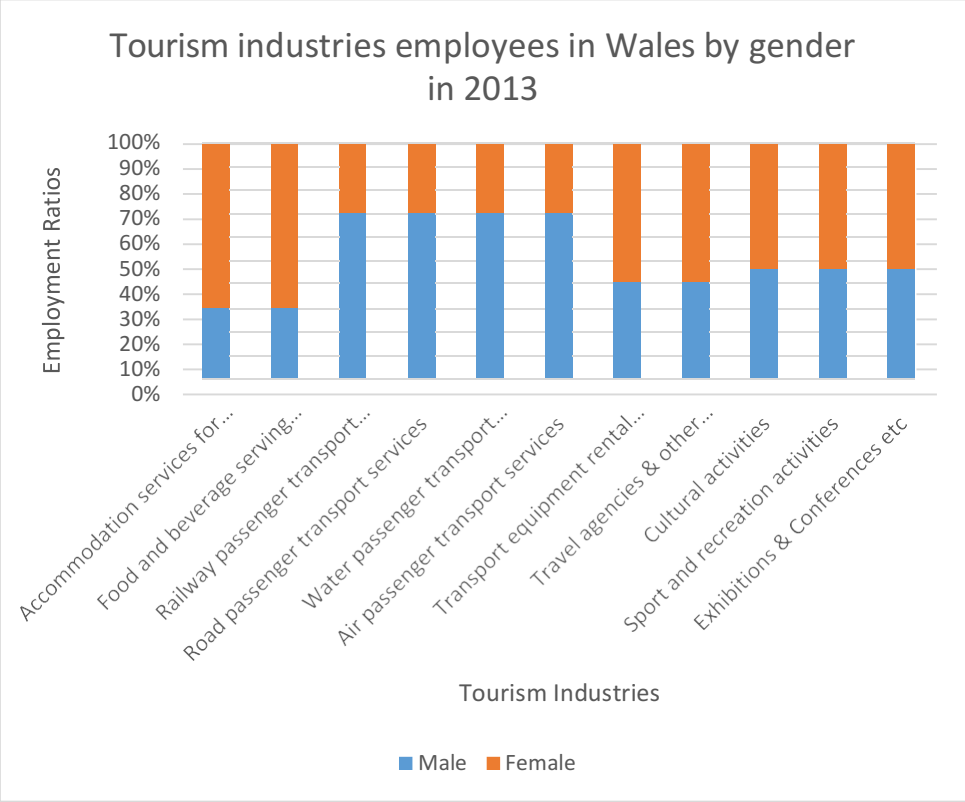
Food and beverage services, Railway passenger transport and Cultural activities have higher percentages of the supply consumed by tourists than they have in UK, which means there are relatively more expenditure contributions from tourists in Wales compared to they are in the UK in general. The tourism ratio differences between UK and Wales are explained later (Section 7.3.3).

7.2.3 Tourism employment in Wales

Gender equality effect of tourism industries in Wales

Gender Equality is one of the United Nations 2030 Sustainable Development Goals (UN, 2017), and it is one of the most important factors to enlarge workforce and enable economic development in less developed countries. Tourism industries tend to employ more female workers and therefore more meaningful for economic development in terms of gender equality, as shown in Wales TSA 2013.

Figure 4 Tourism industries employees in Wales by gender in 2013



Source: Wales 2013 TSA-table 7

Figure 4 shows the gender combination of employees of the tourism industries in Wales in 2013, most of the tourism industries employ more female than male workers. Apart from the transport services, including the Railway, Road, Water, Air passenger transport service, in the rest of the tourism industries, more than 50% of the employees are female.

Women in Wales are generally less educated as the literature suggests (McNabb et al., 2002). The jobs in tourism industries are part-time and seasonal, it often does not take very long time to be trained and qualified to work in the tourism industries compared to the high value added industries such as financial and business services, then it provides working opportunity for people have relatively fewer years of education (Jolliffe and Farnsworth, 2003, Lundberg et al., 2009).

The development of tourism also gives more employment opportunity to women who could balance the work and take care of the family, the development of the tourism industries or investment in the tourism industry may have more meaning to the less developed areas in the sense that it provides more support to people who do not have enough education or those who have family to look after but are willing to take part time or seasonal work to participate into the workforce (Cave and Kilic, 2010, Ferguson, 2011).

Women also make up more than 50% of the tourism workforce globally, tourism's growth is a unique opportunity to empower women across the world, evidence shows tourism's potential to empower women through the following ways (Wilder, 2017),

(1) Transferring skill, the transferable skills include cooking, craft-making and home management that they have developed through unpaid care work.

(2) Developing new skills, tourism enables women to develop new technological, business, and vocational skills, inclusion women in the roles where they have traditionally been absent, such as hosts, managers and drivers.

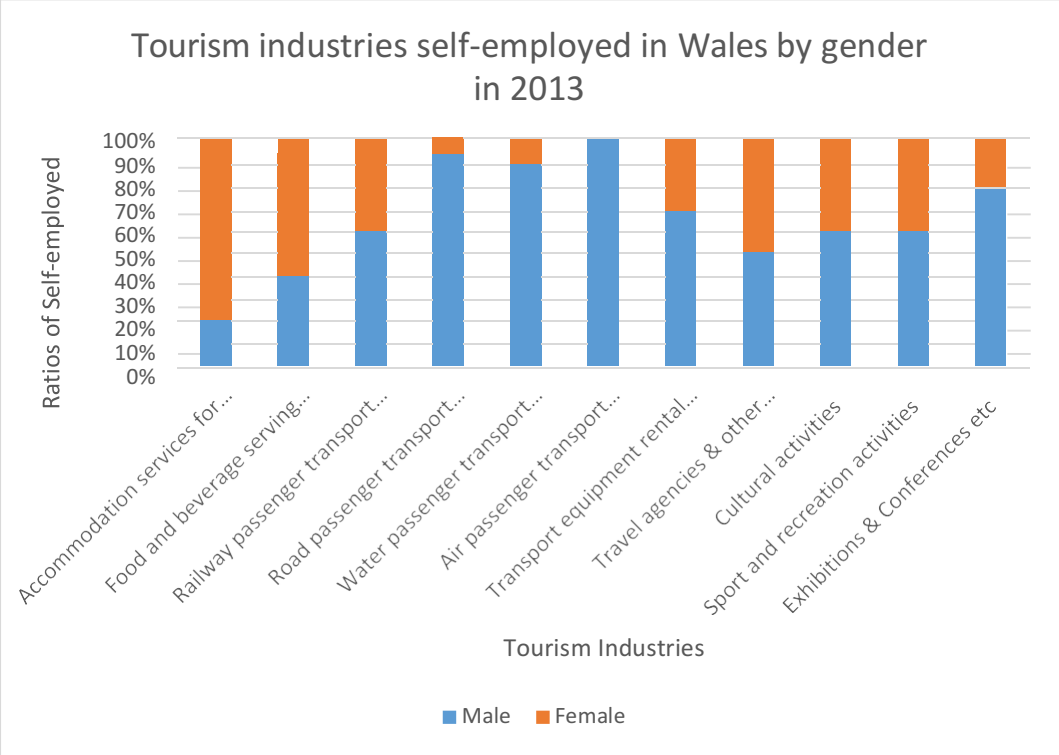
(3) Forming the partnership, public or private sectors can form the partnership to strengthen the market during the process of facilitating women's participation and empowerment.

Although women are well represented in formal tourism employment, but women are less likely to reach professional –level tourism employment, their average take-home pay is lower than men's (UNWTO, 2010).

Multinational firms played a central part during this process of empowering the indigenous women's participation in the workforce, broadening the horizon and opportunities for women across the world, especially in the less developed area,

"Airbnb, provides a relevant case study. Fifty-five percent of Airbnb's hosts are women, and they have earned $10 billion. Sharing-economy giants like Airbnb and Uber are engaging with communities by training women in certain skills while helping them adapt to technologies like Facebook, WhatsApp, and e-mail. These skills will not only allow women to earn income, but also expand their economic horizon and opportunities in other spheres."(Wilder, 2017)

Figure 5 Gender information of Self-employed in tourism industries in Wales by gender in 2013



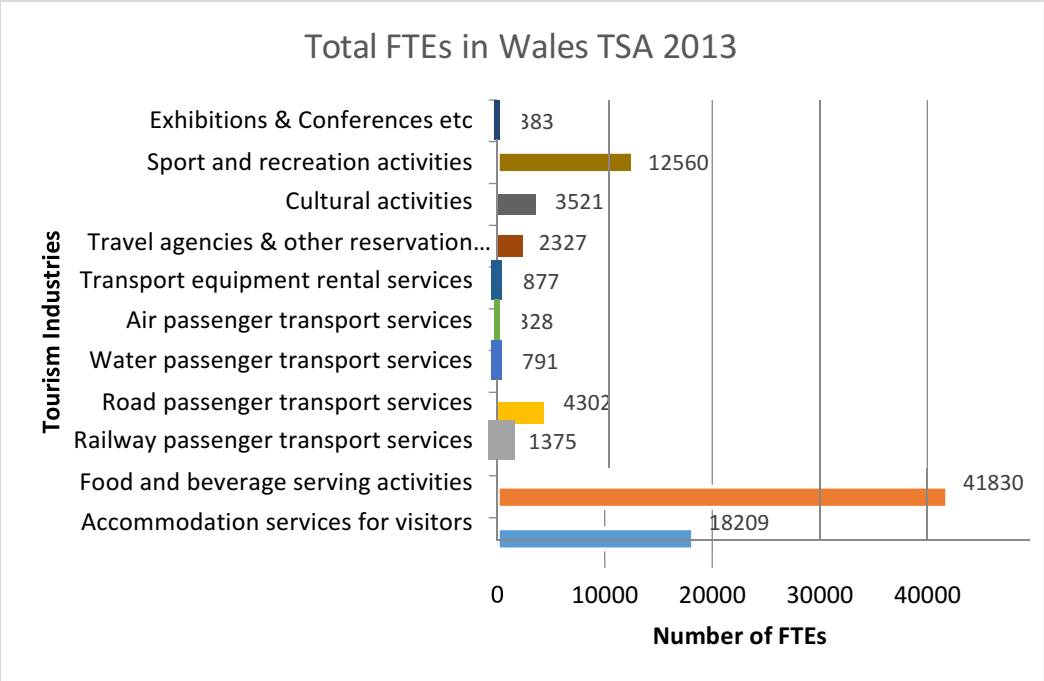
Source: Wales 2013 TSA-table 7

Figure 5 shows that the gender differences of self-employed people in the tourism industries, the interesting difference is that self-employed businesses have more male in almost in all the tourism industries except Accommodation services for visitors, Food and beverage serving activities. This is because in general men are nearly 3 times as women to be likely to be self-employed across all the industries in Wales, there is 11.39% of men are self-employed, while only 4.14% of women

are self-employed (Start-upWales, 2017).

FTE and employment in tourism industries in Wales

Figure 6 Total FTE of the 11 tourism specialized industries in Wales TSA 2013



Source: Wales 2013 TSA-table 7

Total FTEs in different tourism industries are shown in *Figure 6*, Food and beverage serving activities employ about half, 48%, of the FTEs in tourism industries, Accommodation services for visitors, Sport and recreation activities ranked as the 2nd and 3rd that employ most the number of FTEs, they account for 21% and 15% respectively, as those are particularly labor-intensive industries.

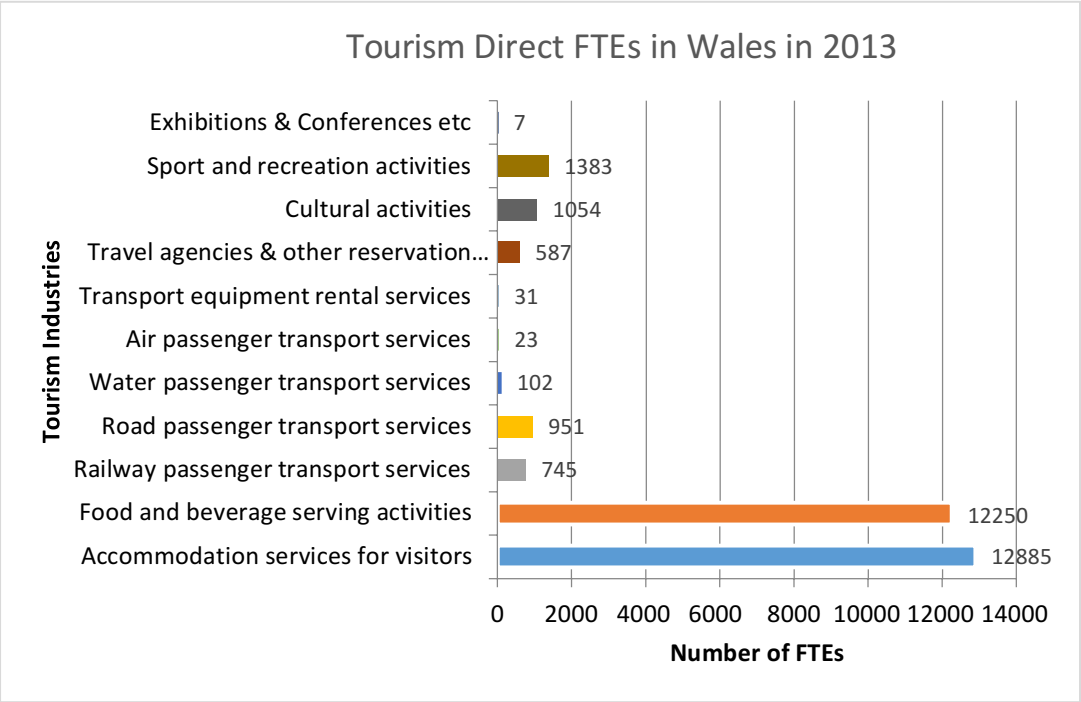
As shown in Table 18, Accommodation services, Food and beverage serving activities are the 2 industry categories that have the lowest productivity, especially with the non-regional productivity, in total 69% of the FTEs concentrate on the lowest productivity tourism activities in Wales, therefore, the feature of the Welsh economy that employment is typically low-skilled and concentrates on low-value services is also indicated by the Wales TSA 2013.

Figure 7 Tourism direct employment in Wales in 2013

Source: Wales 2013 TSA-table 7

Both Tourism Direct Employment and Tourism Direct FTEs are the total employees multiplied by the tourism ratios, it represents the number of the employees in the tourism industries that are employed because of the supply of tourism products in order to satisfy the tourism consumption in the region. In Wales TSA-table 7, total FTEs (86,500) is the number of FTEs working in the tourism industries in Wales in 2013, tourism direct FTEs (30,018) is the number of FTEs directly created by the demand of tourists.

Figure 8 Tourism Direct FTE of tourism industries in Wales in 2013



Source: Wales 2013 TSA-table 7

Wales TSA table-7 reveals about 86,500 FTE jobs in Wales is in tourism industries. For example, in all the 26,455 jobs in the accommodation sector, 18,720 jobs depend directly upon tourism. There is only a small percentage of total sector employment in Air passenger transport, with 21 jobs directly created by tourists in Wales.

The tourism direct effect on employment largely depends on the tourism ratios in TSA-table 6. The relative lack of impact upon Travel agencies & other reservation services, as shown in the large tourism ratio difference between Wales TSA-table 6 and UK TSA-table 6 (Figure 3), is an important issue as the Travel agencies & other reservation services are often of great importance in tourism impact. There may be several reasons for this. Firstly, Wales is a geographically small country and it is likely that many guided tours are organized and paid for outside the region, echoing general concerns about the attribution of such monies. Secondly, Wales is

a largely rural region with poor public transport links and very limited sea and air passenger sectors. Thus, the bulk of transport expense incurred by the tourist is likely to be through use of a private car, such capital expense of the use of the private car is not included in the input–output analysis, and the running costs include significant payments to the government Exchequer through fuel duties (Jones et al., 2004).

Notwithstanding the above, the information provided in TSA-table 6 is a useful indication of the value of tourism activity to the Welsh economy. Sector output comprised some 3.3% of total Welsh gross output, a significantly larger proportion than, for example, agriculture (Statswales, 2017a). More notably, the labour-intensive nature of tourism highlights its usefulness in employment generation, with over 30,018 FTE jobs in Wales directly dependent on tourism expenditure.

7.3 The contribution of regionally and non-regionally owned tourism businesses

Since the appearance of the all-inclusive (AI) tour mode in 1950 when the French company "Club Med" established their resort village on Majorca, there has been a dramatic increase in the AI tourism mode in most tourism-driven economies and mature destinations, however, very few AI properties are locally owned, and so the potential benefits leak out through ownership dividends and backward linkages outside of the host community (Issa and Jayawardena, 2003). The foreign-owned AI mode of tourism is an extreme case of the tourism FDI, in order to gauge the economic impacts of the AI hotels on the local community, surveys in Tobago show that the lower end of the market had suffered the most from the conversion of local hotels to an AI basis (Anderson, 2012). The alteration of TSA-table 5 in this research is able to indicate the total tourism products/services supply in terms of the domestic and foreign businesses in tourism industries.

7.3.1 Output

From the Wales TSA-table 5 and 7 (extended) with the regionally and non-regionally owned tourism businesses in separate columns in Section 6.6.5 and 6.6.8 and the actual TSA-table 5 and 7 extended in the following pages. It shows from the tourism products supply side, 7 out of the 11 tourism specialized tourism products are supplied largely from the non-regionally owned suppliers. They are Railway Passenger Transport, Water Passenger Transport, Air Passenger Transport, Transport Equipment Rental, Cultural Industry, Sports and Recreation Industry, Exhibitions and Conference Industry, the rest of the tourism specialized industries are mainly rely on the regionally owned businesses, as shown in Table 17. The regionally owned businesses are drawn as the primary trading address is within Wales. The data are drawn from the FAME and BSD. Table 17 summarizes the information of the regional and non-regional output from Wales TSA-table 5, with the regionally and non-regionally supply calculated as following

TSA-TABLE 5: Production accounts of tourism industries and other industries (at basic prices) in Wales (£ millions), 2013	Tourism Industry																	
Products	Accommodation for visitors	Regional	Non Regional	Food and beverage serving industry	Regional	Non Regional	Railway passenger transport	Regional	Non Regional	Road passenger transport	Regional	Non Regional	Water passenger transport	Regional	Non Regional	Air passenger transport	Regional	Non Regional
Accommodation services for visitors	891	610	281	91	60	32	-	-	-	-	-	-	-	-	-	-	-	-
Food and beverage serving activities	345	75	270	2,739	1,791	949	4	0	4	2	1	1	1	0	1	1	0	1
Railway passenger transport services	-	-	-	-	-	-	454	12	442	-	-	-	-	-	-	-	-	-
Road passenger transport services	-	-	-	-	-	-	-	-	-	389	215	174	-	-	-	-	-	-
Water passenger transport services	-	-	-	-	-	-	-	-	-	-	-	-	139	7	132	-	-	-
Air passenger transport services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	7	104
Transport equipment rental services	1	1	0	3	2	1	15	0	15	3	2	1	1	0	1	0	0	0
Travel agencies & other reservation services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cultural activities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sport and recreation activities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exhibitions & Conferences etc	1	0	0	8	5	3	0	0	0	1	0	0	0	0	0	0	0	0
Other consumption products	6	4	3	49	32	17	6	0	6	1	1	1	4	0	3	2	0	2
TOTAL OUTPUT	**1,322**	**767**	**555**	**2,891**	**1,890**	**1,001**	**480**	**13**	**467**	**396**	**219**	**177**	**144**	**7**	**137**	**114**	**7**	**107**
TOTAL INTERMEDIATE CONSUMPTION (at purchasers prices)	734	426	308	1,710	1,118	592	270	7	263	169	93	75	81	4	77	71	4	66
TOTAL GROSS VALUE ADDED (at basic prices)	588	341	247	1,181	772	409	210	6	204	227	126	102	63	3	60	43	3	41

TSA-Table 5 (continued)

Tourism Industry

Transport equipment rental			Travel agencies and other reservation services industry			Cultural Industry			Sports and recreational industry			Meetings and conference industry			Tourism Industries TOTAL			Other Industries			Output of domestic producers (at basic prices)		
	Regional	Non Regional		Regional	Non Regional		Regional	Non Regional		Regional	Non Regional		Regional	Non Regional		Regional	Non Regional		Regional	Non Regional		Regional	Non Regional
-	-	-	-	-	-	-	-	-	2	1	2	-	-	-	985	670	314	31	21	10	1,016	691	324
-	-	-	-	-	-	-	-	-	72	23	50	-	-	-	3,164	1,890	1,275	645	385	260	3,810	2,275	1,534
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	454	12	442	-	-	-	454	12	442
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	215	174	215	119	96	604	334	270
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	139	7	132	0	0	0	139	7	132
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	7	104	2	0	2	112	7	105
238	70	168	7	4	3	1	0	0	16	5	11	0	0	0	286	84	202	148	43	104	434	128	306
-	-	-	150	83	67	-	-	-	0	0	0	-	-	-	150	83	67	-	-	-	150	83	67
-	-	-	-	-	-	385	148	237	-	-	-	-	-	-	385	148	237	143	55	88	528	204	325
0	0	0	-	-	-	1	0	1	996	314	683	0	0	0	997	314	683	61	19	42	1,059	333	725
2	0	1	1	1	0	0	0	0	4	1	3	149	11	139	166	19	147	1,573	179	1,394	1,739	198	1,542
5	2	4	591	328	263	5	2	3	204	64	140	6	0	6	881	434	447	115,027	65,778	49,249	115,907	66,211	49,696
245	**72**	**173**	**749**	**416**	**333**	**392**	**151**	**241**	**1,296**	**408**	**888**	**156**	**11**	**145**	**8,185**	**3,961**	**4,224**	**117,844**	**55,089**	**62,755**	**125,952**	**59,050**	**66,979**
110	32	78	317	176	141	211	81	130	318	100	218	81	6	75	4,071	2,048	2,023	53,132	26,732	26,400	57,202	28,780	28,422
135	40	95	432	240	192	181	70	111	978	308	670	75	5	70	4,114	1,913	2,201	61,143	28,428	32,715	65,257	30,341	34,916

TSA-TABLE 7 Extended: Employment in the Tourism Industries in Wales, 2013

Tourism Characteristic Activities	FTE			GVA/FTE			Output/FTE		
	Total	Regional	Non Regional	Total	Regional	Non Regional	Total	Regional	Non Regional
Accommodation services for visitors	18,209	12,716	5,492	54,087	52,720	57,251	32,306	26,838	44,964
Food and beverage serving activities	41,830	28,261	13,569	75,648	66,872	93,927	28,231	27,317	30,132
Railway passenger transport services	1,375	125	1,250	330,636	98,694	353,780	152,847	45,625	163,546
Road passenger transport services	4,302	3,605	696	90,525	59,733	249,939	52,795	34,837	145,768
Water passenger transport services	791	612	178	175,493	11,016	740,133	79,783	5,008	336,479
Air passenger transport services	328	110	218	336,527	61,645	475,132	131,604	24,107	185,807
Transport equipment rental services	877	719	158	326,400	117,063	1,280,112	154,184	55,257	604,884
Travel agencies & other reservation services	2,327	1,578	749	64,386	52,736	88,921	185,487	151,937	256,146
Cultural activities	3,521	2,668	853	109,439	55,626	277,866	51,507	26,180	130,775
Sport and recreation activities	12,560	9,179	3,381	79,419	34,218	202,147	77,889	33,552	198,272
Exhibitions & Conferences etc	383	285	98	434,214	66,232	1,511,725	196,588	18,596	717,777
Tourism Totals	**86,500**	**59,858**	**26,642**	94,624	66,173	158,548	47,563	31,957	82,627

Table 17 Total output by regionally owned and non-regionally owned businesses in Wales in 2013

Products	Output (£million)			Output percentages	
	Total Output	Regional	Non Regional	Regional (%)	Non Regional (%)
Accommodation services for visitors	1,322	767	555	58%	42%
Food and beverage serving activities	2,891	1,890	1,001	65%	35%
Railway passenger transport services	480	13	467	3%	97%
Road passenger transport services	396	219	177	55%	45%
Water passenger transport services	144	7	137	5%	95%
Air passenger transport services	114	7	107	6%	94%
Transport equipment rental services	245	72	173	29%	71%
Travel agencies & other reservation services	749	416	333	56%	44%
Cultural activities	392	151	241	39%	61%
Sport and recreation activities	1,296	408	888	31%	69%
Exhibitions & Conferences etc	156	11	145	7%	93%
Total excluding Other consumption products	818	3,961	4,224	48%	52%

Sources, 2013 Wales TSA-table 5

In products categories such as Railway, Air transport, Exhibitions & Conferences, the non-regionally owned businesses supply the majority of the products and services. Products categories where regionally owned businesses supply over half of the domestic production still have relatively high percentages of supply from

the non-regionally owned businesses. For example, Accommodation services for visitors (non-regional 42%), Food and beverage serving activities (non-regional 35%), Road passenger transport services (non-regional 45%), and Travel Agencies & other reservation services (non-regional 44%). Overall, the non-regionally owned businesses (53%) supply more than the regionally owned businesses (47%).

7.3.2 Productivity

When the output percentages by total and each tourism-related products categories are compared with the productivity differences between regionally and non-regionally owned businesses, as shown in Table 18, non-regional ownership has a great ownership advantage in the productivity measured in GVA/FTE. There might be more usefulness of the productivity differences in Accommodation and Food industries from Table 18, in industries such as Water Passenger Transport where the regionally-owned businesses have a very low share of the regional supply, therefore it is very difficult to estimate the local productivity, and the productivity differences are merely indicative.

The competitive advantages that firms from one nationality pass over those from another nationality in supplying any particular market or a set of markets are called the ownership advantages, which are acquired from the possessing of the specific technological, managerial, financial or marketing assets. They may be of a structural or behavioral nature, the ownership advantages in tourism industry include: economies of scale; brand name and reputation in supplying tourism services enable firms to increase market penetration; greater availability of the equity finance; better knowledge and access to international tourism markets; better trained personnel, management and reservation systems; better organizational and IT capability to integrate separating value-adding activities (Dwyer et al., 2010).

Table 18 Comparison of the output percentages and GVA/FTE by regionally owned and non-regionally owned tourism businesses in Wales in 2013

Products	Output Percentage		GVA/FTE (£/FTE)		
	Regional (%)	Non Regional (%)	Regional	Non Regional	Productivity Difference
Accommodation services for visitors	58%	42%	26,838	44,964	1.675
Food and beverage serving activities	65%	35%	27,317	30,132	1.103
Railway passenger transport services	3%	97%	45,625	163,546	3.585
Road passenger transport services	55%	45%	34,837	145,768	4.184
Water passenger transport services	5%	95%	5,008	336,479	67.188
Air passenger transport services	6%	94%	24,107	185,807	7.708
Transport equipment rental services	29%	71%	55,257	604,884	10.947
Travel agencies & other reservation services	56%	44%	151,937	256,146	1.686
Cultural activities	39%	61%	26,180	130,775	4.995
Sport and recreation activities	31%	69%	33,552	198,272	5.909
Exhibitions & Conferences etc	7%	93%	18,596	717,777	38.599
Other consumption products	47%	53%			
Total Output	47%	53%	506,876	1,310,585	2.586

**Productivity Difference is the Non Regional GVA/FTE divided by Regional GVA/FTE*

Sources, 2013 Wales TSA-table 7 extended

This analysis might indicate important factors for productivity, such as size especially if non-regional hotels are on average larger than regional accommodation places. Earlier editions of the Wales TSA showed larger hotels, which has over 10 FTE employees, behaves very differently from the small and medium-sized hotels/bed and breakfast, larger hotels have a higher productivity in terms of turnover/FTE, while Bed and breakfast house sector in Wales often in rural locations and with proportion of 'lifestyle' businesses have the lowest output per FTE worker. Interestingly though Jones et al. (2003) suggest they spend much more, proportionately on regionally sourced intermediate products (60% compared with around a third for larger hotels). In this study, accommodation is not distinguished into sub-sectors, all the businesses' primary SICs are classified as the broad accommodation types (Accommodation services for visitors), including hotels, bed and breakfast, self-catering accommodations such as guest houses, caravan and camping sites, and holiday parks.

In Wales, the foreign-owned accommodation services for visitors are mostly hotel chains, which are much larger and better branded, size and the ability to gain the economies of scale may drive the 68% higher productivity than their domestic counterparts. Food and beverage serving activities have similar issue as the Accommodation services for visitors, again the chain restaurants are usually larger and have better access to sourcing internationally, the brand name, reputation, better knowledge, better management etc. gives a brand awareness and brand loyalty and therefore an ownership advantages (Sean Hyun and Kim, 2011). However, the difference between the chain restaurants and the local restaurant is smaller than the foreign chain hotels and the domestically owned ones perhaps because there is not much structural difference. Restaurants tend to be smaller scale per-unit in operations, and then the productivity difference is smaller (10%).

As shown in the estimation section, in the following 3 categories: Railway, Water, Airway passenger transport categories have very large productivity differences are because those industries are largely dominated by the foreign-owned companies, In some cases there is almost zero regionally-owned supply (Air, Water passenger transport) and in other cases a wholly different operational structure e.g. tourist 'mountain railways' versus heavy rail.

Road transport includes Taxi Operations and other passenger land transport, Taxi operators such as Premier Taxis, Dragon Taxis in Cardiff (DragonTaxies, 2017, PremierTaxies, 2017), they are mainly local, whereas the Bus Transport includes regionally owned (Cardiff Bus owned by Cardiff Council, TrawsCymru sponsored by the Government etc.) and non-regionally owned (Stagecoach in Scotland, National Express in England, Greyhound UK in England etc.) (Greyhound, 2017, Nationalexpress, 2017, Stagecoach, 2017, Trawscymru, 2017, CardiffBus, 2017). In this Road passenger transport category, regional ownership is dominated by taxes (and some urban buses), which are mostly short distance route and have a low ratio of passengers to drive. Long distance buses, tourist coaches and scheduled coaches that connect Wales with England and Scotland are operated by non-regionally owned operators and likely have much higher passenger-driver ratios, thus leading to high GVA/FTE. Therefore the differences in productivity are mainly because the structural differences and the scale differences of the businesses in the same industry, rather than between regional and non-regional businesses supplying the same product in a similar way.

Transport equipment rental categories include renting and leasing cars and light motor vehicles, passenger water and air transport equipment, the 995% of the foreign ownership advantages may again be due to the nature of the equipment for renting are very different, internationally-owned car leasing, included in this category, is likely much more productive (per employee) than regionally owned

rental of surfboards or boats. Travel agencies& other reservation activities includes travel agency activities, and also shows a significant non-regional productivity advantage (69%) although there is a stronger prior case that multiregional/ MNC are much larger and much more productive in terms of higher technological, managerial, marketing skills than the regionally owned.

Cultural activities including performing arts, support activities for the performing arts, artistic creation, operation of arts facilities, museum activities, operation of historical sites and buildings and similar visitor attractions, botanical & zoological gardens and nature reserves activities, a larger percentage of businesses in this category is regionally owned, and the productivity advantages of the non-regionally owned businesses is 400%. However, regionally owned activities such as museums are subsidized to a large extent (so that almost all of the museums in Wales offer free entry) and the activities that are included in this category are not fully commercialized in the sense that some supply (at the facility or in terms of central management and organization) is not revealed in TSA-table 5. This possibly leads to a lower productivity in terms of estimated GVA/FTE.

The Financial Report of National Museum Wales shows that there were £25 million public funds (main income resource), the costs were mostly (£26 million) in the Charitable Activities, including Learning, Exhibitions & Digital Media, Collections & Research and Museum Operations (Gordon, 2014). Also as explained in the Financial Report: 'We introduced the free entry policy in 2001/02 – a pioneering move that nearly doubled visitor figures to national museums in Wales. This commitment to promoting access for all to Wales's culture and history remains as strong today, with the policy enshrined in the Welsh Government's plan of action for 2011/16.' (Gordon, 2014). This may raise more important issues of how the public resources are used as the tourism products.

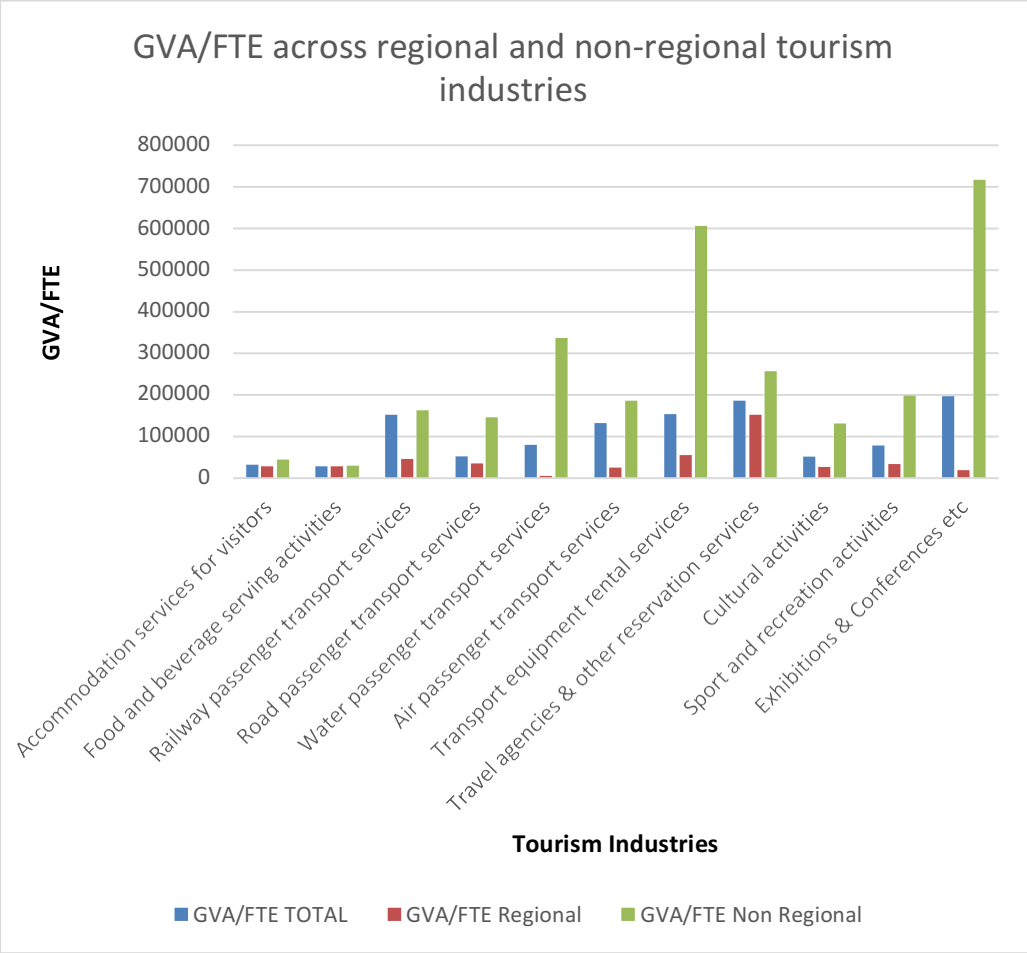
There are also some measurement issues where non-regionally owned tourism businesses charge for the accommodation/restaurant/conference packages etc. but reliant on the local tourism products such as visiting the local museums where the infrastructure and activities are centrally provided with those infrastructures and museums/ local authority subsidized sites were indirectly used by the foreign businesses for free of charge. This may be one of the reasons that the foreign-owned tourism businesses have a much higher productivities and it is particularly important in this category, where part 'cost' of the tourism products provided by the foreign owners were actually paid by the local residents/businesses and the UK-tax money, while the turnover was mostly accumulated to the foreign-owned businesses.

Sports and recreational activities include Gambling & betting activities, Operation of sports facilities, Other sports activities, Activities of amusement parks and theme parks, Other amusement and recreation activities, Renting and leasing of recreational and sports goods because the non-regionally owned ones are a lot larger, and the regionally owned ones, besides economy of scale advantages, may source and operate with more resources and more efficiently. Some of those sites are supported by local government financially or non-financially such as Wales Millennium Centre (Foreman-Peck, 2007), where productivity between regionally owned and non-regionally owned are differentiated by this support in a similar way as the Cultural activities.

In the UK context, country specific tourism characteristic activities include activities of exhibition and fair organizers, activities of conference organizers, letting and operating of conference and exhibition centers, 93% of those businesses in Wales are non-regionally owned, the GVA/FTE has a large difference between the foreign and domestic firms, this is because this sector has the highest GVA/FTE among the tourism-related industries. The high turnover/GVA was

mainly because of such kind of services or products often include the packages of accommodation, restaurants, etc. for the business visitors and accompanying people, which are not the actual turnover and GVA for exhibitions and conferences itself (Jones and Li, 2015).

Figure 9 GVA/FTE of regional and non-regional tourism businesses (£/FTE) in Wales in 2013



Sources, 2013 Wales TSA-table 7 extended

The GVA/FTE are mostly much higher in all the non-regionally owned businesses. Foreign-owned companies have higher productivity and GVA because its technology, management, sourcing advantages compared to the indigenous companies, the earlier FDI study in Wales has indicated so particularly (Munday et al., 2009b)

However, the real contribution of the foreign investment in tourism would be decided by how strong the linkages of those businesses with the domestic economy, particularly agriculture, manufacturing, construction, wholesale and retail trade, hotels and restaurants, transport, banking and insurance services, water and electricity, and social and personal services. The backward the forward linkages between tourism and other sectors are analyzed by developing the tourism specialized SAM (Mbaiwa, 2005, Mbaiwa, 2003), the tourism's contribution to the economic development will be assessed in Chapter 8. The developing of the tourism specialized regional SAM for Wales 2013 will help to provide a better understanding of linkages and tourism industries, the economic beneficiaries of the economic and other impacts in Wales.

7.3.3 Tourism Gross Value Added

Tourism GVA (TGVA) is calculated by the GVA of each products times the tourism ratio of each products category, calculated in terms of the Total Wales, Regional and Non Regional TGVA, which as percentages of the total Wales GVA are 3.4%, 3.5% and 3.2% respectively. Although non-regionally owned tourism-related businesses are higher value added compared to the domestically owned ones, however, TGVA as a percentage of total GVA in Wales is lower for the non-regionally owned tourism-related businesses, this is because non-regionally owned businesses create more total GVA in Wales than the domestically owned businesses, although non-regionally owned tourism-related businesses have a great advantage in productivity in terms of GVA/FTE, in other words, non-regionally owned non-tourism businesses in Wales tend to be more productive and concentrate on the high GVA sectors. Tourism is not a typical high productivity sector in terms of GVA/FTE, foreign-owned businesses are mostly concentrated on rather higher GVA sector than tourism sector.

Table 19 GVA, TGVA of each tourism-related industries and TGVA as a percentage of total GVA in Wales

Products	GVA (£million)			Tourism Ratio	TGVA (£million)		
	Total Wales	Regional	Non Regional		Total Wales	Regional	Non Regional
Accommodation services for visitors	588	341	247	70.8%	416	242	175
Food and beverage serving activities	1,181	772	409	29.3%	346	226	120
Railway passenger transport services	210	6	204	54.2%	114	3	111
Road passenger transport services	227	126	102	22.1%	50	28	22
Water passenger transport services	63	3	60	12.9%	8	0	8
Air passenger transport services	43	3	41	7.1%	3	0	3
Transport equipment rental services	135	40	95	3.5%	5	1	3
Travel agencies & other reservation services	432	240	192	25.2%	109	61	48
Cultural activities	181	70	111	29.9%	54	21	33
Sport and recreation activities	978	308	670	11.0%	108	34	74
Exhibitions & Conferences etc	75	5	70	1.8%	1	0	1
Other Consumption Products	61,143	28,428	32,715	1.6%	985	458	527
Wales GVA	65,257	30,341	34,916	3%	2,200	1,074	1,126
TGVA/Wales GVA					3.4%	3.5%	3.2%

Sources, Calculated from 2013 Wales TSA-table 5 and 6

7.3.4 Human Resource

Although the TSA-table 7 extended shows that the foreign companies employ fewer people but have a much higher GVA/FTE and output/FTE, one of the main technology transfer from FDI is through employment, especially with the

managerial expertise (Borensztein et al., 1998). For example, the international hotel chains have substantial in-house training regarding the systems of accounting, procedures, management and operations have resulted in the significant increase in skills within the hospitality industry worldwide. The transfer of that expertise is more likely by the employees instead of the owners, while the management expertise has been particularly essential in maintaining the local tourism services to be competitive in an international market (ESCAP, 1994). The spillover effects of the technology transfer such as managerial expertise can be created by the industry training conducted by the international companies to the domestic companies. The more skilled pool of labor within the tourism industries in the domestic market is also created during this process (Dwyer et al., 2010).

However, in order to keep the firm-specific advantages, the key management positions are usually held by the expatriates, only the lower level of the personnel requiring skills are trained for reasons of service quality and performance. But those should not be the concerns in most of the cases because the expatriates who prefer to manage the large sum of investment and facility are usually not considered as taking jobs from the local citizens, as such jobs would not exist but for such foreign investment. Even those employees are foreign, they pay the local income tax, incur living expenditure and injecting expenditure into the economy with the positive economic effects. UNCTAD study shows the number of such foreign employees is very low, especially in countries where have some history of international tourists (Barrowclough, 2007).

In addition, those concerns regarding the 'crowding out' of the local employees by expatriates could be diminished by the provision of the training programs at the destination aimed at developing indigenous labor force with the required skills in the tourism industry. The imported labor force is to maintain the services quality to improve the tourism experiences of in the destination. Overall it is more likely

to be positive effects than the negative ones.

Wales has a lower tourism dependency as shown in the total tourism ratios (TSA-table 6), 3.3% compared to 3.7% in the UK (Bodey and White, 2016). In the occasion of an overall shortfall of the workers in the tourism industry, Wales faces more pressure of staff shortage as there have been constant human capital net outflows from Wales to the rest of UK, especially for young and skilled people (Jones, 2015). Therefore, the 'crowding out' effect of the foreign employees in the tourism industry tend to not be a big concern.

The overall effect of FDI in tourism industry in Wales regarding the employment would be positive on the 'technology transfer' aspect in terms of staff training to improve the tourism experience in the destination, this effects would be further enhanced if the training is planned internationally and systematic, MNC provides the international placements over the different locations, it'll improve the local labor force quality to a large extent, especially in less developed places where this kind of training is impossible to be provided by local government or businesses (Dwyer et al., 2010).

7.4 Conclusions

Chapter 7 summarizes the important results of the Wales TSA 2013 in terms of the tourism expenditure, the output of different tourism industries, tourism ratios, and employment. It also shows the gender equality effect by promoting tourism industries as gender equality is one of the UN 2030 sustainable development goals. Wales TSA 2013 additionally shows the contribution of the regional and non-regional tourism businesses in terms of output, productivity, GVA and human resource. Non-regional tourism businesses in Wales supply over half of the tourism output and has significantly higher productivities across all tourism industries (Table 18). Chapter 7 also analyses the reasons that non-regional

tourism businesses have much higher productivity across all tourism specialized countries in our example destination (Wales). The non-regionally owned tourism businesses created more GVA compared to the domestic ones (Table 19), those businesses train employees more and are beneficial to the human resource accumulation. Although there are limitations in this study of not being able to identify how much knowledge transfer from foreign to domestic businesses through employees training, which is discussed further in Chapter 9.

Chapter 8 Tourism Social Accounting Matrix

8.1 Introduction

Chapter 8 explains the rationale behind the development of the Tourism Social Accounting Matrix (TSAM) and its subsequent structure. It developed a TSAM as TSA-table 11, including

- a Financial Account to show more GVA information across different tourism industries and other industries; Purchasing Account to indicate the regional purchasing propensities and therefore the leakages from tourism businesses in Wales;
- an Employment Account to include the country of birth of employees in different industries;
- a Skills and Qualifications Account to list the employees with different education level across all industries;
- a Household Income Account to show the two household income groups (Claiming State Benefits/ Not Claiming State Benefits).

The development of TSAM reveals more detailed GVA information, leakage information, immigrant employed, quality of labour, and the pro-poor nature of tourism industries. It can also compare and analyze the information between domestic and foreign ownership if data is available. The detailed estimation and construction of the TSAM are also explicitly explained in this Chapter.

8.2 Social Accounting Matrix

Social Accounting Matrix (SAM) is obtained by extending SNA/IO framework to add the characterization of the roles of labour, households, and the social institutions of the economy. Development of such SAM has two goals, one is to

capture more details in employment features of the economy, including income from employment and its disposition, labour costs, the demographics of the workforce that comprise the market for supply and demand of labour, another goal is to reconcile the statistics from various sources to ensure consistency with basic economic accounts (Miller and Blair, 2009).

The development of the SAM from the Basic National Accounts Balance Statement are show as the following two tables and accounts (Miller and Blair, 2009),

Table 20 Basic National Accounts Balance Statement in Matrix Form

	Production	*Consumption*	*Capital Accumulation*	*Rest of World*	*Government*
Production		C	I	X	G
Consumption	Q		D	H	
Capital Accumulation		S			
Rest of World	M	O	L		
Government		T	B		

Sources: (Miller and Blair, 2009)

C=total consumption of goods and services

I=total investment in capital goods

X=total exports of goods and services

G=government expenditures

Q=total income generated in the economy

D=depreciation or consumption of capital goods

H=income generated overseas

S=total private savings

M=total imports of goods and services

O=transfers of money overseas

L=net lending of resources from overseas

T=total indirect taxation of consumers

B=total government deficit spending

Production Account: Q+M=C+ I +X+G

Consumption: C+S+O+T=Q+D+H

Capital Accumulation I+D+L+B=S

Balance of Payments Account: X+H=M+O+L

Government Account: G=T+B

Table 21 Basic National Accounts Balance Statement in Matrix Form Expanded to Include Households, Value Added account and Additional Macro Transactions

	Production	*Consumption*	*Capital Accumulation*	*Rest of World*	*Government*	*Households*	*Value Added*
Production		U	I	X	G	F	
Consumption	Q		D	H			
Capital Accumulation				S_F	S_G	S	
Rest of World	M		L			O	
Government	T_1	T_B	B			T	
Households					P		W
Value Added		V					

Sources: (Miller and Blair, 2009)

U= total 'use' of goods and services by businesses

F=total of final consumption of goods and services by households

V=total of ‘value-added’ inputs consumed by businesses

W=total of value added to households

P=government transfers to households, such as welfare transfers

S_G=government savings

S_F=foreign savings

T_B=indirect taxes or taxes paid by businesses

T_I= taxes on imported goods and services

Production Account: $Q+M+T_I=U+F+I+X+G$

Consumption: $U+V+T_B=Q+D+H$

Capital Accumulation $I+D+L+B=S+S_G+S_F$

Balance of Payments (Rest of World) Account: $X+H+S_F=M+O+L$

Government Account: $G+P+S_G=T+B+T_B+T_I$

Household Account: $P+W=F+T+S+O$

Value Added Account: $V=W$

As above from Table 20 and Table 21, the basic national accounts of balance statement is developed to add in the Household and Value Added account, and the rest of the accounts are also changed due to increased variables to consider the income and costs of capital and labour, such as taxes, depreciation, rental payment and normal profits of businesses. The rest of the sections of Chapter 8 show more accounts and variables can be incorporated to SAM to develop a Tourism Social Accounting Matrix for further economic development impact analysis when TSA is the measuring tool.

SAMs are also applied to conduct analysis (CGE modelling) between tourism and the rest of the economy, SAMs are able to demonstrate the tourism industries (hotels, restaurants) has high backwards linkages with the labor market details, and

also reveals the income distributional effects from tourism to poor households (Blake et al., 2008, Croes and Rivera, 2017). Induced effects include feedbacks between output, factor's income and consumption demand, by considering the new flow the consumption because of the endogenized households' sectors. The IO and some CGE analysis might ignore important induced effects.

8.3 The necessity and advantages of developing TSAM

Compared to the techniques of the univariate and multivariate econometric analysis, Input-Output models, SAM and CGE models have advantages as they take into account intersectoral input–output relations and final demands, including consumption, investment, exports, and imports simultaneously, where the econometric studies are partial equilibrium studies and indicate little about intersectoral connections in an economy, e.g backward linkages of tourism sectors in the IO studies in various countries (Archer and Fletcher, 1996, Hara, 2008, Akkemik, 2012). In the past, tourism activities were only included in the SNA and I-O tables in the form of the various services such as hotels and restaurants, but the introduction of TSA is able to incorporate the tourism demand into the national accounts and I-O tables, enables the SAM modeling for tourism analysis (UNWTO, 2008). Therefore, SAM is a methodology that can consider and incorporate all the intersectoral connection for the tourism on economic development impacts analysis.

SAM measures the extent tourism contributes to GDP and employment, also those are created by the inter-sectoral linkages due to the tourism. Compared to the IO modelling, SAM incorporates linkages of institutions, including households, firms, government and the rest of the world. In a TSAM, tourism is the 'production activity', income generated by the tourism activity is firstly distributed among the 'production factors', such as labor and capital. Factors income becomes the

income of the owners of the labor and capital (households and firms). Taxes become income for the government. Households are regarded as an industry in SAM, considering labor as their output. By including the Household Income Account, TSAM could determine whether poor households receive income directly from tourism-related activities, such technique enables the comparison between households based on their incomes (Croes and Rivera, 2017)

Compared to CGE modelling, SAM alone is unable to model complicated policy simulation analyses, especially for the impact study of demand and supply shock due to changes in taxes and tourism visits, however, SAM is sufficient in measuring the tourism importance of the economy. The main limitations of SAM is the assumption of the excess capacity assumption, there are existing unemployed resources in the economy is the precondition/assumption to apply SAM. CGE models relax the excess capacity consumption but suffer from a number of other disadvantages, such as choosing the appropriate function forms to model the economic behavior, selecting the appropriate parameters, the black-box nature of the CGE models make it is less meaningful in providing the practical policy recommendations (Oosterhaven and Fan, 2006, Akkemik, 2012).

Although SAM only considers constant returns of scale of the productions and has no supply constraints, no substitution effects between goods due to price changes, sector output proportions does not change according to the total output. In the short run those models may overestimate the positive effects, but in the medium run when the labor and capital constraints are adjusted, those models provide very meaningful and insightful information. In the case of a relatively less developed economy with unemployment, underemployment, and excess capacity. SAM is useful because such condition enables the increase of output without affecting prices (Croes and Rivera, 2017).

In 2013, The Labor Force Survey estimates for the 3 months to October 2013 show: The employment rate of people aged 16 to 64 in Wales was 70.7 %, unemployment rate in Wales was 7.4 % of the economically active. The economic inactivity rate of people aged 16 to 64 in Wales was 23.5% (WelshGovernment, 2013a). Wales fits for the excessive capacity assumption and SAM is the appropriate measuring tool of tourism importance on economic development.

Compared to the standard TSA-tables, this study establishes an additional TSA-table (TSAM), which enables more important measurements, such as leakages measurement, wider development factors impacts analysis and further modelling functions of the TSA easier, the significance of such development is not only limited to academic literature contribution but also very policy relevant and has very import impact factors.

The illustrative TSAM in Wales in 2013 is attached in Section 8.4 and also the Appendix II, III, IV as Wales TSA- table 11 to show the table itself, the data and estimation resources, the quality of data and estimation similarly as other standard Wales TSA-tables by further considering the Financial Account, Employment Account, Household Income Account et.al, such development eases related multiplier and CGE analysis as a future research direction.

8.4 Wales TSA-table 11 (TSAM) methodology

In the illustrative TSAM, Financial Account is the summary information about the intermediate consumption and the total GVA, the 4 sub-categories of the total GVA: Taxes less subsidies on production; Mixed & self-employed income; Compensation of Employees; Gross Operating Surplus (Other Value Added) are also available from other sources and tables.

Total GVA is available in TSA-table 5, Taxes less subsidies on production of each tourism industries is available in TSA-table 6, Mixed & self-employed Income, Compensation of Employees and Other Value Added for Wales in 2013 are only available in broad categories in Nomis, therefore those 2 sub-categories of value added elements are estimated based on the information from Annual Survey of Hours and Earnings (ASHE) 2013 and the FTE information in TSA-table 7. Value Added per FTE, Taxes less subsidies per £1m output, Value Added per £1m output, which are easier to measure the efficiency of human capital (FTE) and the physical capital (Output), as the value added is the true value of the wealth created in the society due to the production activities, also the tax contribution during the production process.

Mixed & self-employed income is estimated on the assumption that each self-employed has the same annual earnings as a FTE in the same industry for simplicity,

Mixed & self-employed Income= Total self-employed × *Weighted Annual Pay (ASHE)*

Equation 17

Where

$$\textit{Weighted Annual Pay (tourism industry A)} = \sum_{i=1}^{i=n} \left(\frac{The\ number\ of\ FTE\ in\ subindustry\ i\ of\ tourism\ industry\ A}{The\ number\ of\ FTE\ in\ tourism\ industry\ in\ A} \times Median\ of\ annual\ pay\ of\ subindustry\ i \right)$$

Equation 3

Compensation of Employees (A) = Weighted annual pay in tourism industry A (ASHE) × FTE in the tourism industry A

Equation 18

Other Value Added = Total GVA – Mixed & self-employed income –Taxes less subsidies on production – Compensation of Employees

Equation 19

Financial Account shows how much different category of value added and intermediate consumption is created for each tourism industry in a consistent and comparable way.

Skills & Qualifications Account are based on the FTE data from TSA-table 7, then the degree ratios are from APS 2013, there are only 3 broad industries in the industry section in APS 2013 are tourism-related, they are Transport and storage; Accommodation and food services; Arts, entertainment and recreation. The ratios of the qualification can be calculated from the APS 2013, then multiply the qualification ratios with the FTE to have the FTE numbers for of each qualification classifications of the tourism industries. 3 broad categories can be applied to the related tourism industries, which is a reasonable estimation given the current data availability.

Other industries and the output of the domestic totals are estimated in a similar way but with the ratios of the totals of the rest of the industry rather than tourism-related industries, Output of domestic producers are also calculated from the total qualification ratios in the APS 2013 for Wales. Regarding the household income account, the total employment data is from the TSA-table 7, the ratios of the

employment in different household income accounts for different industry categories are based on the ratios from the relevant industry of the APS 2013 for Wales, this account aims to see how tourism industries contribute to reduce inequality of the society and the pro-poor nature of tourism, it shows how many jobs are provided by tourism to the low income households, those who are claiming state benefits.

The Employment Account includes the Full-time and Part-time employment in the domestic and foreign industries supply, there are also 3 categories of country of birth, Wales, UK and Rest of World, which are again calculated from the ratios in relevant industries in APS 2013, also the other industries and the total domestic supply. This account aims to compare how much contribution the immigrant workers make in tourism industries, other industries and in total.

Purchasing Account divides the purchases of each domestically owned and foreign-owned industries into the domestic industries purchasing and foreign industries purchasing, imports to form the total intermediate industries for both the domestically owned and foreign-owned portion of the same industries, as the purchase location of the businesses data is not available from the ONS databases, then the data from the Welsh Tourism Economy Research Survey 2016 undertook for this study is used for indication purposes only in the hope future iterations of this matrix will be completed with fuller data.

In the survey responses, there are 70 (regional businesses) valid surveys with the percentages information of non-wage costs are from outside of Wales for regional businesses, whereas only 3 (non-regional businesses) are non-regional businesses, the average percentages of non-wage cost spent outside of Wales are 21% for regional businesses and 48% for the non-regional businesses.

Imports are from the TSA-table 6, separate the total imports of each tourism industries to regional and non-regional by the output ratios because imports are assumed to be proportional to the Total Intermediate Purchases of this industry. Total Intermediate Purchases is total intermediate consumptions. The proportion purchased from domestic resident industries and foreign resident industries are calculated by multiplying 21% and 79% for regional businesses, 48% and 52% for non-regional businesses respectively. However, there are no data available to divide the non-tourism industries and total domestic supply intermediate purchases into domestic resident industries purchases and foreign resident industries purchases. Detailed data sources and estimations for Wales TSA-table 11 are shown in Appendix III and the estimation quality is attached in Appendix IV.

8.5 Results

Studies have shown that the contribution of tourism to economic development is up to the how strong the backward linkages of tourism to other industries in the society. The low linkages with such as agriculture reflect the poor state of the agricultural sector, the strengthened linkages would be the spur to the certain industrial sector that could be developed to a better standard (Mbaiwa, 2005). In the case of Botswana as the tourism enclave, because the agriculture development level is low, much of the food products have to be imported from South African. In Wales, Food and beverage industry employs nearly half of the total number of people work in tourism industries (Figure 6), then the economic development effect of these businesses, both regional and the presence of the foreign firms in this industry, depends on how strong the backward linkages it to the local community. The natural resources provided for the base of the tourism industry in Botswana is not sufficient for a sustainable tourism development, another important reason is the reservation services and payments for tourism services are

done in developed countries and little revenue is retained in the less developed countries (Mbaiwa, 2005, Mbaiwa, 2002, Hartle, 1990). About 44% (Table 17) of the Travel agencies & other reservation services in Wales are provided by the non-regionally owned businesses, and those ones have a 69% (Table 18) productivity advantages compared to their regionally owned counterparts, therefore, Wales may face a similar issue as Botswana.

Therefore a Tourism SAM is developed and attached to Wales TSA 2013 as the TSA-table 11, as shown in the Appendices and following,

TSA-Table 11 Tourism Social Accouting Matrix, 2013																				
	Accommodation for visitors			Food and beverage servir			Railway passenger transpor			Road passenger transpor			Water passenger transport			Air passenger transport			Transport equipment ren		
Products	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Re	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re	Total W	Regiona	Non Reg	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re
Accommodation services for visitors	891	610	281	91	60	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food and beverage serving activities	345	75	270	2739	1791	949	4	0	4	2	1	1	0	0	0	1	0	1	0	0	0
Railway passenger transport services	0	0	0	0	0	0	454	12	442	0	0	0	0	0	0	0	0	0	0	0	0
Road passenger transport services	0	0	0	0	0	0	0	0	0	389	215	174	0	0	0	0	0	0	0	0	0
Water passenger transport services	0	0	0	0	0	0	0	0	0	0	0	0	139	7	132	0	0	0	0	0	0
Air passenger transport services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	7	104	0	0	0
Transport equipment rental services	1	1	0	3	2	1	15	0	15	3	2	1	1	0	1	0	0	0	238	70	168
Travel agencies & other reservation services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cultural activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sport and recreation activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exhibitions & Conferences etc	1	0	0	8	5	3	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1
Other consumption products	6	4	3	49	32	17	6	0	6	1	1	1	4	0	3	2	0	2	5	2	4
TOTAL OUTPUT	1322	767	555	2891	1890	1001	480	13	467	396	219	177	144	7	137	114	7	107	245	72	173
Financial Account (£million)																					
TOTAL INTERMEDIATE CONSUMPTION(at p	734	426	308	1710	1118	592	270	7	263	169	93	75	81	4	77	71	4	66	110	32	78
TOTAL GROSS VALUE ADDED(at basic price	588	341	247	1181	772	409	210	6	204	227	126	102	63	3	60	43	3	41	135	40	95
Taxes less subsidies on production	138	80	56	387	253	134	-125	-4	-121	-125	-69	-56	-6	0	-5	-2	0	-2	25	7	18
Mixed & self-employed Income	34	20	14	63	41	22	1	0	1	196	109	88	4	0	4	0	0	0	1	0	1
Compensation of Employees	303	176	123	682	446	236	49	1	48	95	53	43	24	1	23	13	1	12	22	7	15
Other Value Added	113	66	53	49	32	17	285	8	277	61	33	27	41	2	39	32	2	30	87	25	62
Value Added per FTE	0.0323	0.0268	0.0450	0.0282	0.0273	0.0301	0.1528	0.0456	0.1635	0.0528	0.0348	0.1458	0.0798	0.0050	0.3371	0.1316	0.0241	0.1859	0.1542	0.0552	0.6040
Taxes less subsidies per £1m output	0.1047	0.1047	0.1015	0.1338	0.1338	0.1339	-0.2604	-0.2747	-0.2600	-0.3157	-0.3168	-0.3173	-0.0391	-0.0383	-0.0391	-0.0175	-0.0199	-0.0178	0.1023	0.1032	0.1020
Value Added per £1m output	0.4450	0.4450	0.4450	0.4085	0.4085	0.4085	0.4377	0.4377	0.4377	0.5735	0.5735	0.5735	0.4380	0.4380	0.4380	0.3786	0.3786	0.3786	0.5516	0.5516	0.5516
Purchasing Account																					
Domestic resident industries	497	336	160	1191	883	308	142.3	5.8	136.5	113.0	73.8	39.3	43.1	3.1	40.0	38.0	3.4	34.6	66	26	40
Foreign resident industries	237	89	148	519	235	284	104.2	0.9	103.3	45.7	14.0	31.7	-12.0	-1.6	-10.4	-328.3	-21.3	-307.0	44.0	6.8	37.2
Imports	*	*	*	*	*	*	23.4	0.6	22.8	10.1	5.6	4.5	49.8	2.4	47.4	361.1	22.2	338.9	*	*	*
Total Intermediate Purchases	734	426	308	1710	1118	592	270	7	263	169	93	75	81	4	77	71	4	66	110	32	78
Employment Account																					
Full-Time	12038	8407	3631	19369	13086	6283	1356	123	1233	3588	3007	580	664	514	149	303	102	201	630	393	236
Part-Time	12341	8618	3722	44922	30350	14572	37	3	34	1427	1196	231	253	196	57	50	17	33	493	307	185
Country of birth (Wales)	10576	7386	3190	24296	16415	7882	943	86	857	2950	2472	478	542	420	122	225	75	149	601	493	108
Country of birth (UK)	5735	4005	1730	13175	8901	4274	344	31	313	1077	903	174	198	153	45	82	28	55	219	180	40
Country of birth (Rest of World)	1897	1325	572	4358	2945	1414	88	8	80	275	230	44	50	39	11	21	7	14	56	46	10
Total FTE	18209	12716	5492	41830	28261	13569	1375	125	1250	4302	3605	696	791	612	178	328	110	218	877	719	158
Compensation per FTE (£million)	0.0166	0.0138	0.0224	0.0163	0.0158	0.0174	0.0356	0.0112	0.0381	0.0221	0.0146	0.0613	0.0304	0.0019	0.1284	0.0396	0.0082	0.0569	0.0251	0.0091	0.0980
Skills & Qualifications Account																					
Degree or equivalent	2235			5125			92			288			53			22			59		
Higher education	1249			2864			88			274			50			21			56		
GCE, A-level or equivalent	4931			11305			304			951			175			73			194		
GCSE grades A*-C or equivalent	5632			12913			417			1304			240			99			266		
Other qualifications	2301			5276			290			908			167			69			185		
No qualification	1622			3718			157			490			90			37			100		
Did not know	263			603			23			72			13			5			15		
Total FTE	18209			41830			1375			4302			791			328			877		
Household Income Account																					
Claiming (other) State Benefits	17460			44996			1031			10141			757			264			841		
Not claiming (other) State Benefits	8995			23180			382			3751			280			97			311		
Total Employment	26455			68176			1413			13892			1037			361			1152		

TSA-Table 11 (continued) Tourism Social Accouting Matrix, 2013																				
Travel agencies and other			Cultural Industry			Sports and recreational in			Meetings and conferenc			Tourism Industries TOTAL			Other industries			Output of domestic produ		
Total W	Regional	Non Reg	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Re	Total W	Regiona	Non Reg
0	0	0	0	0	0	2	1	1	0	0	0	985	670	314	31	21	10	1016	691	324
0	0	0	0	0	0	56	23	33	0	0	0	3164	1890	1275	645	385	260	3810	2275	1534
0	0	0	0	0	0	0	0	0	0	0	0	454	12	442	0	0	0	454	6	442
0	0	0	0	0	0	0	0	0	0	0	0	389	215	174	215	119	96	604	334	270
0	0	0	0	0	0	0	0	0	0	0	0	139	7	132	0	0	0	139	7	132
0	0	0	0	0	0	0	0	0	0	0	0	110	7	104	2	0	2	112	7	105
7	4	3	1	0	0	16	5	11	0	0	0	286	84	202	148	43	104	434	128	306
150	83	67	0	0	0	0	0	0	0	0	0	150	83	67	0	0	0	150	83	67
0	0	0	385	148	237	0	0	0	0	0	0	385	148	237	143	55	88	528	204	325
0	0	0	1	0	1	996	314	683	0	0	0	997	314	683	61	19	42	1059	333	725
1	1	0	0	0	0	4	1	3	149	11	139	166	19	147	1573	179	1394	1739	198	1542
591	328	263	5	2	3	204	64	140	6	0	6	881	434	447	115027	65778	49249	115907	66211	49696
749	416	333	392	151	241	1296	408	888	156	11	145	8185	3961	4224	117844	55089	62755	125952	59050	66979
317	176	141	211	81	130	318	100	218	81	6	75	4071	2048	2023	53132	26732	26400	57202	28780	28422
432	240	192	181	70	111	978	308	670	75	5	70	4114	1913	2201	61143	28428	32715	65257	30341	34916
13	7	6	-25	-10	-15	163	51	111	5	0	5	449	317	130	6847	3201	3646	1285	602	683
10	6	4	110	43	67	56	18	38	2	0	2	477	236	241	2438	1882	556	2915	2250	665
62	34	28	90	35	55	253	80	173	10	1	9	1603	834	766	29998	23159	6839	31601	24396	7205
346	192	154	6	2	4	507	159	347	58	4	54	1586	526	1064	21859	186	21673	29456	3092	26363
0.1855	0.1519	0.2561	0.0515	0.0262	0.1308	0.0779	0.0336	0.1982	0.1966	0.0186	0.7178	0.0476	0.0320	0.0826	0.0630	0.0380	0.1479	0.0668	0.0402	0.1567
0.0176	0.0176	0.0176	-0.0638	-0.0640	-0.0636	0.1255	0.1255	0.1254	0.0325	0.0307	0.0326	0.0548	0.0799	0.0307	0.0581	0.0581	0.0581	0.0102	0.0102	0.0102
0.5763	0.5763	0.5763	0.4626	0.4626	0.4626	0.7548	0.7548	0.7548	0.4827	0.4827	0.4827	0.5027	0.4829	0.5212	0.5188	0.5160	0.5213	0.5181	0.5138	0.5213
213	139	73	131.4	64.1	67.3	192	79	113	44	4	39	2670	1618	1052						
105	37	68	12.8	-8.5	21.3	126	21	105	37	1	36	860.3	158.1	702.2						
*	*	*	66.4	25.6	40.8	*	*	*	*	*	*	541	272	269	19158	9639	9519	19699	9911	9788
317	176	141	211	81	130	318	100	218	81	6	75	4071	2048	2023	53132	26732	26400	57202	28780	28422
1996	1372	624	2308	1555	753	7875	4702	3173	337	158	179	50464	33418	17043	717315	553769	163546	767779	592727	175052
662	455	207	2426	1635	791	9369	5594	3775	92	43	49	72072	48414	23656	347322	268133	79189	419394	323773	95621
1472	998	474	2228	1688	539	7946	5808	2139	242	181	62	52022	36022	16000	652340	503608	148732	651886	503258	148628
761	516	245	1151	873	279	4107	3002	1106	125	93	32	26976	18685	8291	264743	204382	60361	269653	208173	61480
94	64	30	142	107	34	506	370	136	15	12	4	7502	5152	2350	52891	40832	12059	55937	43183	12753
2327	1578	749	3521	2668	853	12560	9179	3381	383	285	98	86500	59858	26642	969974	748822	221151	977476	754614	222862
0.0266	0.0218	0.0368	0.0256	0.0130	0.0647	0.0201	0.0087	0.0513	0.0261	0.0023	0.0957	0.0185	0.0139	0.0287	0.0309	0.0309	0.0309	0.0323	0.0323	0.0323
770			1165			4156			127			14093			247400			256447		
260			394			1405			43			6704			100297			105774		
543			822			2930			89			22317			221791			242984		
449			679			2422			74			24495			185015			211677		
199			302			1076			33			10807			68603			83292		
94			143			508			16			6974			55966			64160		
22			34			120			4			1173			11902			13141		
2327			3521			12560			383			86500			890976			977476		
2038			6073			13423			348			97373			333448			375308		
1004			2991			6611			172			47773			712604			811864		
3042			9064			20034			520			145146			1042026			1187172		

Food and beverage industry, Sports and recreation industry are the two tourism industries contribute most in the total GVA, where Food and beverage industry and Accommodation industry consume the most of the intermediate consumption. Sports and recreation industry may be the most efficient industry in terms of the value added created per £1million output.

Tourism industry employs people mostly with the GCSE, grades A*-C or equivalent level of education, apart from Cultural industry, Sports and recreation and Meetings and conferences industry, where the FTE at degree or equivalent level are the majority employed. In total, non-tourism industries also employ most of the FTEs at the degree of equivalent level. To summarize, tourism industries contribute more to employment for the population groups that are comparatively less educated.

Household Income Account shows clearly that all the tourism industries employ more low income group of people than the regional average, and employ proportionally more of those who are claiming state benefits. This indication from Household shows the consistency of pro-poor nature of tourism industry and significance of tourism to economic development, economic and social equality.

TSAM shows that the tourism industries tend to employ people who are less educated, and people who work in the tourism industries are less paid or they are from a lower income households group than other non-tourism industries in general.

Employment Account shows most of the domestically owned businesses in tourism industries employ more people than the foreign-owned ones. Tourism industries employ about the same level of resident and non-resident employees in the case of Wales. However, the most important difference here is that foreign-

owned businesses have a much higher compensation per FTE across all the tourism industries (non-tourism industries' value added per £1million output cannot be divided between domestic and foreign ownership). However, the compensation per FTE of other (non-tourism) industries is higher than most of the tourism industries, which shows tourism industries are lower paid in general.

In Purchasing Account, with the current data available from the Wales Tourism Economy Research Survey 2016 undertook for this study, it clearly shows that, at least for this small indicative sample, the foreign-owned tourism businesses have a much higher tendency to source non-locally, more than double the percentage of domestic tourism businesses. Although data quality could be largely improved and more sourcing location data could be made available for both tourism and non-tourism industries.

In Appendix IV, Financial Account and Skills & Qualification Account mostly in yellow, as they are from the APS 2013, with only broad categories available, so it involves the proxy of the account into the industries required from the industries available, similarly in Household Income account. Total intermediate consumption of Other industries is estimated based on the ratios from UK TSA-table 5, as they take up a large percentage of the total output, also the other columns of Financial Account are mostly in yellow, so the Total intermediate consumption and Total GVA of Other industries are in red. Purchasing Account has the purchasing information in red is because the purchasing information is from the Wales Tourism Economy Research Surveys and Interviews 2016, the response rate is too low to be adequate for the statistical purpose, therefore it is merely indicative and better quality of data is required.

8.6 Conclusions

The TSAM reveals a number of ways in which tourism industries differ from other Welsh industries, for example:

- The Financial Account of the TSAM shows that Compensation of Employees takes the largest share of the total GVA for tourism industries;
- In Wales, tourism industries employ people who with fewer years of education, for example, 26.2% of the FTEs in Wales are educated to degree or equivalent level, whereas, only 16.4% of the FTEs in tourism industries have obtained education at degree or equivalent level.
- The Household Income Account shows how tourism industries contribute to the employment of different income level of households. 67.1% of FTEs in the tourism industries are from a lower income group (claiming state benefits) whereas 31.6% of FTEs overall in Wales are from this lower household income group.
- The Employment Account shows that 40% of those employed in tourism are immigrants compared to 33.3% overall.
- The Purchasing Account indicates that domestic tourism businesses source 21% of their non-wage inputs outside of the region whereas foreign ones source 48% outside of Wales.

One of the main challenges facing the tourism intensive destinations is the hosting of the international tourism businesses, particularly international hotels, in the small economy with limited human resources, supply chain issues that limit the significant backward linkages (Hampton and Jeyacheya, 2013). The development of such TSAM is to include more information regarding the human capital resources (education gained of the workers in the destination) and the pro-poor element (households' income groups) to indicate which cohort of the education

years obtained is benefited most from the tourism industries and the pro-poor nature of tourism industries. As data improves, a TSAM could be structured to reveal such issues better for local and non-local businesses (Ashley et al., 2000, Ashley and Roe, 2001).

The specific group that is the focus of the pro-poor tourism strategy is those people who are paid under average, less educated or even unemployed (Kakwani and Pernia, 2000, Ravallion, 2005). The development of TSAM enables the focus of the tourism industry on those groups of people, either directly employed or following modelling approaches, indirectly supported. In addition, the need to shift the focus of tourism economic development impact research from growth to equity are ascertained by various studies, because empirical evidence suggests that tourism development may entrench poverty instead of reducing poverty. Tourism may also provoke inequality and become socially intolerable and reprehensible to tourists (Sinclair, 1998, Hall, 2007, Sahli, 2007, Schilcher, 2007, Scheyvens and Momsen, 2008, Pearce, 2012).

The hospitality industry in the UK employs 3 million workers and it represents about a tenth of the UK's GDP, however, the hospitality sector has warned it faces a staff shortage of 60,000 workers a year if immigration from EU if controlled too tightly. KPMG reports that it will take 10 years to reduce the need for EU workers by training British staff, targeting older workers and encouraging younger people to take jobs in the sector (Ahmed, 2017). Employment Account of the TSAM shows tourism industries employ rather more immigrant workers than other industries in total. Therefore, it is more of a challenge for the regionally-owned than non-regionally owned tourism businesses if there is a staff shortage in the hospitality industries in Wales also because the regionally owned tourism

businesses are lower paid than both non-regional ones and non-tourism businesses, as the TSAM shows.

Tourism may be considered a panacea for economic development in some places. But some of tourism industries (such as hotels, air transportation, and their construction) are capital intensive. This means that FDI is an important element in tourism industrial development, and also that an understanding of whether such activities have local indirect effects – differentially to local businesses – is important (Dieke, 2000, Endo, 2006). This Pilot TSAM, by including the Financial Account and Purchasing Account helps differentiate foreign-owned and domestically owned businesses in terms of their local procurement and hence 'multiplier' impacts, as well as potentially being useful to track profit repatriation, As Section 8.3 also clearly shows that the construction of TSAM as the additional TSA-table 11 makes the future application of CGE modelling easier.

Chapter 9 Limitations of this study and future research directions

9.1 Introduction

This Chapter explains the limitations of this study, includes the low response rate for both the surveys and interviews, the homogeneity assumption between the input ratios of production functions for the tourism businesses in UK and Wales, and the 'snapshot' nature of TSA study. There are also general issues of TSA as the measurement tool (e.g. limited comparison function, and lack of timely). It also summarizes the future research direction: either by sourcing better data to study the knowledge transfer from foreign business to domestic ones or further modelling based on TSAM or other econometric analysis.

9.2 Limitations of this study

9.2.1 Low engagement rates of tourism businesses in surveys and interviews

Both the Wales Tourism Research Surveys 2016 and Wales Tourism Research Interviews 2016 have low response rate and low participation rate after persistent effort made in improving the return rates. Overall, the return rate is about 6%, and it is not sufficient to generate reliable results, here then the data is largely used for discussion and to indicate the potential benefits of better future data.

The purpose of the surveys/interviews as the research tool is to collect information and record the tourism businesses operational behaviour also the owners' relevant thoughts. However, the value of the survey depends on the ability of the

participated samples to describe the population without bias and within an acceptable level of uncertainty (Groves, 2006). The nonresponse rates do affect the survey estimates (Merkle and Edelman, 2002). Although different studies may suggest a different acceptable level of response rate, 85% is suggested as the minimum adequate level of response rate and there is still a high chance of bias (Singleton et al., 2005).

The response rate is still the most common statistic to indicate the quality of the survey as it shows the representativeness of the sample (Baruch and Holtom, 2008). Lack of time, perceived lack of importance, concerns about confidentiality, and concern about bias of the survey in general or specifically are the main reasons of the low response rate of the surveys (Sudman, 1985). In the Welsh Tourism Economy Research Survey/Interviews 2016, phone calls were made to follow up for the non-response and non-participation reasons, the major concerns of participation include confidentiality (the business owners were not willing to reveal any financial information while it is necessary to participate), bias of the survey (The owners think they are too small/not the typical type of tourism businesses to be the appropriate representative of the tourism businesses and have a perception of the survey/interview email was sent out for large/certain type of tourism businesses), and lack of time (they are full-time running their business and do not have the time for the survey/interviews). There are also various other reasons of non-participation, but the majority is because of the 3 reasons mentioned as above.

However, response/non-response bias is another important measure of the survey quality, it happens when those who represent differently from the population, such bias becomes more important as the measure of the survey quality (Johnson and Wislar, 2012, Shelley et al., 2012). As shown in Table 11, the survey returns and interviews undertaken for the Wales Tourism Economy Research 2016 covers all

the broad types of businesses and the geographic locations across Wales, the number of return is also consistent with the tourism intensity geographically, however the low participation rates still makes the possibility of bias extremely high although the coverage across business types and locations spreads well.

The cost-efficient methods of obtaining a high response rate of the surveys are suggested as following,

- Reminders are needed to be able to gain an acceptable response rate regardless of whether the survey is conducted by postal, telephone, electronic, or the combination modes, four reminders are the suggested as the appropriate reminders number (Christian et al., 2007, Dillman, 2011).
- It is unlikely that the additional email reminders, without other modes of survey to follow-up, would meaningfully increase the response rate from certain percentage (Funkhouser et al., 2014).
- The responses are decreasing with successive reminders if the reminder was sent by the same mode (electronical or postal), however, if the mode of reminder was changed from electronical to postal, with the printed questionnaire included, the response of the reminder increases. When the reminder mode was changed from postal to personal contact (regional coordinators), the yield of the response is large and the late responders did not differ from early responders in any characteristics (Funkhouser et al., 2016).

Wales Tourism Economy Research Survey 2016 was initially sent out by email, and an additional email reminder after the first one was sent out 2 months later, and a telephone follow-up in between 2 emails. There was a good percentage of increase in the online responses after the second email (reminder) sent out, however, it only reached about 6% including the agreed interviews.

9.2.2 The homogeneity assumption of production functions

The inputs split of the output of the tourism industries are assumed the same across the UK TSA-table 5 and Wales TSA-table 5, also the same split of input elements are applied to allocate the total output of the Wales TSA-table 5 although productivity per capita is adjusted differently according to the ownership. This might be not true in reality because the production function of the regionally owned tourism businesses and non-regionally owned tourism businesses may not be the same, also the non-regionally owned businesses hosted in Wales may behave differently from the other branches in the UK/other countries, for the reasons

- The GVA/head in Wales is one of the lowest regions across UK (ONS, 2017c), the productivity and the inputs of the total output may be slightly different from the businesses in the UK.
- The non-regionally owned tourism businesses may suffer from branch plant syndrome, they actually operate differently from their headquarters or their counterparts branches with different functions.
- Regionally owned businesses in the same tourism industries may operate different functions within the same industries from non-regionally owned businesses, for example, taxies versus long-distance coaches. Inputs could be very different.

As suggested in Section 4, the branch plant syndrome makes the assumption of applying the same breakdown of the inputs elements problematic. There is generally a negative view regarding the wider indirect impact of FDI on host regions as they may suffer from the branch plant syndrome (problems of the external control, function as the routine parts of the production chain) (Watts,

1981). A more recent study examines the embeddedness of the manufacturing MNE in Wales and North East England based upon an extensive survey of overseas manufacturing affiliates in the region. Little evidence of increasing embeddedness is found. The "extended enclaves' is suggested as the relationship of the MNEs and the economies of peripheral UK regions (Phelps et al., 2003). Non-regionally owned tourism businesses in Wales, a peripheral UK region, may also suffer from the branch plant syndrome, at least for some of the tourism industries such as Travel agencies and other reservation services. Although the tourism industries (Accommodation and Restaurants) that employ the majority of the employees in tourism industries tend to be less likely suffer from branch plant syndrome as there are not many functional differences in those industries, and there are limited information and studies available to adjust the inputs split difference further than the productivity difference adjusted between two ownerships.

9.2.3 Snapshot instead of long term impact analysis

As one of the main contributions of this study, it measures the contribution of the FDI in tourism industries to economic development. However, it only contributes a snapshot of how tourism FDI (and tourism in general) may contribute to economic development in terms of the GVA, productivity and employment, it does not provide any modelling in longer terms.

One suggestion of how tourism contributes to economic development is that it may not contribute significantly during the time but it contributes significantly with some time lags (Sequeira and Campos, 2005). This study does not provide the dynamic analysis and may ignore the contribution with time lags especially if the suggestion is true.

However, this could be a compliment to the econometrics analysis or the dynamic econometrics analysis with additionally consider the interconnection between

different industries while econometrics analysis is only a partial equilibrium and not able to consider the interconnections between industries at the same time (Archer and Fletcher, 1996, Akkemik, 2012).

9.3 The general issues of TSA as the measuring method

9.3.1 Limited comparison function of TSA across countries

TSAs divide visitors into different types of visitors by the origin of the tourists, including inbound, domestic, outbound, internal, national visitors. This kind of classification is especially useful for the tourism characteristic of certain destination, for example, the tourism destination where highly depends on the international arrivals will have less focus on the domestic tourists, the usefulness of such classifications are not the same across countries.

The structure and the presentation of the TSAs can be very different across different countries, but the headline outputs and indicators of the size and the importance of the tourism economy have a high degree of commonality. There are also a few issues that raised from how the TSA is constructed.

9.3.2 Problems of TSA as a tool for policy makers

TSA is limited by the access to SNA data, as the data collecting and TSA construction are both time consuming process, TSA reference years are normally 3 years prior to its publication data, such as the UK TSA 2013 was released in May 2016. However, policy makers are usually in demand of timely information to aid decision making, results for a reference year in the past will reduce the value of it to some extent. Partial update of the TSA therefore is adopted by some of the

countries based upon information which is more readily available for more recent periods. Although the 'hidden changes' such as tourism ratios and production techniques may have changed but not been updated because of relevant data is not available, the potential errors are still far less than the benefits consequent of partial updates based on the timely estimates of the key indicators.

9.4 Future research directions

One of the import future research directions that were summarized by the Welsh Economic Research Unit in 2009 is foreign firms tend to use higher levels of skilled labour, compared to the fact that foreign firms place a strong emphasis on the training of the staff recruited on the domestic base. There is little research shows details about how foreign sectors affect the regional base of skills improvement. The better evidence could be provided from here is the research on the extent to which the general and specific skills in the foreign sectors have been gained by the domestic base (Munday et al., 2009a). TSAM is able to identify the skills/the education obtained by the employees in tourism industries. If the relevant data is available, the specific skills in the foreign sectors can be gained compared to the domestic sectors could be provided, or more relevant information about how foreign sectors affect the regional base of skills improvement can then be identified.

The main difference between the domestic and foreign businesses in the host destination may be their production process. Being able to identify the 2 ownerships' differences in the production function could be very useful in analyse their impact in the economic contributions or the contribution differences, however, the condition of this analysis is that there is an adequate level of responses from the surveys in providing sufficient inputs data to enable a 'bottom-up' TSA with the structural alterations to show the production function differences.

The development of TSAM enables the further analysis and modelling easier, CGE

modelling could also be the further research directions based on the current TSA structural development. CGE is based on similar data and assumptions as the IO model but with fewer constraints, such as the relationships between variables of supply and use are modelled and are not necessarily linear anymore; the price variation constraint is relaxed; the supply and use table represent an equilibrium situation between the variables of the system. When tourism generates changes in some of the variables, a new equilibrium situation will be computed under the new conditions of the tourism demand vector and the existing variables of the supply and use table. CGE is also possible for considering other responses such as effects of the prices variation in inputs, capital and labour to increase tourism demand. CGE is a more complex model in the impacts studies, it usually provides a unique solution in terms of a vector of demand. CGE modelling for Thailand and Brazil on the distributional effects reveal how the tourism will benefit the different income groups, through what channels different tier of income households will benefit from tourism, including price, earnings, government and tourism expansion as the beneficial channels (Blake et al., 2008, Wattanakuljarus and Coxhead, 2008). TSAM is developed and attached to the TSA in 2013 Wales TSA would make such modeling in Wales easier.

Further econometrics analysis over longer term impact of tourism FDI may also provide a 'full picture' of the total impact of tourism FDI if combined with the snapshot provided by the TSA. Additionally, the Micro aspect of studies in how firms of different ownerships make their own decisions based on the choices they have would add value to this study, as both the TSA and further econometric modelling are all based on the Macro aspect of the research question.

9.5 Conclusions

Chapter 9 summarizes the main limitations of this study and the future research

directions. The main limitations include the low engagement rates of the tourism businesses for the surveys and interviews, the homogeneity assumption in the inputs ratios of production function between UK and Wales, and the non-dynamic nature of this study. There are varies reasons that the businesses did not want to participate in the surveys and interviews including lack of time and unwillingness to reveal financial information. The homogeneity assumption is the consequence of the low response rate, which is not adequate to identify the inputs difference between businesses in UK and Wales. The snapshot nature of this impact study is because of the same nature of the TSA. TSA as the measurement tool also has other limitations: limited comparison function of TSA across countries because of the differences in compilation and data collection; TSA is mostly not a timely tool for policymaker because of the time-consuming process of nation or region-wide data collection (Jones and Munday, 2003).

Future research directions mainly focus on identifying the spillover effects of the foreign businesses on the skills of the domestic labour force, and the inputs differences between the domestic and foreign businesses if possible. CGE modelling based on the development of the TSAM as the TSA-table 11 to be able to measure a total and fuller impact of the tourism and foreign capital impacts is also a very important aspect of the future research.

Chapter 10 Conclusions

This thesis has argued there are analytical and potential policy benefits following re-structuring and refining the TSA to distinguish foreign and domestic ownership in tourism product supply, and to measure the contribution of the FDI in tourism industries in terms of the GVA, productivity and employment. This is important because tourism dependent destinations often rely on FDI, and there are very few studies on the impact of the tourism FDI at those tourism intensive destinations because of the data scarcity. In addition, such measurement tool by TSA has its own advantages (transparency, account for the sectoral inter-connections) compared to the econometric analysis. The transparency of this method makes it is easy to trace the capital flows and makes the replication of such method easier in other places.

This thesis has also further developed an additional table of the TSA, the Tourism Social Accounting Matrix, to be able to consider more welfare and development related, and social factors within the TSA framework. It incorporates the quality of the labour, employed workers' household's income level, and purchase leakages information, which is not measured and considered in standard TSAs but of great importance for tourism impacts.

The example region in this study is Wales, showing the contributions of regionally owned and non-regionally owned businesses in each tourism specialized industries. The productivity in the foreign tourism sector is much higher across all the tourism industries in Wales, as shown in Table 18. There is more TGVA created in total in the foreign tourism businesses (£1,126 million) than the domestic tourism businesses (£1,074 million), as shown in Table 19. Also, the foreign tourism businesses supply 53% of the tourism products/services in total (Table 18), FTEs in foreign tourism businesses also obtain a higher productivity in terms of GVA/FTE, as shown in the TSA-table 7 Extended.

The TSAM in Wales shows that tourism industries in Wales tend to employ people who are overall less educated than in the case for other industries; tourism industries employ more people with GCSE grades A*-C or equivalent, while other industries employ more Degree or equivalent. People who work in tourism industries in Wales are generally from a lower income household group or earn a lower income. TSAM also shows regionally-owned tourism businesses source 21% of the purchase outside of Wales, where the non- regionally owned tourism businesses source 48% from outside of the region, although data quality could be greatly improved here.

Such a development is useful in the Welsh context because there is a constant drawing out of the human capital, graduates, to London area and South East, similar to how important innovations and creative firms started in poorer places can be attracted to richer regions (Faggian and McCann, 2009, Foreman-Peck and Nicholls, 2013). But the question is the immobile local resources such as natural resources and labour are to a large extent to benefit the non-local firms such as UK-nationals and transnational companies. The refined TSA framework is able to measure the impact of the non-local firms by the labour use, leakages and other welfare important elements.

More importantly, poor countries are suffering similar problems of capital outflow, lack of investment resources and foreign domination, especially in tourism specialized countries e.g. Small Island Developing States. The restructure of the TSA and its further development enable a better understanding of labour use, tourism FDI impact and the pro-poor nature of tourism industries would give a better idea of tourism impact on development in those destinations.

Using Wales as the example region to show the alteration and use of the TSA to measure such important factors revealed some estimation and statistical issues, which may be of importance in the replication of such TSA development in other

places. Those issues mainly concern the data availability, the accuracy of the proxies if data is not directly available, and issues in dealing with the ambiguity of definitions' application during the process of TSA construction. Overall, it would be easier to replicate and apply this method in other developed countries where the necessary data already largely exists, and in other/poorer places, appropriate assumptions need to be made if more primary data collection is not available.

This study has been presented at the 6th UNWTO International Conference on Tourism Statistics: Measuring Sustainable Tourism (2017). UNWTO and its partners may be able to formalize the TSAM, the capital accounts included, also the difficulties the construction process has encountered in applying the current definitions of the TSA-tables, e.g. formalize the public/collective table; how subsidies are treated in TSA-table 5 and 6; how the informal tourism could be dealt with especially when companies such as Uber and Airbnb are taking off and expanding enormously across the world. The relevant formalization by UNWTO and its partners would take the development of TSA suggested in this thesis forward and enable a better application of a more developed TSA to key economic and sustainable development cases where tourism is important.

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Appendices

Appendix I Standard Tourism Satellite Account Tables (*2008 TSA RMF page 65-74*)

TABLE 1

Inbound tourism expenditure by products and classes of visitors

Products	Inbound tourism expenditure		
	Tourists (overnight visitors) (1.1)	Excursionists (same-day visitors) (1.2)	Visitors (1.3) = (1.1) + (1.2)
A. Consumption products (*)			
A.1 Tourism characteristic products			
1 – Accommodation services for visitors		×	
1.a – Accommodation services for visitors other than 1.b		×	
1.b – Accommodation services associated with all types of vacation home ownership		×	
2 – Food and beverage serving services			
3 – Railway passenger transport services			
4 – Road passenger transport services			
5 – Water passenger transport services			
6 – Air passenger transport services			
7 – Transport equipment rental services			
8 – Travel agencies and other reservation services			
9 – Cultural services			
10 – Sports and recreational services			
11 – Country-specific tourism characteristic goods			
12 – Country-specific tourism characteristic services			
A.2 Other consumption products (a)			
B.1 Valuables			
TOTAL			

× does not apply

(*) The value of **A. Consumption products**, is net of the gross service charges paid to travel agencies, tour operators and other reservation services.

(a) If relevant and feasible, countries should separately identify both components ("tourism connected products" and "non-tourism related consumption products"). In both cases, goods and services should be separately identified, if possible (see para. 4.15.).

TSA-table 1 focuses on inbound tourism. Tourism expenditure is disaggregated into overnight and same day visitors as the consumption structure of these two types of tourists are usually very different. Transit passengers can be the additional category if possible.

TABLE 2

Domestic tourism expenditure by products, classes of visitors and types of trips

Products	Domestic tourism expenditure								
	Domestic trips (**)			Outbound trips (**)			All types of trips		
	Tourists (overnight visitors) (2.1)	Excursionists (same-day visitors) (2.2)	Visitors (2.3) = (2.1) + (2.2)	Tourists (overnight visitors) (2.4)	Excursionists (same-day visitors) (2.5)	Visitors (2.6) = (2.4) + (2.5)	Tourists (overnight visitors) (2.7) = (2.1) + 2.4)	Excursionists (same-day visitors) (2.8) = (2.2) + (2.5)	Visitors (2.9) = (2.3) + (2.6)
A. Consumption products (*)									
A.1 Tourism characteristic products									
1 – Accommodation services for visitors		×			×			×	
1.a – Accommodation services for visitors other than 1.b		×			×			×	
1.b – Accommodation services associated with all types of vacation home ownership		×			×			×	
2 – Food and beverage serving services									
3 – Railway passenger transport services									
4 – Road passenger transport services									
5 – Water passenger transport services									
6 – Air passenger transport services									
7 – Transport equipment rental services									
8 – Travel agencies and other reservation services									
9 – Cultural services									
10 – Sports and recreational services									
11 – Country-specific tourism characteristic goods									
12 – Country-specific tourism characteristic services									
A.2 Other consumption products (a)									
B.1 Valuables									
TOTAL									

× does not apply

(*) The value of **A. Consumption products**, is net of the gross service charges paid to travel agencies, tour operators and other reservation services.

(**) Domestic tourism comprises the activities of a resident visitor within the country of reference either as part of a domestic trip or part of an outbound trip (see Figure 2.1).

(a) If relevant and feasible, countries should separately identify both components ("tourism connected products" and "non-tourism related consumption products"). In both cases, goods and services should be separately identified, if possible (see para. 4.15.).

99

TSA-table 2 focuses on the domestic tourism expenditure, the additional breakdown is made by the type of trips, whether it is the domestic or the outbound trips. Domestic tourism expenditure not only includes domestic trips expenditure but also the expenditure of outbound tourists made within the reference economy.

TABLE 3

Outbound tourism expenditure by products and classes of visitors

Products	Outbound tourism expenditure		
	Tourists (overnight visitors) (3.1)	Excursionists (same-day visitors) (3.2)	Visitors (3.3)=(3.1) + (3.2)
A. Consumption products (*)			
A.1 Tourism characteristic products			
1 – Accommodation services for visitors		×	
1.a – Accommodation services for visitors other than 1.b		×	
1.b – Accommodation services associated with all types of vacation home ownership		×	
2 – Food and beverage serving services			
3 – Railway passenger transport services			
4 – Road passenger transport services			
5 – Water passenger transport services			
6 – Air passenger transport services			
7 – Transport equipment rental services			
8 – Travel agencies and other reservation services			
9 – Cultural services			
10 – Sports and recreational services			
11 – Country-specific tourism characteristic goods			
12 – Country-specific tourism characteristic services			
A.2 Other consumption products (a)			
B.1 Valuables			
TOTAL			

× does not apply

(*) The value of **A. Consumption products**, is net of the gross service charges paid to travel agencies, tour operators and other reservation services.
(a) If relevant and feasible, countries should separately identify both components ("tourism connected products" and "non-tourism related consumption products"). In both cases, goods and services should be separately identified, if possible (see para. 4.15.).

TSA-table 3 shows outbound tourism expenditure, it happens when the resident visitors are outside of or on the trip to leave the reference economy. TSA-table 1 to 3 describe the important tourism component, tourism expenditure, it not only includes what the visitors pay but also the producers' expenditure for visitors' benefit.

TABLE 4

Internal tourism consumption by products

Products	Internal tourism expenditure			Other components of tourism consumption (**)	Internal tourism consumption
	Inbound tourism expenditure	Domestic tourism expenditure	Internal tourism expenditure		
	(1.3)	(2.9)	(4.1) = (1.3) + (2.9)	(4.2)	(4.3) = (4.1) + (4.2)
A. Consumption products (*)					
A.1 Tourism characteristic products					
1 – Accommodation services for visitors					
1.a – Accommodation services for visitors other than 1.b					
1.b – Accommodation services associated with all types of vacation home ownership					
2 – Food and beverage serving services					
3 – Railway passenger transport services					
4 – Road passenger transport services					
5 – Water passenger transport services					
6 – Air passenger transport services					
7 – Transport equipment rental services					
8 – Travel agencies and other reservation services					
9 – Cultural services					
10 – Sports and recreational services					
11 – Country-specific tourism characteristic goods					
12 – Country-specific tourism characteristic services					
A.2 Other consumption products (a)					
B.1 Valuables					
TOTAL					

(*) The value of **A. Consumption products**, is net of the gross service charges paid to travel agencies, tour operators and other reservation services.
(**) Components should be separately identified, if possible (see para. 4.41).
(a) If relevant and feasible, countries should separately identify both components ("tourism connected products" and "non-tourism related consumption products"). In both cases, goods and services should be separately identified, if possible (see para. 4.15.).

89

TSA-table 4 states that internal tourism consumption is combined by internal tourism expenditure and other components of tourism consumption. Internal tourism expenditure includes both inbound tourism expenditure from TSA-table 1 and domestic tourism expenditure from TSA-table 2. There are 3 categories in the other components of tourism consumption, services associated with vacation accommodation on own account, tourism social transfers in kind (except refunds) and other imputed consumption. Internal tourism consumption provided by TSA-table 4 would be the basis of the tourism GVA and tourism direct GDP.

TABLE 5

Production accounts of tourism industries and other industries (at basic prices)

Products	TOURISM INDUSTRIES															Other industries	Output of domestic producers (at basic prices)
	1 - Accommodation for visitors	1 - a. accommodation services for visitors except in 1-b	1 -b. accommodation services associated with all types of vacation home ownership	2 - Food and beverage serving industry	3- Railway passenger transport	4 - Road passenger transport	5 - Water passenger transport	6 - Air passenger transport	7 - Transport equipment rental	8- Travel agencies and other reservation services industry	9- Cultural industry	10- Sports and recreational industry	11 – Retail trade of country-specific tourism characteristic goods	12- Country specific tourism industries	TOTAL		
	(5.1)	(5.1a)	(5.1b)	(5.2)	(5.3)	(5.4)	(5.5)	(5.6)	(5.7)	(5.8)	(5.9)	(5.10)	(5.11)	(5.12)	(5.13)	(5.14)	(5.15) = (5.13) + (5.14)
A. Consumption products (*)																	
A.1 Tourism characteristic products																	
1 – Accommodation services for visitors																	
1.a – Accommodation services for visitors other than 1.b																	
1.b – Accommodation services associated with all types of vacation home ownership																	
2 – Food and beverage serving services																	
3 – Railway passenger transport services																	
4 – Road passenger transport services																	
5 – Water passenger transport services																	
6 – Air passenger transport services																	
7 – Transport equipment rental services																	
8 – Travel agencies and other reservation services																	
9 – Cultural services																	
10 – Sports and recreational services																	
11 – Country-specific tourism characteristic goods																	
12 – Country-specific tourism characteristic services																	
A.2 Other consumption products (a)																	
B. Non consumption products																	
B.1 Valuables																	
B.2 Other non consumption products (**) (b)																	
I. TOTAL OUTPUT (at basic prices)																	
II. TOTAL INTERMEDIATE CONSUMPTION (at purchasers price) (c)																	
(I - II) TOTAL GROSS VALUE ADDED (at basic prices)																	
Compensation of employees																	
Other taxes less subsidies on production																	
Gross mixed income																	
Gross operating surplus																	

(*) The value of **A. Consumption products**, is net of the gross service charges paid to travel agencies, tour operators and other reservation services.
(**) Includes all other goods and services that circulate in the economy of reference.
(a) If relevant and feasible, countries should separately identify both components ("tourism connected products" and "non-tourism related consumption products"). In both cases, goods and services should be separately identified, if possible (see para. 4.15.).
(b) Goods and services should be separately identified, if possible (see para. 4.16.)
(c) Breakdown by products should be provided, if possible (see para. 4.17.)

TSA-table 5 presents the tourism industries production accounts and other industries in the economy of reference. Output is divided by product and takes up the first block of rows in the upper part of the table and it is measured at the basic prices. The row in the middle of the table is intermediate consumption, which is presented and valued at purchasers' prices. There are compensation of employees, gross operating surplus of corporations, mixed income of unincorporated business and net taxes on production in the second block of rows as total GVA.

TABLE 6

Total domestic supply and internal tourism consumption (at purchasers' prices) (*)

Products	TOURISM INDUSTRIES: 1 - Accommodation for visitors		1 - a. accommodation services for visitors except in 1-b		1 - b. accommodation services associated with all types of vacation home ownership		...		12- Country specific tourism industries		TOTAL		Other industries		Output of domestic producers (at basic prices)		imports*		Taxes less subsidies on products nationally produced and imported		Trade and transport margins		Domestic supply (at purchasers' prices)	Internal tourism consumption	Tourism ratios (%)
	output (5.1)	tourism share (in value)	output (5.1a)	tourism share (in value)	output (5.1b)	tourism share (in value)	output (5...)	tourism share (in value)	output (5.12)	tourism share (in value)	output (5.13)	tourism share (in value)	output (5.14)	tourism share (in value)	output (5.15) = (5.13) + (5.14)	tourism share (in value)	output (6.1)	tourism share (in value)	output (6.2)	tourism share (in value)	output (6.3)	tourism share (in value)	(6.4) = (5.15)+ (6.1) + (6.2) + (6.3)	(4.3)	(6.5)= (4.3) x 100 / (6.4)
A. Consumption products (*)																									
A.1 Tourism characteristic products (d)																									
1 – Accommodation services for visitors																					×	×			
1.a – Accommodation services for visitors other than 1.b																					×	×			
1.b – Accommodation services associated with all types of vacation home ownership																					×	×			
2 – Food and beverage serving services																					×	×			
3 – Railway passenger transport services																					×	×			
4 – Road passenger transport services																					×	×			
5 – Water passenger transport services																					×	×			
6 – Air passenger transport services																					×	×			
7 – Transport equipment rental services																					×	×			
8 – Travel agencies and other reservation services																					×	×			
9 – Cultural services																					×	×			
10 – Sports and recreational services																					×	×			
11 – Country-specific tourism characteristic goods		×		×		×		×		×		×		×		×		×							
12 – Country-specific tourism characteristic services																					×	×			
A.2 Other consumption products (a) (d)																					×	×			
B. Non consumption products (d)																					×	×			
B.1 Valuables		×		×		×		×		×		×		×		×		×							
B.2 Other non consumption products (**) (b) (d)																					×	×			
I. TOTAL OUTPUT (at basic prices)																									
II. TOTAL INTERMEDIATE CONSUMPTION (at purchasers price) (c)																									
(I - II) TOTAL GROSS VALUE ADDED (at basic prices)																									
Compensation of employees																									
Other taxes less subsidies on production																									
Gross mixed income																									
Gross operating surplus																									

× does not apply

* * * Means that all tourism industries of the proposed list have to be considered one by one in the enumeration
* Imports excludes direct purchase of residents abroad

(*) The value of **A. Consumption products**, is net of the gross service charges paid to travel agencies, tour operators and other reservation services.
(**) Includes all other goods and services that circulate in the economy of reference.
(a) If relevant and feasible, countries should separately identify both components ("tourism connected products" and "non-tourism related consumption products"). In both cases, goods and services should be separately identified, if possible (see para. 4.15.).
(b) Goods and services should be separately identified, if possible (see para. 4.16.)
(c) Breakdown should be provided, if possible (see para. 4.17.)
(d) For goods, the tourism share is to be established on the retail trade margin only (see Annex 4)

TSA-table 6 is where the confrontation and reconciliation between supply and internal tourism consumption take place and it is the core of the TSA. Total supply of goods and services in the economy of reference by products, which includes production by resident transactors and imports, is compared to tourism consumption, and conclusions can be derived regarding the GVA attributable to tourism for each of the industries that serve visitors.

TABLE 7

Employment in the tourism industries

Tourism industries	Number of establishments	Number of jobs by status in employment (*)						Number of hours worked by status in employment (*)						Number of full-time equivalent jobs by status in employment (*)					
		employees			self employed			employees			self employed			employees			self employed		
		Male	Female	**Total**	Male	Female	**Total**	Male	Female	**Total**	Male	Female	**Total**	Male	Female	**Total**	Male	Female	**Total**
1 – Accommodation for visitors																			
1.a – Accommodation services for visitors other than 1.b																			
1.b – Accommodation services associated with all types of vacation home ownership																			
2 – Food and beverage serving industry																			
3 – Railways passenger transport																			
4 – Road passenger transport																			
5 – Water passenger transport																			
6 – Air passenger transport																			
7 – Transport equipment rental																			
8 – Travel agencies and other reservation services industry																			
9 – Cultural industry																			
10 – Sports and recreational industry																			
11 – Retail trade of country-specific tourism characteristic goods																			
12 – Country specific tourism industries																			
TOTAL																			

(*) in the reference period

TSA-table 7 shows the tourism employment data. Two major breakdowns of the number of jobs and hours worked are proposed according to the sex of the person employed or a simplified status in employment classification, where only employees are singled out from the rest of the labour force. The intensity of the use of the labour force is expressed in terms of number of jobs, number of hours worked and number of full-time equivalent jobs.

TABLE 8

Tourism gross fixed capital formation of tourism industries and other industries

Products	TOURISM INDUSTRIES																
	1 – Accommodation for visitors	*1 – a. accommodation services for visitors except in 1-b*	*1 – b. accommodation services associated with all types of vacation home ownership*	*2 – Food and beverage serving industry*	*3 – Railway passenger transport*	*4 – Road passenger transport*	*5 – Water passenger transport*	*6 – Air passenger transport*	*7 – Transport equipment rental*	*8 – Travel agencies and other reservation services industry*	*9 – Cultural industry*	*10 – Sports and Recreational industry*	*11 – Retail trade of country-specific tourism characteristic goods*	*12 – Country specific tourism industries*	*13 - TOTAL*	*14 – Other industries*	*15 – Tourism gross fixed capital formation*
	(8.1)	*(8.1a)*	*(8.1b)*	*(8.2)*	*(8.3)*	*(8.4)*	*(8.5)*	*(8.6)*	*(8.7)*	*(8.8)*	*(8.9)*	*(8.10)*	*(8.11)*	*(8.12)*	*(8.13)*	*(8.14)*	*(8.15) = (8.13) + (8.14)*
I. Tourism specific fixed assets																	
1. Accommodation for visitors																	
1.1. Hotels and other accommodation facilities for visitors																	
1.2. Vacation homes under full ownership																	
1.3. Vacation homes under other forms of ownership																	
2. Other non residential buildings and structures proper to tourism industries																	
2.1. Restaurants and similar buildings for food and beverage serving services																	
2.2. Buildings and infrastructure for the long distance transport of passengers																	
2.3. Buildings for cultural and similar services mainly for use by visitors																	
2.4. Facilities for sport, recreation and entertainment																	
2.5. Other facilities and structures																	
3. Passenger transport equipement for tourism purposes																	
3.1. Land (including road and rail)																	
3.2. Sea																	
3.3. Air																	
4. Other machinery and equipement specialized for the production of tourism characteristic products																	
5. Improvements of land used for tourism purposes																	
II. Investment by the tourism industries in other non tourism- specific produced assets																×	
(I + II) TOTAL																	
Memorandum item: **III. Other non-financial assets (*)**																	

× does not apply

(*) See para. 3.40 and Annex 5.

The rows in TSA-table 8 show gross fixed capital formation items related to tourism, and the columns show different blocks. The first block includes the net acquisition of all capital goods by the tourism industries and allows the derivation of the aggregate called: “gross fixed capital formation of the tourism industries”. The first block is followed by a column showing the net acquisitions of tourism-specific capital goods by all other industries. The final column registers the total of each capital good acquired.

TABLE 9

Tourism collective consumption by products and levels of government

Products (*)		Levels of government			Tourism collective consumption (9.4)= (9.1)+(9.2)+(9.3)	*Memorandum item (**)*
		National (9.1)	Regional (9.2)	Local (9.3)		Intermediate consumption by the tourism industries
85561	Tourism promotion services					×
85562	Visitor information services					×
91135	Administrative services related to the distributive and catering trade, hotels and restaurants					×
91136	Administrative services related to tourism affairs					×
Part of:						
83700	Market research and public opinion polling services					×
91260	Police and fire protection services					×
92219	Other education and training					
92920	Educational support services					
TOTAL						

× does not apply

(*) CPC, Rev 2.0 Subclasses.
(**) This column reflects the expenditure by the tourism industries in tourism promotion or other services related to the products described, when relevant.

The rows in TSA-table 9 show non-market services, tourism collective non-market services. Individual non-market services, such as those provided by national parks and museums, are excluded from table 9 because they are considered within social transfers in kind and included under tourism consumption because their beneficiaries can be identified separately.

TABLE 10
Non monetary indicators

a. Number of trips and overnights by forms of tourism and classes of visitors

	Inbound tourism			Domestic tourism			Outbound tourism		
	Tourists (overnight visitors)	Excursionists (same-day visitors)	Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	Visitors
Number of trips									
Number of overnights		x			x			x	

b. Inbound tourism: Number of arrivals and overnights by modes of transport

	Number of arrivals	Number of overnights
1.Air		
1.1 Scheduled flights		
1.2 Unscheduled flight		
1.3 Private aircraft		
1.4 Other modes of air transport		
2. Waterway		
2.1 Passenger line and ferry		
2.2 Cruise ship		
2.3 Yacht		
2.4 Other modes of water transport		
3. Land		
3.1 Railway		
3.2 Motor coach or bus and other public road transportation		
(i) taxis, limousines and rental private motor vehicle with driver		
(ii) Rental of man or animal drawn vehicle		
3.4 Owned private vehicle (with capacity up to 8 pers)		
3.5 Vehicle rental without operator (up to 8 pers.)		
3.6 Other modes of land transport (horse back bicycle, motorcycles, etc.		
3.7 On foot		
TOTAL		

(*) In the case of inbound tourism, the variable would be "arrivals"

c. Number of establishments and capacity by types of accommodation

	Accommodation for visitors in ISIC 55			Real estate activities in ISIC 68	
	Short-term accommodation activities	Camping grounds, recreational vehicle parks and trailer parks	Other accommodation	Real estate activities with own or leased property	Real estate activities on a fee or contract basis
Number of establishments					
Capacity (rooms)					
Capacity (beds)					
Capacity utilization (rooms)					
Capacity utilization (beds)					

d. Number of establishments in tourism industries classified according to average number of jobs

	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	>1000	TOTAL
Tourism industries										
1 – Accommodation for visitors										
1.a – accommodation services for visitors except in 1-b										
1.b – accommodation services associated with all types of vacation home ownership										
2 – Food and beverage serving industry										
3 – Railways passenger transport										
4 – Road passenger transport										
5 – Water passenger transport										
6 – Air passenger transport										
7 – Transport equipment rental										
8 – Travel agencies and other reservation services industry										
9 – Cultural industry										
10 – Sports and recreational industry										
11 – Retail trade of country-specific tourism characteristic goods										
12 – Country specific tourism industries										
TOTAL										

74

TSA-table 10 presents quantitative indicators that are related to the previous tables and are important for the interpretation of the monetary information presented. The indicators include number of trips by forms of tourism, classes of visitors and duration of the stay; physical indicators regarding types of accommodation; modes of transport used by non-resident visitors traveling to the economic territory of the country of reference; and number and size of the establishments belonging to tourism industries.

Appendix II Wales TSA 2013 with Structural Alteration and Further Development as the Tourism Economic Development Impact Measuring Tool

TSA-Table 1: Inbound tourism expenditure by products and classes of visitors in Wales, 2013

TSA-Table 2: Domestic (Regional) tourism expenditure by products, classes of visitors and types of trips in Wales, 2013

TSA-Table 3: Outbound tourism expenditure by products and classes of visitors in Wales, 2013

TSA-Table 4: Internal tourism consumption by products in Wales, 2013

TSA-Table 5: Regional and non-regional production accounts of tourism industries and other industries (at basic prices) (£ millions), 2013

TSA-Table 6: Total domestic supply and internal tourism consumption (at purchasers' prices) in Wales (£ millions), 2013

TSA-Table 7 and TSA-Table 7 Extended: Employment and productivity in the tourism industries in Wales, 2013

TSA-Table 11: Tourism Social Accounting Matrix

TSA-TABLE 1: Inbound tourism expenditure by products and classes of visitors in Wales, 2013	Inbound Tourism Expenditure (£ million)		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors	541	-	541
Food and beverage serving activities	300	68	368
Railway passenger transport services	76	43	119
Road passenger transport services	41	10	51
Water passenger transport services	14	8	22
Air passenger transport services	8	5	13
Transport equipment rental services	10	2	12
Travel agencies and other reservation services	9	2	11
Cultural activities	18	4	22
Sport and recreation activities	14	3	17
Exhibitions & Conferences etc.	11	2	13
Other consumption products	813	184	997
TOTAL	**1,855**	**331**	**2,186**

"-" is less than £500,000 (i.e. round to the nearest £m)

Expenditure estimated using data from the 2013 UK TSA-table 1, GBTS 2013, GBDVS 2013, and IPS 2013.

Other consumption products are defined the same as UK TSA 2013, this category includes "special shopping", personal transport costs and expenditure on services such as education.

Data may not sum due to rounding.

TSA-TABLE 2: Domestic tourism expenditure by products, classes of visitors and types of trips in Wales, 2013	Domestic tourism expenditure (£ millions)								
	Domestic trips			Outbound Trips			All types of trips		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors	116	-	116	1	-	1	117	-	117
Food and beverage serving activities	68	791	859	1	3	4	69	794	863
Railway passenger transport services	6	65	71	1	-	1	7	65	72
Road passenger transport services	4	52	56	1	-	1	5	52	57
Water passenger transport services	1	-	1	-	-	1	2	-	2
Air passenger transport services	1	-	1	19	-	19	21	-	21
Transport equipment rental services	4	-	4	-	-	-	4	-	4
Travel agencies and other reservation services	9	19	28	2	-	2	11	19	30
Cultural activities	14	128	142	-	1	1	14	129	143
Sport and recreation activities	11	107	118	-	-	-	11	107	118
Exhibitions & Conferences etc.	1	16	18	-	-	-	1	16	18
Other consumption products	83	767	850	7	2	10	90	769	859
TOTAL	**318**	**1,948**	**2,266**	**32**	**7**	**39**	**350**	**1,952**	**2,302**

Sources of estimated expenditure: UK 2013 TSA-table 2, GBTS 2013, GBDVS 2013, IPS 2013, Morgan Stanley Survey of Airport Spend 2005, CAA Report 2015

Outbound data excludes all expenditure outside of the Wales (included in TSA-Table 3)

Data may not sum due to rounding

TSA-TABLE 3: Outbound tourism expenditure by products and classes of visitors in Wales, 2013	Outbound Tourism Expenditure (£ million)		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors	718	-	718
Food and beverage serving activities	441	453	895
Railway passenger transport services	63	49	112
Road passenger transport services	52	27	79
Water passenger transport services	20	14	35
Air passenger transport services	53	11	64
Transport equipment rental services	15	6	21
Travel agencies and other reservation services	58	6	65
Cultural activities	101	88	189
Sport and recreation activities	151	52	203
Exhibitions & Conferences etc.	12	7	19
Other consumption products	896	390	1,286
TOTAL	**2,580**	**1,105**	**3,685**

Sources of estimated expenditure: UK 2013 TSA-table 2 and 3, GBTS 2013, GBDVS 2013, IPS 2013.

Data may not sum due to rounding.

TSA-TABLE 4: Internal tourism consumption by products in Wales, 2013	Internal Tourism Consumption (£ million)				
	Internal Tourism Expenditure				
Products	Inbound tourism expenditure	Domestic tourism expenditure	Internal Tourism Expenditure	Other components of tourism consumption	Total Internal Tourism Consumption
Accommodation services for visitors	541	117	658	160	818
Food and beverage serving activities	368	863	1,230		1,230
Railway passenger transport services	119	72	191		191
Road passenger transport services	51	57	108		108
Water passenger transport services	22	2	24		24
Air passenger transport services	13	21	34		34
Transport equipment rental services	12	4	16		16
Travel agencies and other reservation services	11	30	41		41
Cultural activities	22	143	164	7	171
Sport and recreation activities	17	118	135		135
Exhibitions & Conferences etc.	13	18	31		31
Other consumption products	997	859	1,857	432	2,288
TOTAL	**2,186**	**2,302**	**4,488**	**598**	**5,086**

Sources of estimated expenditure: UK 2013 TSA-table 1, 2 and 4, ONS 2011 Census data

Data may not sum due to rounding

TSA-TABLE 5: Production accounts of tourism industries and other industries (at basic prices) in Wales (£ millions), 2013	Tourism Industry																	
Products	Accommodation for visitors	Regional	Non Regional	Food and beverage serving industry	Regional	Non Regional	Railway passenger transport	Regional	Non Regional	Road passenger transport	Regional	Non Regional	Water passenger transport	Regional	Non Regional	Air passenger transport	Regional	Non Regional
Accommodation services for visitors	891	610	281	91	60	32	-	-	-	-	-	-	-	-	-	-	-	-
Food and beverage serving activities	345	75	270	2,739	1,791	949	4	0	4	2	1	1	1	0	1	1	0	1
Railway passenger transport services	-	-	-	-	-	-	454	12	442	-	-	-	-	-	-	-	-	-
Road passenger transport services	-	-	-	-	-	-	-	-	-	389	215	174	-	-	-	-	-	-
Water passenger transport services	-	-	-	-	-	-	-	-	-	-	-	-	139	7	132	-	-	-
Air passenger transport services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	7	104
Transport equipment rental services	1	1	0	3	2	1	15	0	15	3	2	1	1	0	1	0	0	0
Travel agencies & other reservation services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cultural activities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sport and recreation activities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exhibitions & Conferences etc	1	0	0	8	5	3	0	0	0	1	0	0	0	0	0	0	0	0
Other consumption products	6	4	3	49	32	17	6	0	6	1	1	1	4	0	3	2	0	2
TOTAL OUTPUT	**1,322**	**767**	**555**	**2,891**	**1,890**	**1,001**	**480**	**13**	**467**	**396**	**219**	**177**	**144**	**7**	**137**	**114**	**7**	**107**
TOTAL INTERMEDIATE CONSUMPTION (at purchasers prices)	734	426	308	1,710	1,118	592	270	7	263	169	93	75	81	4	77	71	4	66
TOTAL GROSS VALUE ADDED (at basic prices)	588	341	247	1,181	772	409	210	6	204	227	126	102	63	3	60	43	3	41

TSA-Table 5 (continued)			Tourism Industry																			
Transport equipment rental	Regional	Non Regional	Travel agencies and other reservation services industry	Regional	Non Regional	Cultural Industry	Regional	Non Regional	Sports and recreational industry	Regional	Non Regional	Meetings and conference industry	Regional	Non Regional	Tourism Industries TOTAL	Regional	Non Regional	Other Industries	Regional	Non Regional	Output of domestic producers (at basic prices)	Regional	Non Regional
-	-	-	-	-	-	-	-	-	2	1	2	-	-	-	985	670	314	31	21	10	1,016	691	3
-	-	-	-	-	-	-	-	-	72	23	50	-	-	-	3,164	1,890	1,275	645	385	260	3,810	2,275	1,5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	454	12	442	-	-	-	454	12	4
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	215	174	215	119	96	604	334	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	139	7	132	0	0	0	139	7	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	7	104	2	0	2	112	7	1
238	70	168	7	4	3	1	0	0	16	5	11	0	0	0	286	84	202	148	43	104	434	128	3
-	-	-	150	83	67	-	-	-	0	0	0	-	-	-	150	83	67	-	-	-	150	83	
-	-	-	-	-	-	385	148	237	-	-	-	-	-	-	385	148	237	143	55	88	528	204	3
0	0	0	-	-	-	1	0	1	996	314	683	0	0	0	997	314	683	61	19	42	1,059	333	7
2	0	1	1	1	0	0	0	0	4	1	3	149	11	139	166	19	147	1,573	179	1,394	1,739	198	1,5
5	2	4	591	328	263	5	2	3	204	64	140	6	0	6	881	434	447	115,027	65,778	49,249	115,907	66,211	49,6
245	**72**	**173**	**749**	**416**	**333**	**392**	**151**	**241**	**1,296**	**408**	**888**	**156**	**11**	**145**	**8,185**	**3,961**	**4,224**	**117,844**	**55,089**	**62,755**	**125,952**	**59,050**	**66,9**
110	32	78	317	176	141	211	81	130	318	100	218	81	6	75	4,071	2,048	2,023	53,132	26,732	26,400	57,202	28,780	28,4
135	40	95	432	240	192	181	70	111	978	308	670	75	5	70	4,114	1,913	2,201	61,143	28,428	32,715	65,257	30,341	34,9

Sources of estimated expenditure: UK 2013 TSA-table 5, Business Structural Database 2013, Wales TSA 2007, Wales Input-Output table 2010, FAME

Data may not sum due to rounding

TSA-TABLE 6: Total domestic supply and internal tourism consumption (at purchasers' prices) in Wales (£ millions), 2013						
Products	Output of domestic producers (at basic prices) (see Table 5)	Imports	Taxes less subsidies on products nationally produced and imported	Domestic Supply (at purchaser prices)	Internal tourism consumption	Tourism ratios
Accommodation services for visitors	1,016	-	140	1,156	818	70.8%
Food and beverage serving activities	3,810	-	391	4,201	1,230	29.3%
Railway passenger transport services	454	23	-125	353	191	54.2%
Road passenger transport services	604	10	-125	616	108	22.1%
Water passenger transport services	139	50	-6	183	24	12.9%
Air passenger transport services	112	361	-2	569	34	7.1%
Transport equipment rental services	434	-	25	459	16	3.5%
Travel agencies & other reservation services	150	-	13	163	41	25.2%
Cultural activities	528	66	-25	570	171	29.9%
Sport and recreation activities	1,059	-	164	1,223	135	11.0%
Exhibitions & Conferences etc	1,739	-	5	1,744	31	1.8%
Other consumption products	115,907	19,158	6,917	141,983	2,288	1.6%
TOTAL OUTPUT	**125,952**	**19,669**	**7,546**	**153,167**	**5,086**	**3.3%**

Sources of estimated expenditure: UK TSA-table 6, Wales 2013 TSA-table 5, Wales TSA 2007, Wales Input-Output table 2010, other ONS data shown in Appendix III

Data may not sum due to rounding

TSA-TABLE 7: Employment in the Tourism Industries in Wales, 2013		Number of Jobs by status in Employment						Full / Part Time						
		Employees			Self Employed			Employees						
Tourism Characteristic Activities	Number of Enterprises	Male	Female	Total	Male	Female	Total	Full time	Part time	Total FTEs	Total Employment	Tourism ratios	Tourism Direct Employment	Tourism Direct FTEs
Accommodation services for visitors	2,112	6,868	17,513	24,381	445	1,629	2,074	12,038	12,341	18,209	26,455	70.8%	18,720	12,885
Food and beverage serving activities	10,498	18,110	46,179	64,289	1,421	2,466	3,887	19,369	44,922	41,830	68,176	29.3%	19,966	12,250
Railway passenger transport services	41	983	410	1,393	13	7	20	1,356	37	1,375	1,413	54.2%	766	745
Road passenger transport services	805	3,541	1,475	5,016	8,443	433	8,876	3,588	1,427	4,302	13,892	22.1%	3,072	951
Water passenger transport services	58	642	267	909	118	10	128	664	253	791	1,037	12.9%	134	102
Air passenger transport services	34	249	104	353	8	0	8	303	50	328	361	7.1%	26	23
Transport equipment rental services	194	478	646	1,124	19	9	28	630	493	877	1,152	3.5%	40	31
Travel agencies & other reservation services	501	1,130	1,527	2,657	190	195	385	1,996	662	2,327	3,042	25.2%	768	587
Cultural activities	1,046	2,153	2,584	4,737	2,497	1,830	4,327	2,308	2,426	3,521	9,064	29.9%	2,714	1,054
Sport and recreation activities	1,708	7,838	9,406	17,244	1,653	1,138	2,790	7,875	9,369	12,560	20,034	11.0%	2,206	1,383
Exhibitions & Conferences etc	129	196	236	432	70	18	88	337	92	383	520	1.8%	9	7
Other Consumption Products												1.6%		
Tourism Totals	**17,126**	**42,188**	**80,347**	**122,535**	**14,877**	**7,735**	**22,612**	**50,646**	**72,072**	**86,500**	**145,147**	**3.3%**	**48,420**	**30,018**

TSA-TABLE 7 Extended: Employment in the tourism industries in Wales, 2013									
Tourism Characteristic Activities	FTE			GVA/FTE			Output/FTE		
	Total	Regional	Non Regional	Total	Regional	Non Regional	Total	Regional	Non Regional
Accommodation services for visitors	18,209	12,716	5,492	54,087	52,720	57,251	32,306	26,838	44,964
Food and beverage serving activities	41,830	28,261	13,569	75,648	66,872	93,927	28,231	27,317	30,132
Railway passenger transport services	1,375	125	1,250	330,636	98,694	353,780	152,847	45,625	163,546
Road passenger transport services	4,302	3,605	696	90,525	59,733	249,939	52,795	34,837	145,768
Water passenger transport services	791	612	178	175,493	11,016	740,133	79,783	5,008	336,479
Air passenger transport services	328	110	218	336,527	61,645	475,132	131,604	24,107	185,807
Transport equipment rental services	877	719	158	326,400	117,063	1,280,112	154,184	55,257	604,884
Travel agencies & other reservation services	2,327	1,578	749	64,386	52,736	88,921	185,487	151,937	256,146
Cultural activities	3,521	2,668	853	109,439	55,626	277,866	51,507	26,180	130,775
Sport and recreation activities	12,560	9,179	3,381	79,419	34,218	202,147	77,889	33,552	198,272
Exhibitions & Conferences etc	383	285	98	434,214	66,232	1,511,725	196,588	18,596	717,777
Tourism Totals	**86,500**	**59,858**	**26,642**	94,624	66,173	158,548	47,563	31,957	82,627

Sources of estimated expenditure: UK TSA 2013 table 7, Nomis, APS 2013, FAME, BSD

Data may not sum due to rounding

GVA and Output are in £million

TSA-Table 11 Tourism Social Accouting Matrix, 2013																				
	Accommodation for visitors			Food and beverage servir			Railway passenger transpor			Road passenger transport			Water passenger transport			Air passenger transport			Transport equipment ren		
Products	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Re	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re
Accommodation services for visitors	891	610	281	91	60	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food and beverage serving activities	345	75	270	2739	1791	949	4	0	4	2	1	1	0	0	0	1	0	1	0	0	0
Railway passenger transport services	0	0	0	0	0	0	454	12	442	0	0	0	0	0	0	0	0	0	0	0	0
Road passenger transport services	0	0	0	0	0	0	0	0	0	389	215	174	0	0	0	0	0	0	0	0	0
Water passenger transport services	0	0	0	0	0	0	0	0	0	0	0	0	139	7	132	0	0	0	0	0	0
Air passenger transport services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	7	104	0	0	0
Transport equipment rental services	1	1	0	3	2	1	15	0	15	3	2	1	1	0	1	0	0	0	238	70	168
Travel agencies & other reservation services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cultural activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sport and recreation activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exhibitions & Conferences etc	1	0	0	8	5	3	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1
Other consumption products	6	4	3	49	32	17	6	0	6	1	1	1	4	0	3	2	0	2	5	2	4
TOTAL OUTPUT	1322	767	555	2891	1890	1001	480	13	467	396	219	177	144	7	137	114	7	107	245	72	173
Financial Account (£million)																					
TOTAL INTERMEDIATE CONSUMPTION(at p	734	426	308	1710	1118	592	270	7	263	169	93	75	81	4	77	71	4	66	110	32	78
TOTAL GROSS VALUE ADDED(at basic price	588	341	247	1181	772	409	210	6	204	227	126	102	63	3	60	43	3	41	135	40	95
Taxes less subsidies on production	138	80	56	387	253	134	-125	-4	-121	-125	-69	-56	-6	0	-5	-2	0	-2	25	7	18
Mixed & self-employed Income	34	20	14	63	41	22	1	0	1	196	109	88	4	0	4	0	0	0	1	0	1
Compensation of Employees	303	176	123	682	446	236	49	1	48	95	53	43	24	1	23	13	1	12	22	7	15
Other Value Added	113	66	53	49	32	17	285	8	277	61	33	27	41	2	39	32	2	30	87	25	62
Value Added per FTE	0.0323	0.0268	0.0450	0.0282	0.0273	0.0301	0.1528	0.0456	0.1635	0.0528	0.0348	0.1458	0.0798	0.0050	0.3371	0.1316	0.0241	0.1859	0.1542	0.0552	0.6040
Taxes less subsidies per £1m output	0.1047	0.1047	0.1015	0.1338	0.1338	0.1339	-0.2604	-0.2747	-0.2600	-0.3157	-0.3168	-0.3173	-0.0391	-0.0383	-0.0391	-0.0175	-0.0199	-0.0178	0.1023	0.1032	0.1020
Value Added per £1m output	0.4450	0.4450	0.4450	0.4085	0.4085	0.4085	0.4377	0.4377	0.4377	0.5735	0.5735	0.5735	0.4380	0.4380	0.4380	0.3786	0.3786	0.3786	0.5516	0.5516	0.5516
Purchasing Account																					
Domestic resident industries	497	336	160	1191	883	308	142.3	5.8	136.5	113.0	73.8	39.3	43.1	3.1	40.0	38.0	3.4	34.6	66	26	40
Foreign resident industries	237	89	148	519	235	284	104.2	0.9	103.3	45.7	14.0	31.7	-12.0	-1.6	-10.4	-328.3	-21.3	-307.0	44.0	6.8	37.2
Imports	*	*	*	*	*	*	23.4	0.6	22.8	10.1	5.6	4.5	49.8	2.4	47.4	361.1	22.2	338.9	*	*	*
Total Intermediate Purchases	734	426	308	1710	1118	592	270	7	263	169	93	75	81	4	77	71	4	66	110	32	78
Employment Account																					
Full-Time	12038	8407	3631	19369	13086	6283	1356	123	1233	3588	3007	580	664	514	149	303	102	201	630	393	236
Part-Time	12341	8618	3722	44922	30350	14572	37	3	34	1427	1196	231	253	196	57	50	17	33	493	307	185
Country of birth (Wales)	10576	7386	3190	24296	16415	7882	943	86	857	2950	2472	478	542	420	122	225	75	149	601	493	108
Country of birth (UK)	5735	4005	1730	13175	8901	4274	344	31	313	1077	903	174	198	153	45	82	28	55	219	180	40
Country of birth (Rest of World)	1897	1325	572	4358	2945	1414	88	8	80	275	230	44	50	39	11	21	7	14	56	46	10
Total FTE	18209	12716	5492	41830	28261	13569	1375	125	1250	4302	3605	696	791	612	178	328	110	218	877	719	158
Compensation per FTE (£million)	0.0166	0.0138	0.0224	0.0163	0.0158	0.0174	0.0356	0.0112	0.0381	0.0221	0.0146	0.0613	0.0304	0.0019	0.1284	0.0396	0.0082	0.0569	0.0251	0.0091	0.0980
Skills & Qualifications Account																					
Degree or equivalent	2235			5125			92			288			53			22			59		
Higher education	1249			2864			88			274			50			21			56		
GCE, A-level or equivalent	4931			11305			304			951			175			73			194		
GCSE grades A*-C or equivalent	5632			12913			417			1304			240			99			266		
Other qualifications	2301			5276			290			908			167			69			185		
No qualification	1622			3718			157			490			90			37			100		
Did not know	263			603			23			72			13			5			15		
Total FTE	18209			41830			1375			4302			791			328			877		
Household Income Account																					
Claiming (other) State Benefits	17460			44996			1031			10141			757			264			841		
Not claiming (other) State Benefits	8995			23180			382			3751			280			97			311		
Total Employment	26455			68176			1413			13892			1037			361			1152		

TSA-Table 11 (continued) Tourism Social Accouting Matrix, 2013																				
Travel agencies and other			Cultural Industry			Sports and recreational in			Meetings and conferenc			Tourism Industries TOTAL			Other industries			Output of domestic produ		
Total W	Regional	Non Reg	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Re	Total W	Regiona	Non Reg
0	0	0	0	0	0	2	1	1	0	0	0	985	670	314	31	21	10	1016	691	324
0	0	0	0	0	0	56	23	33	0	0	0	3164	1890	1275	645	385	260	3810	2275	1534
0	0	0	0	0	0	0	0	0	0	0	0	454	12	442	0	0	0	454	6	442
0	0	0	0	0	0	0	0	0	0	0	0	389	215	174	215	119	96	604	334	270
0	0	0	0	0	0	0	0	0	0	0	0	139	7	132	0	0	0	139	7	132
0	0	0	0	0	0	0	0	0	0	0	0	110	7	104	2	0	2	112	7	105
7	4	3	1	0	0	16	5	11	0	0	0	286	84	202	148	43	104	434	128	306
150	83	67	0	0	0	0	0	0	0	0	0	150	83	67	0	0	0	150	83	67
0	0	0	385	148	237	0	0	0	0	0	0	385	148	237	143	55	88	528	204	325
0	0	0	1	0	1	996	314	683	0	0	0	997	314	683	61	19	42	1059	333	725
1	1	0	0	0	0	4	1	3	149	11	139	166	19	147	1573	179	1394	1739	198	1542
591	328	263	5	2	3	204	64	140	6	0	6	881	434	447	115027	65778	49249	115907	66211	49696
749	416	333	392	151	241	1296	408	888	156	11	145	8185	3961	4224	117844	55089	62755	125952	59050	66979
317	176	141	211	81	130	318	100	218	81	6	75	4071	2048	2023	53132	26732	26400	57202	28780	28422
432	240	192	181	70	111	978	308	670	75	5	70	4114	1913	2201	61143	28428	32715	65257	30341	34916
13	7	6	-25	-10	-15	163	51	111	5	0	5	449	317	130	6847	3201	3646	1285	602	683
10	6	4	110	43	67	56	18	38	2	0	2	477	236	241	2438	1882	556	2915	2250	665
62	34	28	90	35	55	253	80	173	10	1	9	1603	834	766	29998	23159	6839	31601	24396	7205
346	192	154	6	2	4	507	159	347	58	4	54	1586	526	1064	21859	186	21673	29456	3092	26363
0.1855	0.1519	0.2561	0.0515	0.0262	0.1308	0.0779	0.0336	0.1982	0.1966	0.0186	0.7178	0.0476	0.0320	0.0826	0.0630	0.0380	0.1479	0.0668	0.0402	0.1567
0.0176	0.0176	0.0176	-0.0638	-0.0640	-0.0636	0.1255	0.1255	0.1254	0.0325	0.0307	0.0326	0.0548	0.0799	0.0307	0.0581	0.0581	0.0581	0.0102	0.0102	0.0102
0.5763	0.5763	0.5763	0.4626	0.4626	0.4626	0.7548	0.7548	0.7548	0.4827	0.4827	0.4827	0.5027	0.4829	0.5212	0.5188	0.5160	0.5213	0.5181	0.5138	0.5213
213	139	73	131.4	64.1	67.3	192	79	113	44	4	39	2670	1618	1052						
105	37	68	12.8	-8.5	21.3	126	21	105	37	1	36	860.3	158.1	702.2						
*	*	*	66.4	25.6	40.8	*	*	*	*	*	*	541	272	269	19158	9639	9519	19699	9911	9788
317	176	141	211	81	130	318	100	218	81	6	75	4071	2048	2023	53132	26732	26400	57202	28780	28422
1996	1372	624	2308	1555	753	7875	4702	3173	337	158	179	50464	33418	17043	717315	553769	163546	767779	592727	175052
662	455	207	2426	1635	791	9369	5594	3775	92	43	49	72072	48414	23656	347322	268133	79189	419394	323773	95621
1472	998	474	2228	1688	539	7946	5808	2139	242	181	62	52022	36022	16000	652340	503608	148732	651886	503258	148628
761	516	245	1151	873	279	4107	3002	1106	125	93	32	26976	18685	8291	264743	204382	60361	269653	208173	61480
94	64	30	142	107	34	506	370	136	15	12	4	7502	5152	2350	52891	40832	12059	55937	43183	12753
2327	1578	749	3521	2668	853	12560	9179	3381	383	285	98	86500	59858	26642	969974	748822	221151	977476	754614	222862
0.0266	0.0218	0.0368	0.0256	0.0130	0.0647	0.0201	0.0087	0.0513	0.0261	0.0023	0.0957	0.0185	0.0139	0.0287	0.0309	0.0309	0.0309	0.0323	0.0323	0.0323
	770			1165			4156			127			14093			247400			256447	
	260			394			1405			43			6704			100297			105774	
	543			822			2930			89			22317			221791			242984	
	449			679			2422			74			24495			185015			211677	
	199			302			1076			33			10807			68603			83292	
	94			143			508			16			6974			55966			64160	
	22			34			120			4			1173			11902			13141	
	2327			3521			12560			383			86500			890976			977476	
	2038			6073			13423			348			97373			333448			375308	
	1004			2991			6611			172			47773			712604			811864	
	3042			9064			20034			520			145146			1042026			1187172	

Appendix III Detailed Sources and Estimation of Wales TSA 2013

TSA-TABLE 1: Inbound tourism expenditure by products and classes of visitors in Wales, 2013	Inbound Tourism Expenditure (£ million)		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies and other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc. Other consumption products **TOTAL**	• UK TSA 2013 • IPS 2013, GBDVS 2013 and GBTS 2013 imply Inbound tourists (UK + international) expenditure in Wales is proportionally allocated by the inbound expenditure combinations in the 12 products category from the UK TSA 2013 • Railway, Water, Air transport businesses are almost all not Welsh owned, therefore it is plausible to assume that only the proportion of turnover for the salary payment to the employees in Wales remained in Wales. The amount paid to the employees are estimated by the number of employees working in the industry in Wales by the salary median of this industry (calculated from ASHE 2013). • Allocate the 3 categories' total between excursionists and overnight visitors by the ratio of the total expenditure in excursionists and overnight visitors. • Readjust the total expenditures by considering the new expenditures in those 3 passenger transport industries.		

TSA-TABLE 2: Domestic tourism expenditure by products, classes of visitor and types of trips in Wales, 2013	Domestic tourism expenditure (£ millions)								
	Domestic trips			Outbound Trips			All types of trips		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies and other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc. Other consumption products **TOTAL**	• Calculate the percentages of each tourism-related products in the total Domestic overnight tourists' expenditure from the UK TSA 2013-table 2 • Adjust the percentages of each tourism products categories (A) from the GBTS 2013 page 65 and 68, page 99 for conference and exhibitions category by the ratio of the percentage of tourists make trips to Wales use tourism products A to the percentage of tourists make trips in UK use tourism products A. • Readjust the percentages to make it sum up to 100%. • Total domestic overnight (residents in Wales take holiday in Wales) tourism expenditure is £318m, multiply each readjusted percentage would be the domestic tourism expenditure on each tourism products. • Similar estimation was done to the domestic tourism expenditure on the same-day trips, the differences are the same day trips' expenditure are adjusted by the GBDVS 2013 Page 55, 84, 87, and there are 4 categories account for 0% of the domestic tourism expenditure. • Domestic tourism expenditure on outbound trips is estimated from the CAA Passenger Survey Report 2015 by the number of the passengers from Wales use Cardiff Airport, Page 16 Table 4.2b, multiplied by the average spend of Wales Resident in the Airport from the Morgan Stanley Airport Survey 2005, and adjusted by the CPI from ONS to convert it to the expenditure in 2013. • Then divide the total domestic expenditure according to the ratio of the UK and foreign passengers, TSA-Table2 and 3 assume UK visitors are all excursionists and overnights are foreign visitors, then the total expenditure would be divided into 2 parts.								

TSA-TABLE 3: Outbound tourism expenditure by products and classes of visitors, 2013	Outbound Tourism Expenditure (£ million)		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies and other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc. Other consumption products **TOTAL**	• Total expenditure on outbound tourism trips from Wales is from the IPS 2013, GBDVS 2013 and GBTS 2013 . Outbound trips in this context is resident in Wales taking trips outside of Wales, including the rest of UK and other countries. • The total expenditure of overnight visitors is allocated proportionally according to the UK TSA 2013-table 3 overnight visitors' expenditure on different tourism products. • The excursionists' outbound tourism expenditure estimation is similarly allocated according to the UK TSA 2013-table 2 excursionist' expenditure on the domestic tourism products.		

TSA-TABLE 4: Internal tourism consumption by products, 2013	Internal Tourism Consumption (£ million)				
	Internal Tourism Expenditure			Other components of tourism consumption	Total Internal Tourism Consumption
Products	Inbound tourism expenditure	Domestic tourism expenditure	Internal Tourism Expenditure		
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies and other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc. Other consumption products **TOTAL**	• Internal tourism expenditure is the sum of the total inbound tourism expenditure (Wales TSA-table 1) and total domestic tourism (Wales TSA-table 2). • Other components of tourism consumption include services associates to vacation accommodation on own account (second homes are estimated from the 2011 Census, where 2.8% of the population has the second address, in which 11% of the second addresses used as the holiday accommodation, the imputed rental for household is £160,487m, imputed rental for holiday homes multiplied by the percentages of the second home in Wales, which is £160m), tourism social transfer in kind (In the context of Wales, museums take up the most of the social transfer in tourism industry, about £6.5m), other imputed consumption, this is estimated from the UK TSA 2013 by the Wales Internal Tourism Expenditure multiplied with the ratio of Other Components of Tourism Consumption to internal tourism expenditure in UK TSA 2013-table 4.				

TSA-TABLE 5: Production accounts of tourism industries and other industries (at basic prices) (£ millions), 2013	Tourism Industry																	
Products	Accommodation for visitors	Regional	Non Regional	Food and beverage serving industry	Regional	Non Regional	Railway passenger transport	Regional	Non Regional	Road passenger transport	Regional	Non Regional	Water passenger transport	Regional	Non Regional	Air passenger transport	Regional	Non Regional
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies & other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc Other consumption products **TOTAL OUTPUT** **TOTAL INTERMEDIATE CONSUMPTION (at purchasers prices)** **TOTAL GROSS VALUE ADDED (at basic prices)**	• Total turnover for all the businesses and regionally owned businesses and the number of employees of each tourism industry are extracted by Stata from the ONS BSD database through secure access. Non-regionally owned employment would be the total employment subtracted by the regionally owned ones, turnover is estimated based on the average turnover per employee and productivity difference between employees of regionally owned and non-regionally owned businesses, turnover is the proxy of output. • Two tourism industries: Railway and Exhibitions & Conferences adjusted from the FAME database based on the total turnover, total asset and total employment, average turnover per employee and average asset per employee, as there are statistical conflicts between the total numbers of the employees, which is probably due to the misspecification of the regionally owned or non-regionally owned businesses. • For example, Arriva Trains Wales was classified as the regionally owned businesses in both FAME and BSD, which is adjusted according to the number of employees, the total employee number minus the employee number of Arriva Trains Wales listed in FAME is the regionally owned railway employees, multiplied by the average output per employee of this industry would be the total turnover for the regionally owned businesses, the total number of employees, and the non-regional employees would be estimated in this way. • Meetings and Conference industry has this similar statistical conflicts from BSD, then it was adjusted by the total asset and asset per employee where information is available in FAME to an appropriate ratio of regionally owned and non-regionally owned. • Total turnover of the non-regionally owned businesses of each tourism industry is estimated according to the average turnover each employees in the specific tourism-related industry, the employees work in the non-regionally owned businesses usually have a higher turnover/employee calculated from the relevant data available in FAME, if the data is not available/in adequate quality in FAME, then the productivity data from BSD is applied, then the total turnover and the turnover for the non-regionally owned tourism businesses are estimated based on the turnover/employee from the regionally owned ones and adjusted further by the difference in the turnover/employee between the regionally and non-regionally owned businesses. • The allocation of the total turnover of each tourism category are then allocated according the UK TSA 2013 by the production functions show in the UK TSA-Table 5. So does intermediate consumption and total value added of each tourism industries category. • The Output of the total tourism-related products are estimated from the Wales TSA 2007, where the GVA is derived, Output of the domestic industries 2007 is suppled, the ratio of GVA/Output Wales is calculated, then total Regional GVA is available on ONS website https://www.ons.gov.uk/economy/grossvalueaddedgva/bulletins/regionalgrossvalueaddedincomeapproach/december2016 . Therefore the Output is estimated according to the information above. • Accommodation, Food and beverage output are adjusted according to the Wales 2007 TSA-table 5 because the production function of the regionally owned accommodation places are different from the big hotels, there are less percentage of accommodation places offer food and beverage services among the regionally owned ones, so the regionally owned ones are adjusted according to the ratio of accommodation and food and beverage services provided by the non-large hotels, then the non-regionally owned ones are in the same way the production function of UK TSA-table 5.																	

TSA-TABLE 6: Total domestic supply and internal tourism consumption (at purchasers' prices) (£ millions), 2013

Products	Output of domestic producers (at basic prices) (see Table 5)	Imports	Taxes less subsidies on products nationally produced and imported	Domestic Supply (at purchaser prices)	Internal tourism consumption	Tourism ratios
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies & other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc Other consumption products **TOTAL OUTPUT**	• Imports from the World are estimated from the UK Regional Trade Statistics on HM Revenue & Customs website https://www.uktradeinfo.com/Statistics/RTS/Pages/RTSArchive.aspx. • Imports from the rest of the UK are estimated from Wales IO Tables 2007. • Taxes less subsidies on products are estimated from the UK TSA 2013 by ratios, Subsidies on Railway and Cultural activities are different in Wales and adjusted according to other sources. Cultural subsidies £25m is from the following report Page 31 https://museum.wales/media/33034/Financial-Report-2013-14.en.pdf, Railway subsidy is from http://www.railforums.co.uk/showthread.php?t=92956 , which is £125 million, Road passenger transport subsidy, mainly the subsidy on buses (£125 million) is from footnote on page 8 of http://ppiw.org.uk/files/2014/11/Regulation-and-Financing-of-Bus-Services.pdf Airway passenger transport subsidy is £1.6 million, it is http://www.walesonline.co.uk/news/wales-news/north-south-wales-air-link-6895633. • Output of domestic producers and internal tourism consumption are from TSA-table 5 and TSA-table 4 respectively. • Tourism ratio is the internal tourism consumption divided by the domestic supply.				

TSA-TABLE 7: Employment in the Tourism Industries, 2013		Number of Jobs by status in Employment						Full / Part Time					
		Employees			Self Employed			Employees					
Tourism Characteristic Activities	Number of Enterprises	Male	Female	Total	Male	Female	Total	Full time	Part time	Total FTEs	Total Employment	Tourism ratios	Tourism Direct Employment	Tourism Direct FTEs
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies & other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc Other Consumption Products **Tourism Totals**	• Number of Local Unit, as shown the Number of Enterprises, is extracted from BSD database • Total employees, Full time employees, Part time employees data are all draw from Nomis Database • Employees by gender are estimated from the Annual Population Survey 2013, where broad regional employees by gender data of different industries are available to estimate the ratios. • Self-employed are estimated by the ratio of self-employed to employees by gender in UK from UK TSA 2013, sum up the 2 gender would be the total self-employed. • Total FTE and employment multiplied by tourism ratios would be the Tourism Direct FTEs and Total Direct Employment												

TSA-TABLE 7 Extended: Employment in the Tourism Industries, 2013							
Tourism Characteristic Activities	Total FTEs	Regional FTE	Non Regional FTE	GVA/FTE			Output/FTE
				Total	Regional GVA/FTE	Non Regional GVA/FTE	Total
Accommodation services for visitors Food and beverage serving activities Railway passenger transport services Road passenger transport services Water passenger transport services Air passenger transport services Transport equipment rental services Travel agencies & other reservation services Cultural activities Sport and recreation activities Exhibitions & Conferences etc Other Consumption Products **Tourism Totals**	• Regional and Non-regional FTE are estimated by the ratios of the regional total output and non-regional total output in Wales TSA-table 5, also adjusted by considering the productivity difference of each tourism industry from FAME/BSD. • Regional and Non-regional GVA/FTE are calculated by the regional/non-regional GVA divided by the regional/non-regional FTE. • Output/FTE is calculated by the total output of each tourism industries in TSA-table 5 divided by the FTE of each tourism industries.						

TSA-table 11 Tourism Social Accounting Matrix in Wales, 2013										
	Tourism Industries									
Products	Accommodation for visitors		…	Meetings and conference industry		Tourism Industries Total		Other resident industries		Output of resident producers (at basic prices)
	Domestic	Foreign		Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign
Accommodation services for visitors … Meeting & conference services Other consumption products **TOTAL OUTPUT**	• TSA-table 5									
TOTAL GROSS VALUE ADDED (at basic prices) **Financial Account** Intermediate Inputs Taxes less subsidies on production Mixed & self-employed Income Compensation of Employees Other Value Added *Value Added per FTE* *Taxes less subsidies per $1m output* *Value Added per $1m output*	• Total intermediate consumption, total GVA, Taxes less subsidies are all from TSA-table 5 and 6. • Mixed and self-employed income, compensation of employees are estimated based on the FTE data from TSA-table 7 and the ASHE 2013 data, the average annual income are estimated based on the weighted data of the sub-industries, FTE numbers of the sub-industries are the weight, which is extracted from the Nomis FTE numbers of each sub-industries. • Self-employed income are assumed to have the same annual income as the employees in the same industry for simplicity. • Other value added terms are the total GVA minus the Taxes less subsidies, Mixed and self-employed income, Compensation of employees. • The domestic and foreign contribution of the total intermediate consumption and GVA are divided according to the total value added contribution of the domestic and foreign businesses. • Similarly for other value added elements.									
Purchasing Account Domestic resident industries Foreign resident industries Imports Total Intermediate Purchases	• In the Welsh Tourism Economy Research Survey 2016, it shows the regionally owned businesses have an average of 21% purchases are from outside of the region whereas the non-regionally owned businesses have an average of 48%. • Imports are from the TSA-table 6, separated according to the output differences. • Intermediate purchase is from the TSA-table 5, then the domestic and foreign resident industries purchase shares are calculated based on the survey data. • There is no data available to estimate for the non-tourism purchasing account.									
Employment Account Full-Time Part-Time … Total FTE Compensation per FTE	• Full-time and Part-time employment information are from the TSA-table 7 and separated according the TSA-table 7 extended, where the FTEs are separated to foreign and domestic employees. The employees in different industry are domestic or foreign residents, in this case, they are classified to Resident of Wales, Resident of UK and Resident of rest of the world, then the respective ratios are calculated from APS 2013, aggregate several non-UK countries to one category as Rest of the World. • Multiply the ratios to the total FTEs, the employment information of the employee's residency origins are calculated.									

Skills & Qualifications Account Degree or equivalent Higher education GCE, A-level or equivalent GCSE grades A*-C or equivalent … **Total Employment**	• There are 3 industry sections in the APS 2013 are tourism-related, Accommodation and food services, Transport and storage, Arts, entertainment and recreation. • Calculate the ratios of different qualifications in the population employed in these 3 sections. • Multiply the ratios and the total FTEs in each of the tourism industries to divide the total employment of each industry into different skills& qualifications. • Similarly for Other industries and Output of domestic producers.
Household Income Account Claiming (other) State Benefits Not claiming (other) State Benefits **Total Employment**	• In APS 2013, whether claiming (other) State Benefits are the variable that could classify the household income group, the ratios are calculated from the APS 2013. • The full employment data from TSA-table 7 multiplied by the ratios, then the numbers of employees in different industries claiming benefits or not are estimated.

Appendix IV Estimation/Data Quality of the Wales TSA 2013

The quality of each cell estimated is shown by color: green (good), yellow (adequate), red (better data/estimation needed)

TSA-TABLE 1: Inbound tourism expenditure by products and classes of visitors in Wales, 2013	Inbound Tourism Expenditure (£ million)		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors	541	-	541
Food and beverage serving activities	300	68	368
Railway passenger transport services	76	43	119
Road passenger transport services	41	10	51
Water passenger transport services	14	8	22
Air passenger transport services	8	5	13
Transport equipment rental services	10	2	12
Travel agencies and other reservation services	9	2	11
Cultural activities	18	4	22
Sport and recreation activities	14	3	17
Exhibitions & Conferences etc.	11	2	13
Other consumption products	813	184	997
TOTAL	**1,855**	**331**	**2,186**

TSA-TABLE 2: Domestic tourism expenditure by products, classes of visitors and types of trips in Wales, 2013	Domestic tourism expenditure (£ millions)								
	Domestic trips			Outbound Trips			All types of trips		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors	116	-	116	1	-	1	117	-	117
Food and beverage serving activities	68	791	859	1	3	4	69	794	863
Railway passenger transport services	6	65	71	1	-	1	7	65	72
Road passenger transport services	4	52	56	1	-	1	5	52	57
Water passenger transport services	1	-	1	-	-	1	2	-	2
Air passenger transport services	1	-	1	19	-	19	21	-	21
Transport equipment rental services	4	-	4	-	-	-	4	-	4
Travel agencies and other reservation services	9	19	28	2	-	2	11	19	30
Cultural activities	14	128	142	-	1	1	14	129	143
Sport and recreation activities	11	107	118	-	-	-	11	107	118
Exhibitions & Conferences etc.	1	16	18	-	-	-	1	16	18
Other consumption products	83	767	850	7	2	10	90	769	859
TOTAL	**318**	**1,948**	**2,266**	**32**	**7**	**39**	**350**	**1,952**	**2,302**

TSA-TABLE 3: Outbound tourism expenditure by products and classes of visitors in Wales, 2013	Outbound Tourism Expenditure (£ million)		
Products	Tourists (overnight visitors)	Excursionists (same-day visitors)	All Visitors
Accommodation services for visitors	718	-	718
Food and beverage serving activities	441	453	895
Railway passenger transport services	63	49	112
Road passenger transport services	52	27	79
Water passenger transport services	20	14	35
Air passenger transport services	53	11	64
Transport equipment rental services	15	6	21
Travel agencies and other reservation services	58	6	65
Cultural activities	101	88	189
Sport and recreation activities	151	52	203
Exhibitions & Conferences etc.	12	7	19
Other consumption products	896	390	1,286
TOTAL	**2,580**	**1,105**	**3,685**

TSA-TABLE 4: Internal tourism consumption by products in Wales, 2013	Internal Tourism Consumption (£ million)				
	Internal Tourism Expenditure				
Products	Inbound tourism expenditure	Domestic tourism expenditure	Internal Tourism Expenditure	Other components of tourism consumption	Total Internal Tourism Consumption
Accommodation services for visitors	541	117	658	160	818
Food and beverage serving activities	368	863	1,230		1,230
Railway passenger transport services	119	72	191		191
Road passenger transport services	51	57	108		108
Water passenger transport services	22	2	24		24
Air passenger transport services	13	21	34		34
Transport equipment rental services	12	4	16		16
Travel agencies and other reservation services	11	30	41		41
Cultural activities	22	143	164	7	171
Sport and recreation activities	17	118	135		135
Exhibitions & Conferences etc.	13	18	31		31
Other consumption products	997	859	1,857	432	2,288
TOTAL	**2,186**	**2,302**	**4,488**	**598**	**5,086**

TSA-TABLE 5: Production accounts of tourism industries and other industries (at basic prices) in Wales (£ millions), 2013	Tourism Industry																	
Products	Accommodation for visitors	Regional	Non Regional	Food and beverage serving industry	Regional	Non Regional	Railway passenger transport	Regional	Non Regional	Road passenger transport	Regional	Non Regional	Water passenger transport	Regional	Non Regional	Air passenger transport	Regional	Non Regional
Accommodation services for visitors	891	610	281	91	60	32	-	-	-	-	-	-	-	-	-	-	-	-
Food and beverage serving activities	345	75	270	2,739	1,791	949	4	0	4	2	1	1	1	0	1	1	0	1
Railway passenger transport services	-	-	-	-	-	-	454	12	442	-	-	-	-	-	-	-	-	-
Road passenger transport services	-	-	-	-	-	-	-	-	-	389	215	174	-	-	-	-	-	-
Water passenger transport services	-	-	-	-	-	-	-	-	-	-	-	-	139	7	132	-	-	-
Air passenger transport services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	7	104
Transport equipment rental services	1	1	0	3	2	1	15	0	15	3	2	1	1	0	1	0	0	0
Travel agencies & other reservation services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cultural activities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sport and recreation activities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exhibitions & Conferences etc	1	0	0	8	5	3	0	0	0	1	0	0	0	0	0	0	0	0
Other consumption products	6	4	3	49	32	17	6	0	6	1	1	1	4	0	3	2	0	2
TOTAL OUTPUT	**1,322**	**767**	**555**	**2,891**	**1,890**	**1,001**	**480**	**13**	**467**	**396**	**219**	**177**	**144**	**7**	**137**	**114**	**7**	**107**
TOTAL INTERMEDIATE CONSUMPTION (at purchasers prices)	734	426	308	1,710	1,118	592	270	7	263	169	93	75	81	4	77	71	4	66
TOTAL GROSS VALUE ADDED (at basic prices)	588	341	247	1,181	772	409	210	6	204	227	126	102	63	3	60	43	3	41

TSA-Table 5 (continued)

Tourism Industry

Transport equipment rental	Regional	Non Regional	Travel agencies and other reservation services industry	Regional	Non Regional	Cultural Industry	Regional	Non Regional	Sports and recreational industry	Regional	Non Regional	Meetings and conference industry	Regional	Non Regional	Tourism Industries TOTAL	Regional	Non Regional	Other Industries	Regional	Non Regional	Output of domestic producers (at basic prices)	Regional	Non Regional
-	-	-	-	-	-	-	-	-	2	1	2	-	-	-	985	670	314	31	21	10	1,016	691	32
-	-	-	-	-	-	-	-	-	72	23	50	-	-	-	3,164	1,890	1,275	645	385	260	3,810	2,275	1,5
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	454	12	442	-	-	-	454	6	44
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	389	215	174	215	119	96	604	334	27
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	139	7	132	0	0	0	139	7	13
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	7	104	2	0	2	112	7	10
238	70	168	7	4	3	1	0	0	16	5	11	0	0	0	286	84	202	148	43	104	434	128	30
-	-	-	150	83	67	-	-	-	0	0	0	-	-	-	150	83	67	-	-	-	150	83	67
-	-	-	-	-	-	385	148	237	-	-	-	-	-	-	385	148	237	143	55	88	528	204	32
0	0	0	-	-	-	1	0	1	996	314	683	0	0	0	997	314	683	61	19	42	1,059	333	72
2	0	1	1	1	0	0	0	0	4	1	3	149	11	139	166	19	147	1,573	179	1,394	1,739	198	1,5
5	2	4	591	328	263	5	2	3	204	64	140	6	0	6	881	434	447	115,027	65,778	49,249	115,907	66,211	49,6
245	**72**	**173**	**749**	**416**	**333**	**392**	**151**	**241**	**1,296**	**408**	**888**	**156**	**11**	**145**	**8,185**	**3,961**	**4,224**	**117,844**	**55,089**	**62,755**	**125,952**	**59,050**	**66,9**
110	32	78	317	176	141	211	81	130	318	100	218	81	6	75	4,071	2,048	2,023	53,132	26,732	26,400	57,202	28,780	28,4
135	40	95	432	240	192	181	70	111	978	308	670	75	5	70	4,114	1,913	2,201	61,143	28,428	32,715	65,257	30,341	34,9

TSA-TABLE 6: Total domestic supply and internal tourism consumption (at purchasers' prices) in Wales (£ millions), 2013

Products	Output of domestic producers (at basic prices) (see Table 5)	Imports	Taxes less subsidies on products nationally produced and imported	Domestic Supply (at purchaser prices)	Internal tourism consumption	Tourism ratios
Accommodation services for visitors	1,016	-	140	1,156	818	70.8%
Food and beverage serving activities	3,810	-	391	4,201	1,230	29.3%
Railway passenger transport services	454	23	-125	353	191	54.2%
Road passenger transport services	604	10	-125	616	108	22.1%
Water passenger transport services	139	50	-6	183	24	12.9%
Air passenger transport services	112	361	-2	569	34	7.1%
Transport equipment rental services	434	-	25	459	16	3.5%
Travel agencies & other reservation services	150	-	13	163	41	25.2%
Cultural activities	528	66	-25	570	171	29.9%
Sport and recreation activities	1,059	-	164	1,223	135	11.0%
Exhibitions & Conferences etc	1,739	-	5	1,744	31	1.8%
Other consumption products	115,907	19158	6,917	141,983	2,288	1.6%
TOTAL OUTPUT	**125,952**	**19,669**	**7,546**	**153,167**	**5,086**	**3.3%**

TSA-TABLE 7: Employment in the Tourism Industries in Wales, 2013		Number of Jobs by status in Employment						Full / Part Time						
		Employees			Self Employed			Employees						
Tourism Characteristic Activities	Number of Enterprises	Male	Female	Total	Male	Female	Total	Full time	Part time	Total FTEs	Total Employment	Tourism ratios	Tourism Direct Employment	Tourism Direct FTEs
Accommodation services for visitors	2,112	6,868	17,513	24,381	445	1,629	2,074	12,038	12,341	18,209	26,455	70.8%	18720	12885
Food and beverage serving activities	10,498	18,110	46,179	64,289	1,421	2,466	3,887	19,369	44,922	41,830	68,176	29.3%	19966	12250
Railway passenger transport services	41	983	410	1,393	13	7	20	1,356	37	1,375	1,413	54.2%	766	745
Road passenger transport services	805	3,541	1,475	5,016	8,443	433	8,876	3,588	1,427	4,302	13,892	22.1%	3072	951
Water passenger transport services	58	642	267	909	118	10	128	664	253	791	1,037	12.9%	134	102
Air passenger transport services	34	249	104	353	8	0	8	303	50	328	361	7.1%	26	23
Transport equipment rental services	194	478	646	1,124	19	9	28	630	493	877	1,152	3.5%	40	31
Travel agencies & other reservation services	501	1,130	1,527	2,657	190	195	385	1,996	662	2,327	3,042	25.2%	768	587
Cultural activities	1,046	2,153	2,584	4,737	2,497	1,830	4,327	2,308	2,426	3,521	9,064	29.9%	2714	1054
Sport and recreation activities	1,708	7,838	9,406	17,244	1,653	1,138	2,790	7,875	9,369	12,560	20,034	11.0%	2206	1383
Exhibitions & Conferences etc	129	196	236	432	70	18	88	337	92	383	520	1.8%	9	7
Other Consumption Products												1.6%		
Tourism Totals	**17,126**	**42,188**	**80,347**	**122,535**	**14,877**	**7,735**	**22,612**	**50,646**	**72,072**	**86,500**	**145,147**	3.3%	48420	30018

TSA-TABLE 7 Extended: Employment in the tourism industries in Wales, 2013

Tourism Characteristic Activities	FTE			GVA/FTE			Output/FTE		
	Total	Regional	Non Regional	Total	Regional	Non Regional	Total	Regional	Non Regional
Accommodation services for visitors	18,209	12,716	5,492	54,087	52,720	57,251	32,306	26,838	44,964
Food and beverage serving activities	41,830	28,261	13,569	75,648	66,872	93,927	28,231	27,317	30,132
Railway passenger transport services	1,375	125	1,250	330,636	98,694	353,780	152,847	45,625	163,546
Road passenger transport services	4,302	3,605	696	90,525	59,733	249,939	52,795	34,837	145,768
Water passenger transport services	791	612	178	175,493	11,016	740,133	79,783	5,008	336,479
Air passenger transport services	328	110	218	336,527	61,645	475,132	131,604	24,107	185,807
Transport equipment rental services	877	719	158	326,400	117,063	1,280,112	154,184	55,257	604,884
Travel agencies & other reservation services	2,327	1,578	749	64,386	52,736	88,921	185,487	151,937	256,146
Cultural activities	3,521	2,668	853	109,439	55,626	277,866	51,507	26,180	130,775
Sport and recreation activities	12,560	9,179	3,381	79,419	34,218	202,147	77,889	33,552	198,272
Exhibitions & Conferences etc	383	285	98	434,214	66,232	1,511,725	196,588	18,596	717,777
Tourism Totals	**86,500**	**59,858**	**26,642**	**94,624**	**66,173**	**158,548**	**47,563**	**31,957**	**82,627**

TSA-Table 11 Tourism Social Accouting Matrix, 2013																				
	Accommodation for visitors			Food and beverage servir			Railway passenger transpor			Road passenger transport			Water passenger transport			Air passenger transport			Transport equipment rer		
Products	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Re	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Reg	Total Wa	Regiona	Non Re
Accommodation services for visitors	891	610	281	91	60	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food and beverage serving activities	345	75	270	2739	1791	949	4	0	4	2	1	1	0	0	0	1	0	1	0	0	0
Railway passenger transport services	0	0	0	0	0	0	454	12	442	0	0	0	0	0	0	0	0	0	0	0	0
Road passenger transport services	0	0	0	0	0	0	0	0	0	389	215	174	0	0	0	0	0	0	0	0	0
Water passenger transport services	0	0	0	0	0	0	0	0	0	0	0	0	139	7	132	0	0	0	0	0	0
Air passenger transport services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110	7	104	0	0	0
Transport equipment rental services	1	1	0	3	2	1	15	0	15	3	2	1	1	0	1	0	0	0	238	70	168
Travel agencies & other reservation services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cultural activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sport and recreation activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exhibitions & Conferences etc	1	0	0	8	5	3	0	0	0	1	0	0	0	0	0	0	0	0	2	0	1
Other consumption products	6	4	3	49	32	17	6	0	6	1	1	1	4	0	3	2	0	2	5	2	4
TOTAL OUTPUT	1322	767	555	2891	1890	1001	480	13	467	396	219	177	144	7	137	114	7	107	245	72	173
Financial Account (£million)																					
TOTAL INTERMEDIATE CONSUMPTION(at p	734	426	308	1710	1118	592	270	7	263	169	93	75	81	4	77	71	4	66	110	32	78
TOTAL GROSS VALUE ADDED(at basic price	588	341	247	1181	772	409	210	6	204	227	126	102	63	3	60	43	3	41	135	40	95
Taxes less subsidies on production	138	80	56	387	253	134	-125	-4	-121	-125	-69	-56	-6	0	-5	-2	0	-2	25	7	18
Mixed & self-employed Income	34	20	14	63	41	22	1	0	1	196	109	88	4	0	4	0	0	0	1	0	1
Compensation of Employees	303	176	123	682	446	236	49	1	48	95	53	43	24	1	23	13	1	12	22	7	15
Other Value Added	113	66	53	49	32	17	285	8	277	61	33	27	41	2	39	32	2	30	87	25	62
Value Added per FTE	0.0323	0.0268	0.0450	0.0282	0.0273	0.0301	0.1528	0.0456	0.1635	0.0528	0.0348	0.1458	0.0798	0.0050	0.3371	0.1316	0.0241	0.1859	0.1542	0.0552	0.6040
Taxes less subsidies per £1m output	0.1047	0.1047	0.1015	0.1338	0.1338	0.1339	-0.2604	-0.2747	-0.2600	-0.3157	-0.3168	-0.3173	-0.0391	-0.0383	-0.0391	-0.0175	-0.0199	-0.0178	0.1023	0.1032	0.1020
Value Added per £1m output	0.4450	0.4450	0.4450	0.4085	0.4085	0.4085	0.4377	0.4377	0.4377	0.5735	0.5735	0.5735	0.4380	0.4380	0.4380	0.3786	0.3786	0.3786	0.5516	0.5516	0.5516
Purchasing Account																					
Domestic resident industries	497	336	160	1191	883	308	142.3	5.8	136.5	113.0	73.8	39.3	43.1	3.1	40.0	38.0	3.4	34.6	66	26	40
Foreign resident industries	237	89	148	519	235	284	104.2	0.9	103.3	45.7	14.0	31.7	-12.0	-1.6	-10.4	-328.3	-21.3	-307.0	44.0	6.8	37.2
Imports	*	*	*	*	*	*	23.4	0.6	22.8	10.1	5.6	4.5	49.8	2.4	47.4	361.1	22.2	338.9	*	*	*
Total Intermediate Purchases	734	426	308	1710	1118	592	270	7	263	169	93	75	81	4	77	71	4	66	110	32	78
Employment Account																					
Full-Time	12038	8407	3631	19369	13086	6283	1356	123	1233	3588	3007	580	664	514	149	303	102	201	630	393	236
Part-Time	12341	8618	3722	44922	30350	14572	37	3	34	1427	1196	231	253	196	57	50	17	33	493	307	185
Country of birth (Wales)	10576	7386	3190	24296	16415	7882	943	86	857	2950	2472	478	542	420	122	225	75	149	601	493	108
Country of birth (UK)	5735	4005	1730	13175	8901	4274	344	31	313	1077	903	174	198	153	45	82	28	55	219	180	40
Country of birth (Rest of World)	1897	1325	572	4358	2945	1414	88	8	80	275	230	44	50	39	11	21	7	14	56	46	10
Total FTE	18209	12716	5492	41830	28261	13569	1375	125	1250	4302	3605	696	791	612	178	328	110	218	877	719	158
Compensation per FTE (£million)	0.0166	0.0138	0.0224	0.0163	0.0158	0.0174	0.0356	0.0112	0.0381	0.0221	0.0146	0.0613	0.0304	0.0019	0.1284	0.0396	0.0082	0.0569	0.0251	0.0091	0.0980
Skills & Qualifications Account																					
Degree or equivalent	2235			5125			92			288			53			22			59		
Higher education	1249			2864			88			274			50			21			56		
GCE, A-level or equivalent	4931			11305			304			951			175			73			194		
GCSE grades A*-C or equivalent	5632			12913			417			1304			240			99			266		
Other qualifications	2301			5276			290			908			167			69			185		
No qualification	1622			3718			157			490			90			37			100		
Did not know	263			603			23			72			13			5			15		
Total FTE	18209			41830			1375			4302			791			328			877		
Household Income Account																					
Claiming (other) State Benefits	17460			44996			1031			10141			757			264			841		
Not claiming (other) State Benefits	8995			23180			382			3751			280			97			311		
Total Employment	26455			68176			1413			13892			1037			361			1152		

TSA-Table 11 (continued) Tourism Social Accouting Matrix, 2013																				
Travel agencies and other			Cultural Industry			Sports and recreational in			Meetings and conferenc			Tourism Industries TOTAL			Other industries			Output of domestic produ		
Total W	Regional	Non Reg	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Reg	Total W	Regiona	Non Re	Total Wa	Regional	Non Reg	Total Wa	Regiona	Non Re	Total W	Regiona	Non Reg
0	0	0	0	0	0	2	1	1	0	0	0	985	670	314	31	21	10	1016	691	324
0	0	0	0	0	0	56	23	33	0	0	0	3164	1890	1275	645	385	260	3810	2275	1534
0	0	0	0	0	0	0	0	0	0	0	0	454	12	442	0	0	0	454	6	442
0	0	0	0	0	0	0	0	0	0	0	0	389	215	174	215	119	96	604	334	270
0	0	0	0	0	0	0	0	0	0	0	0	139	7	132	0	0	0	139	7	132
0	0	0	0	0	0	0	0	0	0	0	0	110	7	104	2	0	2	112	7	105
7	4	3	1	0	0	16	5	11	0	0	0	286	84	202	148	43	104	434	128	306
150	83	67	0	0	0	0	0	0	0	0	0	150	83	67	0	0	0	150	83	67
0	0	0	385	148	237	0	0	0	0	0	0	385	148	237	143	55	88	528	204	325
0	0	0	1	0	1	996	314	683	0	0	0	997	314	683	61	19	42	1059	333	725
1	1	0	0	0	0	4	1	3	149	11	139	166	19	147	1573	179	1394	1739	198	1542
591	328	263	5	2	3	204	64	140	6	0	6	881	434	447	115027	65778	49249	115907	66211	49696
749	416	333	392	151	241	1296	408	888	156	11	145	8185	3961	4224	117844	55089	62755	125952	59050	66979
317	176	141	211	81	130	318	100	218	81	6	75	4071	2048	2023	53132	26732	26400	57202	28780	28422
432	240	192	181	70	111	978	308	670	75	5	70	4114	1913	2201	61143	28428	32715	65257	30341	34916
13	7	6	-25	-10	-15	163	51	111	5	0	5	449	317	130	6847	3201	3646	1285	602	683
10	6	4	110	43	67	56	18	38	2	0	2	477	236	241	2438	1882	556	2915	2250	665
62	34	28	90	35	55	253	80	173	10	1	9	1603	834	766	29998	23159	6839	31601	24396	7205
346	192	154	6	2	4	507	159	347	58	4	54	1586	526	1064	21859	186	21673	29456	3092	26363
0.1855	0.1519	0.2561	0.0515	0.0262	0.1308	0.0779	0.0336	0.1982	0.1966	0.0186	0.7178	0.0476	0.0320	0.0826	0.0630	0.0380	0.1479	0.0668	0.0402	0.1567
0.0176	0.0176	0.0176	-0.0638	-0.0640	-0.0636	0.1255	0.1255	0.1254	0.0325	0.0307	0.0326	0.0548	0.0799	0.0307	0.0581	0.0581	0.0581	0.0102	0.0102	0.0102
0.5763	0.5763	0.5763	0.4626	0.4626	0.4626	0.7548	0.7548	0.7548	0.4827	0.4827	0.4827	0.5027	0.4829	0.5212	0.5188	0.5160	0.5213	0.5181	0.5138	0.5213
213	139	73	131.4	64.1	67.3	192	79	113	44	4	39	2670	1618	1052						
105	37	68	12.8	-8.5	21.3	126	21	105	37	1	36	860.3	158.1	702.2						
*	*	*	66.4	25.6	40.8	*	*	*	*	*	*	541	272	269	19158	9639	9519	19699	9911	9788
317	176	141	211	81	130	318	100	218	81	6	75	4071	2048	2023	53132	26732	26400	57202	28780	28422
1996	1372	624	2308	1555	753	7875	4702	3173	337	158	179	50464	33418	17043	717315	553769	163546	767779	592727	175052
662	455	207	2426	1635	791	9369	5594	3775	92	43	49	72072	48414	23656	347322	268133	79189	419394	323773	95621
1472	998	474	2228	1688	539	7946	5808	2139	242	181	62	52022	36022	16000	652340	503608	148732	651886	503258	148628
761	516	245	1151	873	279	4107	3002	1106	125	93	32	26976	18685	8291	264743	204382	60361	269653	208173	61480
94	64	30	142	107	34	506	370	136	15	12	4	7502	5152	2350	52891	40832	12059	55937	43183	12753
2327	1578	749	3521	2668	853	12560	9179	3381	383	285	98	86500	59858	26642	969974	748822	221151	977476	754614	222862
0.0266	0.0218	0.0368	0.0256	0.0130	0.0647	0.0201	0.0087	0.0513	0.0261	0.0023	0.0957	0.0185	0.0139	0.0287	0.0309	0.0309	0.0309	0.0323	0.0323	0.0323
	770			1165			4156			127			14093			247400			256447	
	260			394			1405			43			6704			100297			105774	
	543			822			2930			89			22317			221791			242984	
	449			679			2422			74			24495			185015			211677	
	199			302			1076			33			10807			68603			83292	
	94			143			508			16			6974			55966			64160	
	22			34			120			4			1173			11902			13141	
	2327			3521			12560			383			86500			890976			977476	
	2038			6073			13423			348			97373			333448			375308	
	1004			2991			6611			172			47773			712604			811864	
	3042			9064			20034			520			145146			1042026			1187172	

Appendix V Ethics Approval Form, Interview Guides and Survey Question Form

FULL ETHICAL APPROVAL FORM (STAFF/PHD STUDENTS) or students referring their form for a full ethical review

(For guidance on how to complete this form, please see Learning Central – CARBS RESEARCH ETHICS)

If your research will involve patients or patient data in the NHS then you should secure approval from the NHS Health Research Authority. Online applications are available on http://www.hra.nhs.uk/resources/applying-for-reviews/

NB: Safety Guidelines for researchers working alone on projects – please go to this University's web link to learn about safety policies - http://www.cf.ac.uk/osheu/index.html

Name of Lead Researcher : **Chen Xu**

School: Cardiff Business School

Email: XuC3@cardiff.ac.uk

Names of other Researchers: Calvin Jones

Email addresses of other Researchers : JonesC24@cardiff.ac.uk

Title of Project:

The Impact of Tourism Foreign Direct Investment on Economic Development in Wales

Start and Estimated End Date of Project: 20/05/2016-20/09/2016

Aims and Objectives of the Research Project:

Measure the contribution of the foreign direct investment in tourism industry to economic development in Wales, aim to develop a new methodology which could be especially useful and can be applied in tourism specialized country/region.

Please indicate any sources of funding for this project:

N/A

1. *Describe the methodology to be applied in the project*

Build Tourism Satellite Account (TSA) with the most recent data in Wales to measure the direct contribution of tourism and tourism foreign direct investment in Wales.

Integrate the updated TSA with the Welsh Input-Output table to measure the indirect/induced effect of tourism industry and tourism foreign direct investment in Wales.

PLEASE ATTACH COPIES OF QUESTIONNAIRES OR INTERVIEW TOPIC GUIDES TO THIS APPLICATION

2. *Describe the participant sample who will be contacted for this Research Project. You need to consider the number of participants, their age, gender, recruitment methods and exclusion/inclusion criteria.*

All the tourism-related businesses, including hotels, restaurants, tourist attractions and activity centres in Wales will be contacted, the number of participants in online surveys will be about 3000-4000. The number of participants in the face-to-face interviews is 20-30.

3. Describe the method by which you intend to gain consent from participants.

An invitation letter by Calvin, the copy is attached.

PLEASE ATTACH A COPY OF ALL INFORMATION WHICH WILL BE GIVEN TO PROSPECTIVE PARTICIPANTS (including invitation letter, briefing documents and, if appropriate, the consent form you will be using).

4. Please make a clear and concise statement of the ethical considerations raised by the project and how you intend to deal with them throughout the duration of the project. (Please use additional sheets where necessary.)

There will be no personal information collected as part of the survey or interviews. All information will relate to companies. Financial information will be stored in accordance with relevant Cardiff University procedures. No primary firm level information, or information that could inadvertently reveal a firm's identity will ever be published. Any contact details obtained will be held solely for the purposes of this survey and destroyed when no longer needed.

5. Please complete the following in relation to your research project:

		Yes	**No**	**n/a**
(a)	Will you describe the main details of the research process to participants in advance, so that they are informed about what to expect?	Y	☐	☐
(b)	Will you tell participants that their participation is voluntary?	Y	☐	☐
(c)	Will you obtain written consent for participation?	☐	☐	N/A

(d)	Will you tell participants that they may withdraw from the research at any time and for any reason?	Y	☐	☐
(e)	If you are using a questionnaire, will you give participants the option of omitting questions they do not want to answer?	Y	☐	☐
(f)	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	Y	☐	☐
(g)	Will you offer to send participants findings from the research (e.g. copies of publications arising from the research)?	Y	☐	
(h)	If working with children and young people please confirm that you have visited this website : Working with children and young people and vulnerable adults please go to web link - http://www.cardiff.ac.uk/racdv/ethics/guidelines/index.html	☐	☐	N/A
(i)	**DATA PROTECTION:** (A) Will any non-anonymised and/or personalised data be generated? (B) If "YES" will it be stored beyond the end of the project/archived? http://www.cardiff.ac.uk/socsi/research/researchethics/destructionofdata/index.html	☐	N	☐

PLEASE NOTE:

If you have ticked **No** to any of 5(a) to 5(g), please give an explanation on a separate sheet.

(Note: N/A = not applicable)

If there are any other potential ethical issues that you think SREC should consider please explain them on a separate sheet. It is your obligation to bring to the attention of the Committee any ethical issues not covered on this form and checklist.

Signed:
(Principal Researcher/Student)

Print Name:
Chen Xu

Date:04/05/2016

SUPERVISOR'S DECLARATION (Student researchers only): As the supervisor for this student project I confirm that I believe that all research ethical issues have been dealt with in accordance with University policy and the research ethics guidelines of the relevant professional organisation.

Signed:

Print Name: Calvin Jones

Date: 4/5/2016

TWO copies of this form (and attachments) MUST BE OFFICIALLY STAMPED BEFORE any research project work is undertaken -

STATEMENT OF ETHICAL APPROVAL

This project has been considered using agreed School procedures and is now approved.

Stamped by School :
Date:

Dear Sir/Madam,

I write this to introduce my PhD student Chen Xu, who is undertaking an important survey of Welsh Tourism businesses.

For the last 15 years, my team at Cardiff University has published an economic model that has demonstrated the economic importance of tourism in Wales – around 12% of all jobs at our last count – and been used by Welsh Government and others to attract investment into the sector and assess the benefits of major new facilities and events.

We are now updating the Welsh Tourism Economy Model, and would hugely appreciate your time in telling us about how your business operates. The interview is completely confidential, and the financial data we collect will be held only by the team, and used to inform our assessment of the nature of the tourism sector in Wales – figures for individual businesses will never be published.

Having worked with tourism businesses over a long period, we do understand how busy owners and managers are but your input will considerably improve our analysis in an area where government policy is in desperate need of better information. I would then deeply appreciate it if you could find an hour to speak to Ms Xu.

Each business that participates in the survey and leaves contact details will receive a summary of the results when available, along with, if you wish, a bespoke 'economic impact factsheet', showing how your business benefits its local economy.

If you have any questions about the project, or would like to respond more fully, please do email me at jonesc24@cardiff.ac.uk.

With many thanks
Professor Calvin Jones

Professor of Economics
Cardiff Business School

The interview is completely confidential, and no results will be released which could identify any individual business

Part A - Your Business

Company: _____ Telephone: _____

Respondent: _____ Email: _____

1. Which of the following best describes your MAIN business activity? Please could you tell us about any other activities undertaken onsite (tick one box in col 1 and as many as apply in col 2).

Main	Other	
☐	☐	Hotel without restaurant
☐	☐	Hotel with restaurant
☐	☐	Guest house / B&B
☐	☐	Pub or Restaurant with rooms
☐	☐	Self catering
☐	☐	Camp / Caravan site
☐	☐	Restaurant / Pub / Café
	☐	Conference / Exhibition centre
	☐	Tourist/ Visitor Attraction
	☐	Sale of retail goods
	☐	Transportation
	☐	Other (please specify) _____

if accommodation…

How many rooms do you have? _____

2. Please could you tell us, approximately, your turnover at this business location (exc. VAT)

☐ For year ☐

3.Could you estimate what percentage of your business sales were from the following sources:

	%
Ticket Sales	☐
Food and beverage sales	☐
Other sales (please write in)	☐

4. Is your company…

☐ Independent
☐ Part of UK based company
☐ Part of international company
☐ Franchise
☐ Other(please write in) _____

5. Have you noticed any change in the make-up of you customers so far, compared to the time prior to brexit, either that have visited so far, or that have pre-booked? ***Please tick any that apply***

☐ Proportionally more visitors that are Welsh-resident
☐ Proportionally more visitors that are UK-resident
☐ Proportionally more EU international visitors
☐ Proportionally more non-EU international visitors
☐ Other change _____

6. Please could you tell us roughly how many staff you employed during the last year for which you have information

	Last year
Full time, full year employees	_____
Part time, full year employees	_____
Full time seasonal employees	_____
Part time seasonal employees	_____
Working directors/owners, family etc.	_____

Notes:

7. Roughly how much was the wage bill associated with the staff for the last year for which you have information, including NI and any other costs?

£ _____

This information relates to period ending: (MM/YYYY) _____

8. Have you experienced any direct effects of the Brexit in accessing finance for your business or staff recuitment?

☐ No ☐ Yes *please detail*

Notes:

Part B - Local Sourcing

9. Which of the following best describes your attitude to sourcing goods and services locally, i.e. within about 20 miles? *(please tick any which apply)*

☐ Not interested - the lowest price / best quality is all that matters
☐ I prefer to source locally as there are business benefits
☐ I try to purchase food and drink actually produced and/or processed in **Wales**
☐ I prefer to source locally as local products / services are often of higher quality
☐ I rarely source locally as I don't trust the quality of the products, or the service I will get
☐ I rarely source locally as local suppliers are not cost competitive
☐ Purchasing decisions for this location are taken outside of Wales and we have no flexibility
☐ I am sourcing increasing amounts of goods and services locally over time
☐ I used to source more locally, this has reduced over time *(if this is so, please tell us why):* _____

10 Please provide your best estimate of the value and destination of operational expenditure for the period on each of the following items. For example if £1,000 of your spending was on food, and 80% was bought in Wales then £1,000 would go in the first column, and 80% in the second for that category.

Destination of expenditure is defined as the location where goods are purchased from, not where the goods originated or were manufactured. Please feel free to alter the form if more detailed or different categories are applicable. You may leave categories blank where no expenditure is incurred.

PLEASE EXCLUDE VAT AND DIRECT STAFF COSTS. IF YOU ARE UNABLE TO EXCLUDE VAT PLEASE TICK HERE ☐

OPERATIONAL EXPENDITURE	Expenditure (£)	% purchased in Wales	% purchased in rest of UK	% purchased overseas
Rent or lease of property				
Banking & finance inc. loans, credit card etc. (not insurance)				
Business rates				
Printing of brochures etc.				
Marketing and advertising services				
Postage & Telecoms				
Maintenance & repair of property etc.				
Food (not catering services)				
Beverages				
Hotels, restaurants and catering services				
Equipment and vehicle hire				
Fuel for vehicles or for on-site power generation				
Hire of equipment; motor vehicle leasing & related (inc. fuel)				
Other road, rail, air & sea transport services				
Insurance				
Legal services				
Accountancy				

Other Business & consultancy services				
Sub contracted services & labour				
Purchases from retail establishments (from petty cash etc.)				
OPERATIONAL EXPENDITURE *continued*	**Expenditure (£)**	**% purchased in Wales**	**% purchased in rest of UK**	**% purchased overseas**
Purchase of goods for resale with no further processing				
Other (please write in) 1.				
2.				
3.				
TOTAL NON-WAGE OPERATIONAL EXPENDITURE *(SUM OF ALL ROWS)*	**£**			

11. Do you see any advantages to be gained from local sourcing?
Please rank the following reasons from 1 to 4 with 1 = most important to 4 = least important

- ☐ Improve my sales through emphasising local nature of product
- ☐ Access to better quality local products and services
- ☐ Better supply chain management and improved flexibility
- ☐ Environmental sustainability (e.g. lower food miles)
- ☐ *Other benefits:* _____

12.Could you estimate roughly what percentage of your customers are from outside Wales?

13.Please let us know if there are any important factors affecting the tourism industry in Wales that should be reflected in the results of this project:

14. Would you like a copy of the results, or would be happy to help further with this project ?

The Wales Tourism Economy Survey 2016

Please complete the following questions to the best of your knowledge. Estimates are acceptable if the exact figures are not to hand. The questionnaire can be completetly anonymously, and all information will be held confidentially by the research team with no individual results ever published.

1 Please enter your company name

2 What is your main business (at this location)

3 Please could you tell us, *approximately*, your turnover at this business location (exc. VAT)

£ For year:

4 Could you estimate what percentage of your business sales were from the following sources:

	%
Accommodation sales (including breakfast etc. as appropriate)	
Food and beverage sales	
Other sales (please write in)	

5 Around what proportion of your business costs were employment-related? %
(including employers' NI, directors payments, self employment income etc.)

6 Approximately what percentatge of total costs were accounted for by:

	%
Rent, Property mortgages & other capital repayments	
Property maintenance & upkeep; cleaning services etc.	
Food and beverage purchases	
Taxes, rates etc.	

7 Were there any other notable costs you incurred during this business year?

		%/£
a		
b		
c		

8 Could you estimate roughly what percentage of your customers are from <u>outside</u> Wales? %

9 Which of the following best describes your company structure? (tick one)

- An independent Welsh business at a single location ☐
- An independent Welsh business at multiple locations ☐
- Part of a UK-wide group ☐
- Part of an international group ☐
- Other (please write in

10 Please let us know if there are any important factors affecting the tourism industry in Wales that should be reflected in the results of this project:

Thank you for your help in this study.

If you would like a copy of the results, or would be happy to help further with this project please leave your details below

Name Email

Appendix VI Informed Consent Declaration

Informed Consent Declaration – For Research Participants

This study is being conducted by Chen Xu, a PhD Student in Economics at Cardiff Business School and Cardiff University under the supervision of Professor Calvin Jones who can be contacted via following email address: JonesC24@cardiff.ac.uk.

Participation in the research project will involve online surveys and 20-30 face-to-face interviews attempting to understand the differences in the economic contributions between foreign-owned and local tourism-related businesses. Surveys are all attached, interview questionnaires will be similar as Surveys but with more details.

Participation in the study is entirely voluntary and participants can withdraw from the study at any time without giving a reason. Participants may also ask questions at any time and discuss any concerns with either the researcher (XuC3@cardiff.ac.uk) or the supervisor as listed above.

The findings of the study will form part of the research assignment.

All information provided during the interview will be held anonymously so that it will not be possible to trace information or comments back to individual contributors. Information will be stored in accordance with the current Data Protection Act.

Participants can request information and feedback about the purpose and results of the study by applying directly to the researcher XuC3@cardiff.ac.uk.

04th of May 2016
Researcher – Chen Xu PhD Student in Economics
Cardiff Business School
Cardiff University

Appendix VII Wales Local Areas and District Codes in BSD

22 Welsh local areas plus area codes:

00NA	ISLE OF ANGLESEY UA
00NC	GWYNEDD UA
00NE	CONWY UA
00NG	DENBIGHSHIRE UA
00NJ	FLINTSHIRE UA
00NL	WREXHAM UA
00NN	POWYS UA
00NQ	CEREDIGION UA
00NS	PEMBROKESHIRE UA
00NU	CARMARTHENSHIRE UA
00NX	SWANSEA UA
00NZ	NEATH PORT TALBOT UA
00PB	BRIDGEND UA
00PD	THE VALE OF GLAMORGAN UA
00PT	CARDIFF UA
00PF	RHONDDA, CYNON, TAFF UA
00PH	MERTHYR TYDFIL UA
00PK	CAERPHILLY UA
00PL	BLAENAU GWENT UA
00PM	TORFAEN UA
00PP	MONMOUTHSHIRE UA
00PR	NEWPORT UA

Appendix VIII Business Structure Database Introduction

BSD contains a small number of variables for almost all business organisations in the UK. The BSD is derived primarily from the Inter-Departmental Business Register (IDBR), which is a live register of data collected by HM Revenue and Customs via VAT and Pay As You Earn (PAYE) records. The IDBR data are complimented with data from ONS business surveys. If a business is liable for VAT (turnover exceeds the VAT threshold) and/or has at least one member of staff registered for the PAYE tax collection system, then the business will appear on the IDBR (and hence in the BSD). In 2004 it was estimated that the businesses listed on the IDBR accounted for almost 99 per cent of economic activity in the UK. Only very small businesses, such as the self-employed were not found on the IDBR.

The IDBR is frequently updated, and contains confidential information that cannot be accessed by non-civil servants without special permission. However, the ONS Virtual Micro-data Laboratory (VML) created and developed the BSD, which is a 'snapshot' in time of the IDBR, in order to provide a version of the IDBR for research use, taking full account of changes in ownership and restructuring of businesses. The 'snapshot' is taken around April, and the captured point-in-time data are supplied to the VML by the following September. The reporting period is generally the financial year. For example, the 2000 BSD file is produced in September 2000, using data captured from the IDBR in April 2000. The data will reflect the financial year of April 1999 to March 2000. However, the ONS may, during this time, update the IDBR with data on companies from its own business surveys, such as the Annual Business Survey (SN 7451).

The data are divided into 'enterprises' and 'local units'. An enterprise is the overall business organisation. A local unit is a 'plant', such as a factory, shop, branch, etc. In some cases, an enterprise will only have one local unit, and in other cases (such as a bank or supermarket), an enterprise will own many local units.

For each company, data are available on employment, turnover, foreign ownership, and industrial activity based on Standard Industrial Classification (SIC)92, SIC 2003 or SIC 2007. Year of 'birth' (company start-up date) and 'death' (termination date) are also included, as well as postcodes for both enterprises and their local units.

The ONS is continually developing the BSD, and so researchers are strongly recommended to read all documentation pertaining to this dataset before using the data

Geographical references: postcodes The postcodes available in the data files prior to 2011 are pseudo-anonymised postcodes. The real postcodes were not available due to the potential risk of identification of the observations. However, these replacement postcodes retain the inherent nested characteristics of real postcodes, and will allow researchers to aggregate observations to other geographic units, e.g. wards, super output areas, etc. In the dataset, the variable of the replacement postcode is 'new_PC'.

Linking to other business studiesThese data contain IDBR reference numbers. These are anonymous but unique reference numbers assigned to business organisations. Their inclusion allows researchers to combine different business survey sources together. Researchers may consider applying for other business data to assist their research.

For the sixth edition (February 2016), all data and documentation have been updated. This includes the addition of data files for 2015.

***Main Topics**:*

The following variables are available for enterprises and local units:

- *employment (and employees)*
- *turnover*
- *Standard Industrial Classification (1992, 2003 and 2007 classifications are available)*
- *legal status (e.g. sole proprietor, partnership, public corporation, non-profit organisation etc)*
- *foreign ownership*
- *birth (company start date)*
- *death (termination date of trading)*

'Employment' includes business owners, whereas 'employees' measures the number of staff, excluding owners.Observations for enterprises also include a variable for ownership if the enterprise is part of a large group of companies.

Local units have an additional 'death code' variable, which serves as an indicator as to

why the plant closed (e.g. as a result of a merger). It should also be noted that there is no turnover information for individual plants. This is because the ONS does not collect financial information at the plant level, which is notoriously difficult, especially for manufacturing plants where often no financial transactions are processed.

The birth and death variables are particularly useful for research, although it should be noted that for businesses that began trading before 1973, their birth date will be set to 1973. This is the year that VAT was introduced in the UK, and hence the first point in time for VAT registration for these companies. Companies that began trading since 1973 have their 'real' date of birth listed.

Business Structure Database (ONS, 2016b)

Appendix IX Annual Business Survey and FAME Database Introduction

Annual Business Survey (ABS) covering the production, construction, distribution and services industries and it represents two-thirds of the UK economy in terms of Gross Value Added. ABS provides a number of indicators, including total value of sales and work completed by businesses, the value of purchases of goods, materials and services, stocks, capital expenditure and employment costs. It is the largest business survey with 62000 business surveys and about 600 questions asked. It is the key resource for understanding the detailed structure and performance of businesses across UK, and is a large contributor of business information to the UK National Accounts.

Annual Business Survey (ONS, 2016a)

Fame is a database of companies in the UK and Ireland covering:

- *Financials*
- *Adverse filings*
- *Directors and managers*
- *Financial strength metrics including credit scores and ratings and CCJs*
- *Shareholders and subsidiaries and corporate structures and families*
- *M&A deals and rumours*
- *Industry descriptions, SIC codes and research*
- *News*

Original, as filed accounts and documents as filed at Companies House and the Companies Registration

- *Office in Ireland Fame covers over 9 million companies in the UK and Ireland2 million companies in a detailed format*
- *220,000 companies in a summary format*
- *Details of 850,000 companies that are active but not required to file accounts or have yet to file accounts*
- *5 million companies that are no longer active. These are included so you can research patterns in default and confirm previous existence.*

Fame Database (FAME, 2016)

Appendix X Glossary Acronym

ABS: Annual Business Survey
API: Annual Population Survey
ASHE: Annual Survey of Hours and Earnings
BOS: Bristol Online Survey
BRES: Business Register and Employment Survey
BSD (IDBR): Business Structure Data (Inter-Departmental Business Data)
CAA Passenger Survey Report: Civil Aviation Authority Passenger Survey Report
CPI: Consumer Price Index
HHFCE: Households' Final Consumption Expenditure
IO: Input Output
ILO: International Labour Organization
IPS: International Passenger Survey
GBDVS: Great Britain Day Visits Survey
GBTS: Great Britain Tourism Survey
GVA: Gross Value Added
LDCs: Less Developed Countries
MNC: Multinational Companies
OECD: Organization for Economic Cooperation and Development
ONS: Office of National Statistics
PICs: Pacific Island Countries
SAM: Social Accounting Matrix
SIDS: Small Island Developing States
SNA: System of National Accounts
SUT: Supply and Use Table
TNC: Transnational Companies
TSA: Tourism Satellite Account
TSAM: Tourism Social Accounting Matrix
WTTC: World Travel and Tourism Council