

Measuring Financial Leakage and Linkage of Tourism in Egyptian Economy using TSA approach

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Abstract

This paper explores both financial leakage and economic linkage of tourism in Egypt. These two cases become challenge for developing countries and small islands countries which depend on tourism for enhancing economic performance. World Tourism Organization developed TSA system to measure the importance of tourism. It is an accurate tool for estimating the importance of tourism on the economy; however, TSA output does not represent a real indicator of tourism importance on national economy. For example, tourism revenues are not an accurate indicator of economic impacts of tourism, because a proportion of it may leave the host community for various reasons and this refers to leakage.

On contrast, developed countries, which have diversification in its economy and variety of economic sectors and activities, it found that large proportion of tourism revenues are absorbed in the local community. This absorb is due to forward and backward linkage of tourism with other domestic activities and sectors.

A lot of studies tried to measure leakage and linkage but it seems to be difficult. This paper uses TSA system as a method to measure both financial leakage and economic linkage of tourism in Egypt. The final result indicates that leakage is low and is about 16.4% for some activities and tourism has good backward linkage with other sectors especially agriculture. Also, a lot of limitations belonging to this method were mentioned as the external, invisible and pre-visit leakage cannot be measured from the TSA outputs and there is also a lack of data from TSA.

Keywords

Financial Leakage, Linkage, TSA system, Tourism Sector, Egyptian Economy

Introduction

This paper aimed to focus on financial leakage and linkage and how we can measure and explore both leakage and linkage in Egyptian tourism sector by exploring the TSA outputs. Also, how we can enhance the results of this method.

The potential benefits that Egyptian economy gains from tourism revenue will result in minimal economic benefits for host community if a large proportion of this revenue leak to other economics. so the importance of this paper is to discover leakage rates and linkage of tourism sector in Egypt through TSA outputs which is consider a new method for this purpose.

1. Leakage

Leakage in tourism industry has been discussed in publications and academic literature since Sadler and Archer (1975, 181) cited that a large proportion of foreign exchange earnings from tourism leaks out of economy again. Many studies after them dealt with leakage in tourism, but until today, there is no standardized definition of leakage.

It seems that there is confusion among economists and experts of tourism economy with the terms of leakage. So that, many definitions introduced from Sadler and Archer (1975) until Sandbrook (2010), but the definition that is accepted is;

The proportion of income from tourism that leaves the destination country (supradist, 2004). Boz (2001) argued that the proportion of the total holiday payments made outside the destination economy.

Thus, leakage is a dynamic phenomenon drops and rises upon the state of economy structures and activities. Experts noted that, in general, developing countries, least developed countries and small island countries are more exposed to leakage than developed ones (Supradist, 2004).

The UNWTO (1995, 53) lists six sources of expenditure in imports that cause leakage as the following:

- imports for materials and equipment for construction,
- the imports of non-durable goods such as food and beverage,
- repatriation of income obtained by foreigners,
- repatriation of profit obtained by foreigners,
- taxes paid to government,
- Interests paid for foreign loans, marketing expenses abroad.

It is acknowledged that there are some factors resulting in leakage, for instance, the level of development, economic diversification, business power integration, state of ownership, government policy, scale of

tourism and time and economic evolution (Supradist, 2004; Sandbrook, 2010).

Thus, it can be understood that tourism leakage has three types: external, occurs when overseas investors own hotel chains for example take their profits back to their home countries. Import (which take place when tourist demand standards of equipment) food and other products supplied from abroad. Invisible, which includes the foreign exchange costs or losses that originate in the economic space of the tourism service provider (Al zoun, 2014). Pre-leakage, which means leakage taking place before tourists arrive in their destination, as booking with foreign companies, tour operator and airlines etc...? (Salvador and Pechuan, 2015).

Tourism leakage can be measured in both national and local levels. Most leakage studies to date have focused on national scale, such as this paper that gives overall vision on leakage in an economy. But if the purpose of the study tend to measure poverty in a community it is better to scale leakage in local level (Sandbrook, 2010; Chirenje et al, 2013). Also, all studies have mentioned that there is a distinct lack of empirical data to back up claims about leakage and its impacts (Supradist, 2004; Sandbrook, 2010; Pleumaron, 2012; Chirenje et al, 2013)

At the national level, Boo (1990) believed that 55% of tourism revenues to developing countries leak back to the developing world. Despite of UNWTO (2001) cited in Large (2011) has been estimated that tourism leakage for developing countries range from 40% to 50% and 10% to 20% for developed countries. But, generally, tourism leakage tend to be highest when that local community economy is weak and failed to produce the quality and quantity of goods and services demanded by tourism industry (UNWTO, 2001; Anderson and Juma, 2011).

On contrast, at the local level, it seems to be much higher. Walpole and Goodwin (2000) cited in Sandbrook (2010) found that just one per cent of tourism spending at the destination reach local people living within Komodo national park in Indonesia.

But, Supradist (2004) inquires that is leakage always bad. Leakage is a phenomenon that occurs in every region, as mentioned before. Sandbrook (2010) argues that there is crucial to note that the relation of locally significant tourism revenue at the destination does result positively in the local communities especially in poverty alleviation because this depends critically on the distribution of tourism revenue and how it is accessed. Furthermore, Supradist (2004) asked that which is better. A big foreign hotel employs 200 local people and 300 non people or a small local hotel which has 100 per cent local people but 100 per cent equals 15 people. So, the matter depends on various factors.

2. Linkage

Linkages can be defined as the network of intersectoral supply relationship between the tourism economy and the rest of the productive sectors of the domestic economy (Lejárraga and Walkenhorst, 2010, 16). Mitchell et al (2006) stated that local linkage is shorthand for a variety of ways in which well-established businesses can build economic links with micro-entrepreneurs, small enterprise, and residents in their local economy. Thus, when linkages exist between the tourism economy and the local businesses and activities inside the economy, it means achieving higher cost savings.

The starting point in understanding tourism linkage is to determine the two wings of linkages. It has intersectoral forward linkage (FL) which measures the relative importance of tourism sector as supplier to the other (non- tourism) industry in the economy, but backward linkage (BL) measures its relative importance as demander. Furthermore, to calculate tourism's forward and backward linkages, it is important to use information from national, regional and local levels (Cai et al, 2005). This information could be better to understand the structure of an economy and how it changes over time.

3. Tourism Satellite account (TSA)

TSA is a project approved by the United Nations statistical commission and World Tourism organization to measure the importance of tourism sector in the economy. It is a unique set of inter-related tables that show the size and distribution of different forms of tourism consumption, gross domestic product, national income, employment and other macroeconomic measures (Frechtling, 2010).

The TSA has two dimensions: a monetary and a non-monetary one. Tourism related consumption and output, identified from the demand and supply side, is quantified in relation to other economic sectors. In this dimension total tourist consumption by product type profits and wages of tourism related industries, net taxes obtained from tourism, imports of tourism related to goods and services ,the employment arrivals and departures can be also determined (Weaver and Lawton, 2002 cited in Large, 2011).

TSA suggests the following as a set of relevant indicators of the size of tourism in the economy (Millington et al, 2007):

- International tourism consumption (in cash and in kind).
- Value added of tourism industries.
- Tourism value added

- Tourism GDP.

The TSA has a few drawbacks which can be summarized as: the scope, which means that TSA can only be conducted at national level, so that it is difficult to measure leakage at local levels. Second, the multiplier effect cannot be grasped as indirect effects. Lastly, the time gap between recording and publication of data can range up to three years (Large, 2011).

4. Methodology

This paper aims at measuring leakage and linkage of tourism industry in Egyptian economy to explain and justify the importance of tourism in the economy of Egypt. The research methods will be presented in the following:

4.1 Research Methods

This paper seeks to measure leakage and linkage of tourism in Egyptian economy by using the out puts of tourism satellite account (TSA) 2013 carried out by ministry of tourism in Egypt.

As all researches mentioned that the lack of data is a critical issue for measuring leakage and linkage of tourism industry so, the researcher tends to depend on a mix of methods: a quantitative component, which is a secondary data, by analysing the TSA outputs of Egypt and qualitative component, which is a primary as interviews with experts, in order to obtain additional data on the area which is uncompleted and could not be found in TSA out puts.

4.1.1 Secondary Research: Tourism Satellite account (TSA)

The secondary data of this paper is the outputs of tourism satellite account (TSA) 2013 carried out by ministry of tourism in Egypt, which is the last update version of TSA published on August 2015 by the journal of tourism researches (in Arabic language). TSA indicators are one of the most scientific statistic methods to measure the importance of tourism in the economy. As mentioned, researchers emphasised that TSA can measure import leakage, so that it would be useful to draw Tourism Value Chain (TVC) to help and complete the overall tourism leakage and linkage, which could be taken from TSA outputs. Tourism Value Chain (TVC) is approach enables stakeholders to strategically prioritize opportunities, constraints and develop high- impact upgrading activities. This approach also ensures that threats to natural resources and opportunities to generate more income for conservation are incorporated explicitly (Inamdar et al, 2001). It is also a good tool to help the researcher examine the linkage of tourism industry.

4.1.2 Primary Research: Experts Interviews

In order to obtain full and accurate measure in leakage and linkage of tourism industry, experts' opinions were gathered in the form of interviews. The sample has been chosen respectively, three experts from UNWTO; they have a great experience with the topic specially building TSA. There are two experts from Tanzania, they have also a good knowledge about the topic of the study and they worked together as a team to measure leakage from tourism in Tanzania. Another one from Sweden and she had PHD in the topic of tourism leakage. Also, one from Jordan and had PHD in tourism leakage applying on hotels in Jordan. The last one is from Egypt and has a good experience in TSA and he published more than articles about TSA in Egypt.

The researcher has been provided the first two experts the TSA out puts which is the last update version of TSA published on August 2015 by the journal of tourism researches (in English language) one week before the interview took place to hold on to give them the opportunities to read the TSA out puts well, also to provide specific knowledge and accurate information about leakage and linkage of tourism industry in Egypt. Furthermore, to determine what sort of information lacks in the out puts of the TSA and how can it manage to measure in leakage and linkage of tourism industry. Lastly, to provide them information that helps them to draw Tourism Value Chain for Egyptian economy which helps researcher to describe the overall picture of backward and forward linkages of Egyptian economy.

All interviews have been held on the basis of one to one via internet. Researcher arranges interviews to be semi-structured to allow interviewees freedom to answer, explain and adding or omitting questions during interviews. Five questions were made and interviews took between 10 to 15 minutes.

5. Findings and discussions

This part of the study will discuss the findings of both secondary and primary research. Therefore all findings are brought together in this part and will analyse to get one result.

5.1 Secondary Data

Here, the researcher will show first data available from TSA then tries to measure the leakage of tourism sector. Also, from the TSA out puts data, a researcher tries to describe linkage via Tourism Value Chain for Egyptian tourism sector with the help of interviewees' answers.

5.1.1 TSA Data

In this part, researcher will show only specific part of TSA out puts which could provide data about leakage and linkage. This means that the out puts of table 6 and 7 in TSA system will provide what is needed. Table 6

in TSA is the most important table and the core of TSA system which describes tourism supply and demand (UNWTO, 2008). So, it provides data about tourist's consumptions and expenditures for products and services related or not related to tourism. It also shows ratio of what tourists consume from tourism products and services (Anter, 2012). But, table 7 gives information about labours in tourism and all its types (UNWTO, 2008). Table below shows TSA outputs data about inbound tourism consumption.

Table1 inbound tourism consumption (in billion Egyptian Pound)

Products	Local production	Imports	Local supply	Tourism consumption	Tourism ratio
Accommodation	27.9	-	29.4	23.2	78.7
Food and beverage	52.5	-	53.2	24.1	45.3
Transportation	62.5	9.2	94.1	23.1	89.3
Travel agencies and booking services	5	1.3	6.4	5.7	32.5
Cultural and sports services	28.5	-	29	9.4	96.8
Products and services related to tourism	4.2	-	6.2	6	42.2
Other consumption and non-consumption products	2617.8	469.9	3018.5	21	0.7
Products related to tourism	180.7	10.6	218.2	92.1	42.2
Total	2820	480.5	3236.7	113.1	3.5

Source: TSA Unit, Ministry of Tourism, Egypt.

5.1.1.1 Measuring tourism leakage

To sum up, the following table presents relevant findings of tourism consumption and summarizes the basic information about total local consumption, supply and imports. To understand the table results, it would be helpful to determine what is meant by the four terms that they have been reported in the table:

- Local production is a market value of all final goods and services recognized locally and which are produced in a country during a specific period of time (Anter, 2012). In the case of tourism it means the total tourism products and services which produced locally then consumed by tourists in Egypt.

- Local supply is referring to the total result of domestic production and imports, minus exports. In the case of tourism it means the total tourism products and services which produced by both local community and foreigners then consumed by tourists in Egypt.
- Imports are the value of all goods and other market services received from the rest of the world.
- Tourism consumption refers to the amount paid for the acquisition of consumption goods and services, as well as valuables for own use or to give away, for and during tourism trips (UNWTO, 2008).

So, it can be observed that local production is low in its figures from local supply because the first is referring to total tourism products and services which produced locally, but the second is indicating to tourism products and services which produced by both local community and foreigners. Therefore, it can be easy to obtain the percentage of local production by dividing local production to local supply.

Products	Local production	Local supply	Local production ratio from local supply (in per cent)
Accommodation	27.9	29.4	94.5
Food and beverage	52.5	53.2	98.5
Transportation	62.5	94.1	66.4
Travel agencies and booking services	5	6.4	78.1
Cultural and sports services	28.5	29	98.3
Products and services related to tourism	4.2	6.2	66.8
Other consumption and non-consumption products	2617.8	3018.5	87
Products related to tourism	180.7	218.2	83
Total	2820	3236.7	87.1

Source: researcher

It can be observed that local production accounted for the large proportion of total local supply which is the highest percentage in food and beverage services (98.7%) and in the lowest percentage in transportation services (66.4%) and in total (87.1%). Experts showed that this gives good an overall view of the diversification of local economy, the contribution of the local community to provide tourism with what it needed and also, the linkage of tourism with other sectors and services in Egyptian economy.

From the other hand, it can be noted that the total foreign supply formed low percentage of total local supply (12.9%) which means low proportion of leakage in Egyptian economy.

Experts also showed that the overall result in tourism leakage it seems to be difficult because the lack of data in this area in TSA outputs. To overcome that, researcher puts a base which refers to what is the maximum tourism leakage in Egyptian economy?. This means that if we cannot calculate tourism leakage due to the lack of data, it can be easy to measure tourism leakage in the light the foundation of both foreign production and tourism consumption. The base is assuming that tourist consumption begins firstly to consume total foreign production and then local production.

Thus, foreign production in this base indicates to maximum leakage. So, if we calculate foreign production in all sectors which provide tourism it so that means the maximum tourism leakage in Egyptian economy.

Although experts praise this method but they said that this method does not lead to knowing the exactly size of the leakage, As well as that in the case of foreign production increased significantly for local production, it could never measure the size of leakage.

Products	Local production (In billion)	Local supply (In billion)	Foreign supply (In billion)	Foreign supply ratio from total tourism consumption (maximum leakage)
Accommodation	27.9	29.4	1.5	6.5
Food and beverage	52.5	53.2	0.7	2.9
Travel agencies and booking services	5	6.4	1.4	24.5
Cultural and sports services	28.5	29	0.5	5.3
Products and services related to tourism	4.2	6.2	2	33.3
Products related to tourism	180.7	218.2	37.5	17.2
Total	2820	342.4	216.7	16.4

Source: researcher

In order to explore the significance of tourism leakage rates in Egyptian economy, some data were gathered from TSA outputs, however, there is one limitation of this base will discuss below.

The researcher has calculated the amount of foreign production of goods and services which provide for tourism in Egypt, through subtracting

local production of the total domestic supply. The final output reflects total foreign production. After that, the researcher calculates the foreign production ratio of total tourism consumption for each element of tourism consumption. The final out puts indicate for foreign supply ratio from total tourism consumption which means the maximum leakage in Egyptian economy.

The results indicate that tourism leakage in Egyptian economy is low, where total leakage scored (16.4%). The percentage is the average rate for activities: Accommodation, Food and beverage, Travel agencies and booking services, Cultural and sports services, Products and services related to tourism and Products related to tourism. Experts have pointed out that the real leakage rate may increase more than paper recorded, as there are some services have not been added in the measurement.

At national level, this gives a true indication of the decline in tourism leakage rates of these activities. Experts showed that it also refers to economic diversification and the ability of the host community to provide tourism services, as well as the existence of a real economic links between tourism and other sectors, however, Egypt is one of the developing countries or less developed. Which it was expected tourism leakage to be rate between 40-50 per cent according to the study carried out by the World Tourism Organization.

For further scrutiny, it is noted that the highest drop-out rates have been recorded in products and services related to tourism by 33.3%, followed by tourism enterprises and booking Services (24.5%). Experts are referring that to tour operators, which began in control of the global tourist market through vertical and horizontal integration strategies. TUI tour operator for example became a global company controlled 30% of the German tourism market and It also controls 50% Travco (Egyptian travel agent) Similarly, Thomas Cook, TEZ, and Pegas companies, which controls the shares of Egyptian companies. This has led to increased leakage rate in these activities.

On contrast, the results showed lower drop-out rates in the food and beverage cultural and sports services (2.9% and 5.3% respectively). This is due to the agriculture sector in Egypt is a vital and important sector and works in the agricultural sector about 30% of the total labour force , and contributes about 14.8 % of GDP , and agricultural exports contribute about 20% of total merchandise exports , which makes the agricultural sector one of the national income resources in Egypt (Shehawy, 2009). However, Sandbrook (2010) found that over three quarter of tourism revenue to BINP in Uganda was lost as leakage and very small proportion of food were brought in the study area at national level.

As for leaks tourist imports, TSA outputs have shown the contribution of the tourism sector in imports, including nearly 7 billion Egyptian pounds, Which represents 1.5 % of total imports (480.5 billion). This means a lower drop-out rate.

For more details, Tourist imports distributed in each of the non- tourism products 40.3%, air transport 24.7%, water transport 17.5%, travel agency services 17.1% and rental transportation services 0.4%. Experts showed that this point is unclear and it needs more details to understand the figures.

There is lack of data in TSA outputs here and did not clarify the exact volume of imports for each activity and what is the quality of these imports and this should be taken into account when conducting future surveys.

Lastly, TSA output showed the volume of employment in the tourism sector, types and divisions of cost. Where it explained that the size of Egyptian workers is 1.7 million workers and this represents 6.2% of total workforce in Egypt. However, pervious leakage studies have been shown that one third of tourism job were held by non-local staff in Uganda.

The lack of data here is what experts mentioned. So, experts determine the quality of the data required in which it can measure the leakage rate: Local and foreign workforce determination and the kind and wage determination for both Local and foreign labours.

5.1.1.2 Measuring Tourism Linkage

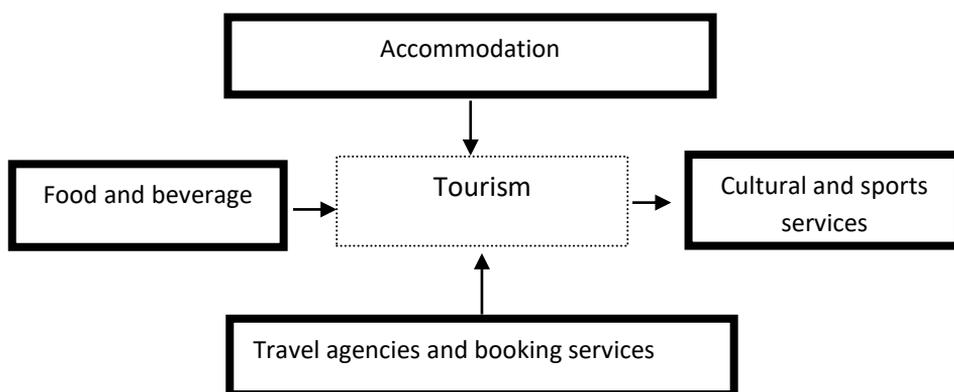
Through the first table, it can be discover links to the tourism sector with other economic sectors. Although the Tourism Satellite Account has some limits, which will be mentioned below. However, it can identify linkages with other economic sectors. To find links to the tourism sector through TSA outputs, it seems to be difficult, but researcher put a new base which refers to the size of local production to tourism consumption. If the size of local production exceeds or equal tourism production this means there are real link between tourism sector and other economic sectors or it does not.

Products	Local production	Tourism consumption	Local production ratio to Tourism consumption
Accommodation	27.9	23.2	% 120
Food and beverage	52.5	24.1	% 215
Transportation	62.5	23.1	% 270
Travel agencies and booking services	5	5.7	% 87
Cultural and sports services	28.5	9.4	% 303
Products and services	4.2	6	% 70

related to tourism			
Products related to tourism	180.7	92.1	% 196

It can be observed from table above that there are good linkages between tourism sector and other economic sectors in most services which provide to tourism except Travel agencies and booking services and also Products and services related to tourism where the local community cannot provide full what tourism needed.

The researcher can draw backward linkage which appears through the TSA outputs in the form of value chain.



It is clear from the foregoing that the TSA system is unable to clarify the tourism value chain and experts have attributed this to the following reasons:

- The TSA system is applied at the national level. So, it cannot be clearly all private tourism links appear.
- TSA system provides outputs of the total overall activities and not detailed data.
- It's hard to TSA provides data on the forward linkages system.
- Some experts argue that TVC is a good first step tool to help a region examine linkage, not a tool to calculate it.

5. 2 Limitations:

Although this method is the only way now available to measure the leakage in the tourism sector, and give a semi-real indicator for leakage in the Egyptian tourism sector, however, there are set of limits for this method:

- It gives the maximum leakages in the tourism sector in Egypt not a real leak, although in the case of the availability of data through

the Tourism Satellite Account outputs may be the real proportions of the leakage comparable to rates that have been measured.

- Difficult to measure leakage if local production increases for foreign tourism consumption. This means that in the case of increasing foreign production for tourism consumption, The leakage ratio will exceed 100 per cent. For example, the case of other consumption and non-consumption products and products related to tourism. The foreign production for both of two elements exceeds tourism consumption.
- Also, cannot measure the external, invisible and pre-visit leakage from the out puts of TSA.
- There is a lack of data from the TSA; it should be determine what is local and what is foreign for both production and consumption of tourism.
- It should identify local and foreign people in tourism and the rates of their income.
- Critical point belongs to transportation, TSA indicates that tourist's expenditure rises in the case of local transportation, and it does not mentioned about the amount of expenditures on both local and foreign carriers.
- TSA can measure only backward leakage not forward leakage. Moreover, measuring linkage at national level.

6. Recommendation

There are many recommendations for enhancing TSA outputs, it should tack in consider these points:

For leakage tourism with other sectors

- Improve surveys data carried out by TSA Unit by add some data for domestic production and foreign production of all goods and services produced for tourism consumption as shown in 6.1.1 and next.
- It is important to determine the amounts of expenditures belong to international transportation for both national and foreign transportation severally.
- The need to clarify the size of the tourist imports accurately for each activity or sector severally.
- It should also explain in surveys of employment data Egyptian and foreign and the size of their salaries.

For linking tourism with other sectors

- Minimizing the benefits of investment and minimizing the costs by adopting pragmatic and flexible policies by encouragement

participants between hotel chains and tourism companies' services and local supply.

- Link tourism with other economy sectors should be a project and vision coming from the awareness of government to carry out it, like the project of Jamaica (Linkage Hub) and Botswana project in linking tourism with other sectors (closed community).
- TSA outputs showed weak in linking tourism with tourism companies and transportation, so it should be benefit to establish strong few companies for tourism services and other for transportation instead of many tourism companies (1866 companies).
- A study of the tourism value chains at the state level to illustrate the flaws in the value chain and processed and this is a national project implemented by State.

7. Conclusion

This paper tries to measure tourism leakage and linkage in Egypt economy, but measuring tourism leakage (specially) and linkage seem to be difficult task and until now no methodology made for this purpose yet. With this in mind, researcher tries to use TSA outputs to measure tourism leakage and linkage in Egypt economy. However, a new base was made by the researcher to obtain good result in measure tourism leakage and linkage, but still a lot of limitations belong to this method.

In general, leakage seems to be acceptable as long as the income to the local community is higher than loss from all kinds of leakage and linkage at local level as it mentioned. However, at the local community in Egypt leakage is often less and there are a lot of points of tourism leakage, which came from local capacity of local community to supply a lot of goods and services and also skilled and non-skilled staff for tourism sector.

Lastly, through TSA outputs leakage reported 16.4% at the maximum and a good linkage with other sectors specially agriculture.

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