Final Draft PAPER

Vulnerability of Production Networks and Global Value Chains due to Economic Shocks, Bali,

August, 2016

Tourism-Rural Value Chains in Austria, Robustness to Economic Shocks and Disasters and Lessons for ASEAN Countries

Meinhard Breiling

Vienna University of Technology

Technology. Tourism. Landscape (TTL) Inter-faculty Cooperation Centre

e-mail: meinhard.breiling@tuwien.ac.at

Abstract

Tourism continues to grow on a global scale. The local, regional and global value chains are built up in different ways and can be optimized with consider to the economic output. This article provides case studies from Austria and Europe, how to alter the local tourism value chain in rural areas by linking tourism with food and agriculture. We give examples on what kinds of positive and negative economic shocks to the demand and supply side of tourism can impact the success of tourism. Natural disasters and extreme events can have a strong impact on the local and regional value chain. They are treated as negative economic shocks from the supply side. The context of touristic development in Austria is provided and recent development in the tourism of ASEAN countries with the prevailing differences is highlighted. The ASEAN region is highly heterogeneous with concentration on major global tourist hubs and hardly visited rural areas. An ASEAN Tourism Strategic Plan tries to balance the growth in touristic development. This article supports the visions of the ASEAN Tourism Strategic Plan 2016-2025 by transferring experience from Europe to establish viable tourism value chains in particular in more remote and currently less frequented areas of Southeast Asia.

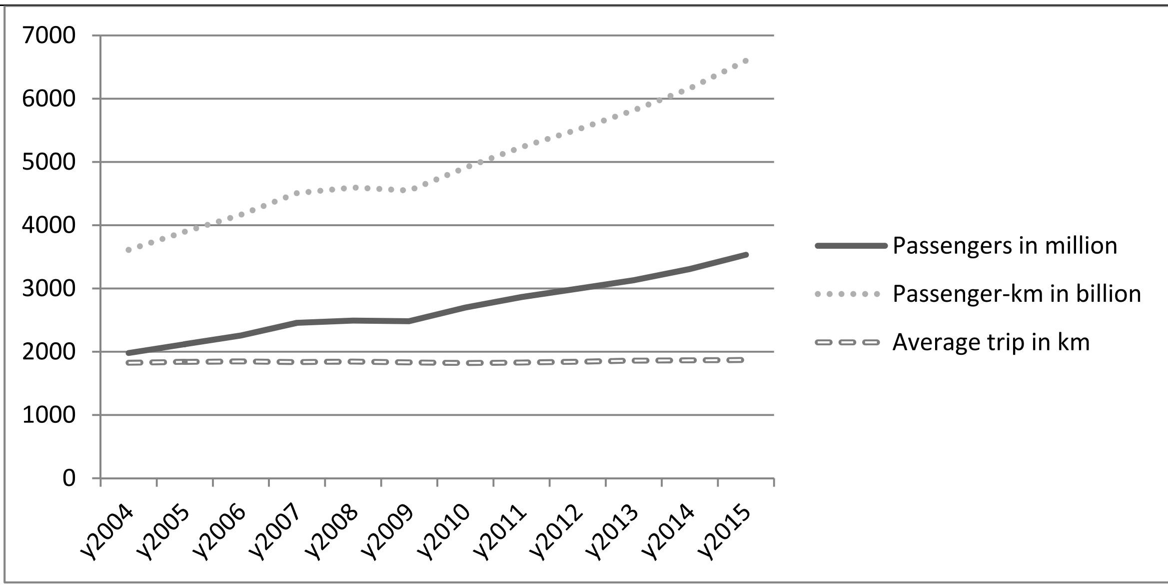
Introduction

Tourism is an economic activity between a destination selling services and customers coming from outside the destination buying services. The tourist destination supplies varied services ranging from accommodation, natural and manmade attraction and particular experiences. Economic growth with more disposable income, paid holidays and an affluent life style are key components that pushed tourism forward as a worldwide growing industry. The tourists demand for particular kinds of services in connection with their visits. The trips are related to diverse purposes like business including congress and meetings, visiting friends and relatives, medical treatments and improving health, religious pilgrimage, exercising sports or to relax from everyday life in a new inspiring environment.

The tourism value chain links all kind of services at the destination including the travel of the visitor with the respective supply chains.

The value of national, regional and global tourism increased like no other economic activity and tourism is still growing. International tourism surpassed 1.2 billion international visitors in 2015 (UNWTO 2016). The income in international tourism was estimated to be 1.5 trillion USD or some 1.200 USD per international visitor. The number of total tourists is several times higher as domestic tourists are not included and account in OECD countries for 78% of all tourists (OECD 2014). In particular in large countries, many more domestic trips are undertaken than international ones while small island states rely almost entirely on international tourists. The the annual report of the International Civil Aviation Organization (ICAO 2016) has reported 3.5 billion person transports in 2015 and an average distance of 1870 km per person transport. The ratio between ground based and air borne arrivals of international visitors shifted steadily towards air and is currently 53%. Some 35% of all registered flights are international and 65% are national flights. Since the beginning of the millennium we observed a doubling of passengers while the distance of travelling did not change. Many persons are travelling several times during a year while large parts of the poorer population still have no possibility to travel.

Table 1: Passengers of Civic Aviation 2004 to 2015

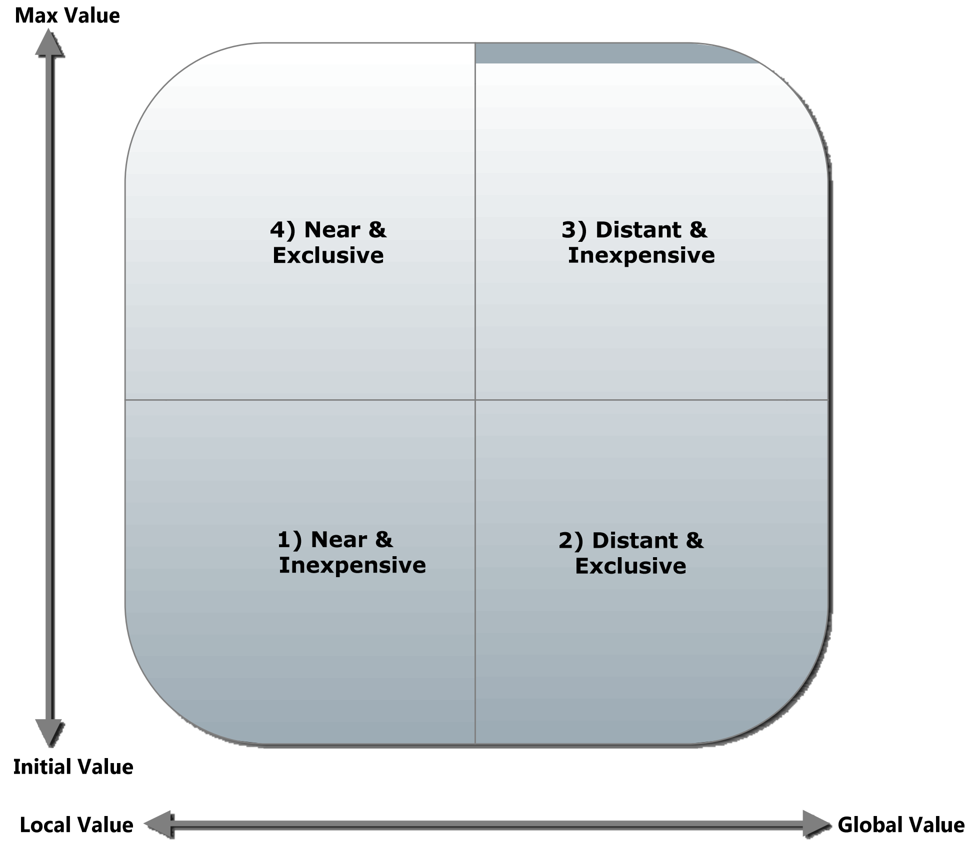


Source: ICAO (2016)

Individual countries – even neighboring countries with similar environment conditions - can have a very different tourism development depending on the country´s history and the prevailing circumstances. Here we conceptualize four principle situations in relation with the tourism value chain (Figure 1). We find four principle situations of the generation of a tourism value chain: 1) describes the initial local development of a destination. Tourism is local to regional and develops widely on resources at the spot. The means of travel are almost entirely ground based and less sophisticated. Residents and tourists widely share the same infrastructure. 2) An exclusive minority is able to afford trips to destinations far away and to pay high prices for this. 3) Rationalizations, optimizations and innovations allow mass tourism to any destination in the world. In particular urban destinations gain increased importance if they become national, regional or continental traffic hubs. Continental hubs compete on a global scale. Travel costs are drastically reduced and the hubs resemble in many aspects. 4) Increased competition forces destinations to become more distinct and special. Exclusive touristic products and experiences are developed. More value is generated by the available local and regional resources by following strict quality standards controlled and evaluated by outside agencies or customers.

The tourism value chains are very different: one and two give initial value and experiences in a local and global context, three and four give high value but for different reasons. In three the economy of scales applies and is primarily based on few international global urban hubs while in four fewer tourists spend much more money in particular locations that would otherwise loose profitability. The local resources are better managed to bring more value. This principle is in particular relevant for peripheral or rural tourism destinations endangered to lose their profitability.

Figure 1: Principles of Tourism Value Chains



Source: Author

Based on the principles on which the tourism value chain builds on, economic shocks and natural disasters can therefore have different impacts on the tourism value chains in particular destinations, countries or regions in dependence of the structure of their tourism. The robustness of the tourism sector to counter economic shocks depends on the environmental, social and economic vulnerability of the destination and the ability to cope with external stress.

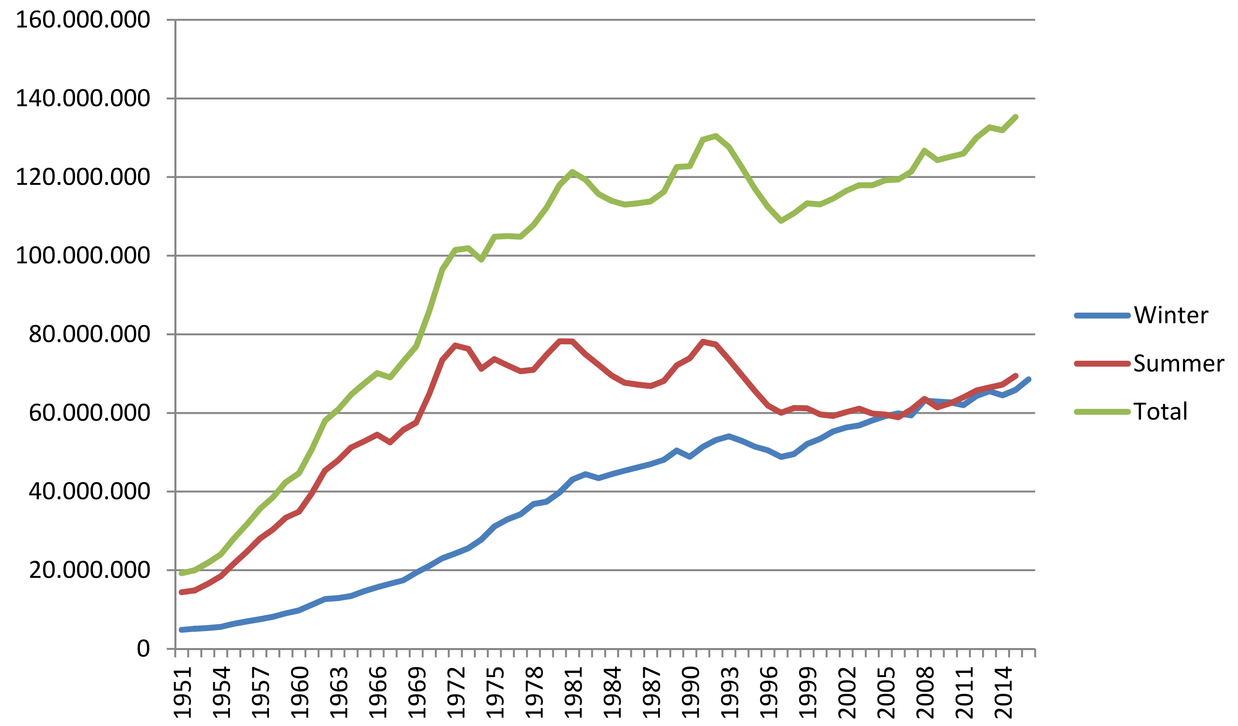
In the following we will present four chapters relating to 1) the tourism development in Austria, 2) the increase of the tourism value chain in rural Austria by promoting local food specialties, 3) the relative importance of economic shocks and natural disasters and 4) to use these findings for the ASEAN region.

1. Tourism development of Austria

Austria is a country in the centre of Europe with a size of 84,000 km² and a population of 8.7 million people. Since 1995 Austria is part of the European Union and in 2001 the Euro was introduced. Austria ranks 112 in country size and 93 in population. The nominal GDP was US$ 415 billion in 2013 and this is rank 27 while the per capita earnings are with US$ 49,000 rank 11 in the world (IMF 2014). Austria is a landlocked and mountainous country. It has 90,000 tourism businesses with 614,000 employees which comprise 20 percent of the national labour force. In 2013 and 2014 there were 37 million tourist arrivals, 12 million domestic and 25 million international visitors (OECD 2016). In 2013 tourism directly and indirectly contributed 5.3 and 14.8 percent to the national GDP, or €46.5 billion or more than US$50 billion in absolute numbers (Austrian Chamber of Commerce 2014). This is rank 11 as a tourist nation or some 2 percent of global international tourism spending. The combination of primarily mountains and a well-established infrastructure worked very well in Austria.

1.1. Tourism Development in Austria

Figure 2: Tourism development based on overnight stays in Austria 1950 to 2016



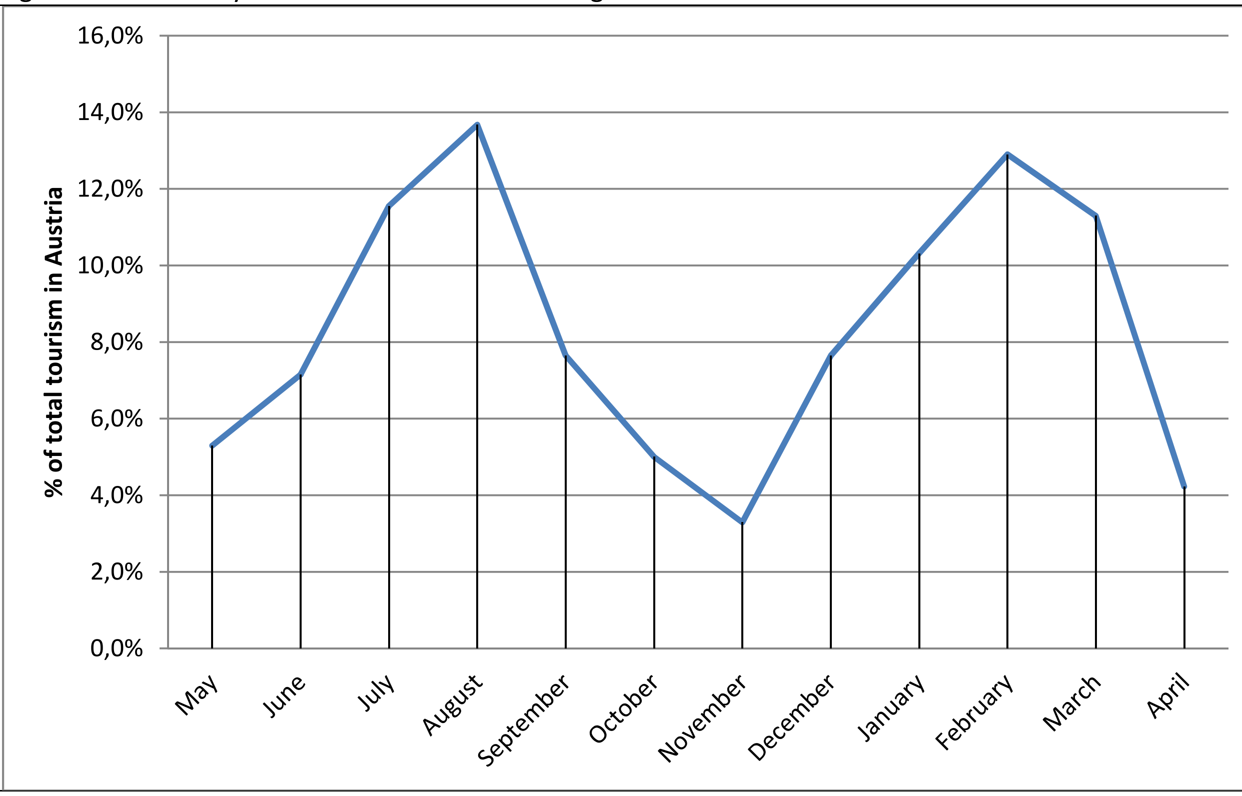
Source: Data Statistik Austria, various sources until 2016

Since 1950, Austrian tourism has grown steadily and became the lead economy in rural Austria. Austria had severe limitations in gaining a productivity increase in agriculture usual for many other highly developed countries due to its mountainous topography. This was not bad for the rural communities and their farmers who could develop facilities for summer tourism. This could complement the shrinking income in agriculture. An important driver for the economic development was intensified winter tourism mainly with snow based activities. One sixth of the global winter tourism infrastructure with more than 300 major resorts in rural areas is located in Austria.

Since 1960 Austria had a continuous growth of per capita income, which was approximately US$ 1.000 in 1960 and US$ 50.000 in 2013 (World Bank 2015, current US$). The neighbouring countries in Western Europe where most of Austrian tourists originate from had similar growth figures and this trend was mainly responsible for the demand driven growth of particular winter tourism. In rural Austria almost half of the income is generated during the winter half year. In contrary to most other countries we find only moderate income disparities between urban and rural areas. Austria comes on rank 11 as country for international tourism. The intensity of tourism is eleven overnight stays per inhabitant. So far this situation kept rural Austria populated and it is easier to manage rural land. There is more money available for infrastructure development and to abate major risks. Where the conditions were favourable, this is in the western part of the country, in particular winter tourism developed into an export oriented international business. In the eastern half we find a much lower intensity of tourism. There, tourism is directed to the inhabitants of the urban areas.

1.2. Seasonality of tourism

Figure 3: Seasonality of Austrian tourism according to month



Source: Statistik Austria, June 2016

Tourism is divided into two seasons, summer from May to October and winter from November to April. Until the 1990ies summer tourism was the more important kind of tourism but later on winter tourism developed even better. There are fewer countries that compete with Austria during winter time. Within the two tourism seasons, we find particular periods with more and less tourism. August and February have approximately three times the number of tourist overnight stays than November and May. There are about 1 million guest beds available in different overnight categories ranging from

€ 200.- and more in upper class hotels to € 20.- in a youth hostel or camping place. According to the OECD (2014) each foreign tourist overnight stay was related with € 159.- expenditures and the total income from one foreign guest was in average € 555.- in 2013. In general winter tourism is more expensive than summer tourism. Winter tourism depends even more on technology and infrastructure than what summer tourism does.

1.3. The tourism rural value chain

The value chain is related to tourism activities of tourism. It aims to include innovation in this economic sector as new products continuously contribute to the added value of tourism. The tourism supply chain focuses on particular services or service networks within the value chain, with the aim of optimisation. The supply chain directly relates to businesses earning money in tourism and building up more value in tourism. Additionally, the targeted companies help other companies to earn money. The optimisation of the supply chain in return contributes to the value chain. Austria can provide many examples to increase the value chain from inside. One outstanding characteristics of Austria is its highly developed rural value chain. This is closely related to tourism the lead economy of rural Austria. We use the term rural economy as the non urban economy. This is the Austrian GDP without Vienna and the provincial capitals. More than 80% of tourism is consumed in rural areas. Beside tourism agriculture and forestry built up the rural GDP

Many highly developed countries namely OECD countries have a comparatively poor rural economy. Often, the rural GDP is less than 2% and widely based on income in agriculture and forestry. The situation in Austria is different. Here we find three main pillars of rural economy: i) agriculture and forestry, ii) summer tourism, and iii) winter tourism. For this reason a comparison with other highly industrialized countries shows that the value generated in the rural land is much higher than elsewhere, currently 7% of GDP in 2013 (estimate based on IMF 2014, Statistik Austria 2015). This splits roughly into 1.5% agriculture and forestry, 2.5% summer tourism and 3% winter tourism. The indirect earnings of the tourism sector is much higher, approximately 15% (Laimer, Ostetag-Sydal, Smeral, WIFO 2012). Tourism is a relatively young and dynamic economic sector. The Austrian rural economy is the part of economy that is not earned in Vienna and the provincial capitals or major urban business centres. A clear distinction is not easy as today we have many workers commuting to urban centres and there is an increasing regional dependency on work possibilities in urban centres. The income of locals living in rural areas is partly generated in urban areas and interdependencies with urban centres are high. There are only a few sectors that are primarily on the countryside and therefore widely dependent on the influence of weather and climate. In the first place this is the primary sector with agriculture and forestry in the second place it is the service sector with tourism.

2. The tourism rural value chain: building up value from inside Austria

Here we describe incentives to alter the tourism value chain from inside. As we described the close connection of the tourism value chain and agriculture we would like to exemplify here in how far tourism is related to the culinary experience of the place and being part of the destination is not only seeing and feeling the area, but also to taste the local or regional specialities of the tourist destination. Internationally best known are perhaps regions like Piemont or Toscana in Italy or Champagne in France. In particular Champagne was extraordinary successful in promoting its sparkling wine as “Champagne” and the product itself did also good job in advertising tourism. A long tradition, efforts often lasting decades and a continuous struggle to improve the quality of a typical product are signs in developing food to a trade mark and to an elevated touristic product. Here we describe the local efforts in Austria to built up similar food products and to gain an important place in the international community. This in turn helps tourism and leverages particular destinations from other more general ones.

2.1. Wachau Cultural Landscape

Wachau region is well known for its typical cultural landscape. In 2000 the Wachau Cultural Landscape was awarded a UNESCO world heritage including the monasteries Melk and Göttweig as well as the town center of Krems. King Richard the Lionheart from England was kept imprisoned in Dürnstein castle in the very centre of the Wachau region. Tourism plays an important role in particular day tourists coming from Vienna, some 100km away. Cycling and hiking in the landscape is very popular. Many farmers offer also tours for tourists and sell their agricultural products. The prime product of Wachau is white wine such as “Grüner Veltliner”. The cultivation of wine is often in terraces and this requires more handwork and efforts than if the wine would grow in a flat field. Another way to increase the value is the shift to organic wine production. Usually this takes several years until a conventional wine farmer becomes an organic one. The farm units are not too big and due to the popularity of the region, the best value can be reached by selling the wine directly at the farm. This can either be the offering self produced wine on the farmers property or selling the self produced wines for consumption at home. So called “Heurigen” or “Buschenschank” are small scale restaurant like businesses where farmers do not need a restaurant licence to sell their own products. Having several pillars increases the value that can be earned from tourists and the supply chain is indeed kept local and most of the money earned remains at the spot.

Figure 4: A “Heurigen” in the Wachau selling local wines and explaining wine growing at the spot

Source: Excursion to Wachau at ERIA-TU Wien- OECD co-sponsored conference on June 22nd, 2016

There are extended plantations with apricot trees having a regional trademark as “Wachauer Marille” as a second regional product of the Wachau Cultural Landscape (Marillengenuss 2016). The apricots are used in the cuisine of the restaurants and specialities such as apricot dumplings “Marillenknödel” or apricot cakes prepared with the “Wachauer Marille”. Another way to use the fruits is either to prepare apricot marmelade or to distillate the apricots and gain “Wachauer Marillen Schnaps”. There are more sophisticated apricot products and processing the fruits at the spot increases the value by many times. The proof of destination is very important in this concept. If possible all required ingredients should come from Wachau or from localities nearby. This despite it can be much cheaper to buy the ingredients from other – more distant – places at a cheaper price. The principle is that many businesses of Wachau work together.
A third product of the Wachau region is the “Wachauer Beef”. Animal production on grassland under a particular controlled agricultural scheme was an additional activity to increase the value of local agricultural production and to offer a high quality local food product. The “Wachauer Beef” is a rather young branch and only started 20 years ago when a local innovator gave up his office job and started farming. The business is continuously growing and the demand of the “Wachau Beef” is high. There are co-operations with local restaurants. A problem for the producers is the lack of land they find to rent. This limits the business as the demand is higher than the supply. The beef is the origin of several longer lasting products like dried meat sausages that are bought by tourists.

Figure 5: Grassland with “Wachau Beef”: combining agricultural production with touristic experience

Source: Excursion to Wachau Cultural Landscape at ERIA-TU Wien- OECD co-sponsored conference on June 22nd, 2016

The food products, the life style of farmers and the production methods in rural settings developed into a set of touristic experience in the Wachau Cultural Landscape. This helped to mutually improve the agricultural and the tourism sectors. A set of businesses related to the food processing, the agricultural production, the selling and marketing of typical regional products, the local restaurants and the hotel owners and providers of other accommodation profited from the local cooperation in an extraordinary way. The value added to the local products by concentrating on business cooperation of the own region can be several times higher than what it would be otherwise.

2.2. Other Austrian examples to promote food as touristic experience

The promotion of regional and local food products and strengthening a local and regional value chains became a business strategy of many Austrian tourist destinations characterised by many small scale enterprises. In general small scale businesses have troubles in developing their businesses in isolation. The clustering of up to hundred small scale business units can bring a major advantage if a strong unifying concept is in place and followed by coordinated and joint business operations. In general a lot of time is needed to build up such a network and the business processes cannot be compared to the ones of large companies when a single director or a small group can decide on the direction to go. It is the economic success of a food and touristic product that unifies local businesses.

The initial projects for clustering enterprises are usually provided by local and regional development programs. The EU has established particular programs in particular the European Regional Development Fund (ERDF) and the European Agricultural and Rural Development Fund (EARDF), both part of the EU Structural Program to serve these purposes. The projects have to be rooted in the Common Agricultural Policy of the EU (EU 2010). One program line is called LEADER (in French: Liaison entre actions de développement de l'économie rurale) combining the connection of actions to promote the rural economy and to strengthen the rural value chain. It is based within the EU Structural Program (EU 1999). To have the chance to be successful in bidding for such a project, a local action group (LAG) has to be established. Co-financing of a public institution – in Austria 15% of project value during the project period 2007 to 2013 - is required. As long as there is money in the budget projects fulfilling the administrative requirements can be supported. In Austria several LAGs could profit from the program and established food and touristic products in parallel.

Successful projects were “Almenland” in the Austrian province Styria where twelve municipalities joined to a touristic region (Almenland 2016). This area is the largest connected pasture land area and well suited for ecological orientated tourism. However, the population migrated out of the area and the region was under economic decline. In 1995, right after the entry of Austria into the EU, the first LEADER project started. The value chain was streamlined according to maximize the local value and improve the income situation for the locals. An own trademark ALMO was established.

Food treasures from National Park Hohe Tauern that covers three parts in the Austrian provinces Kärnten (Nationalpark Hohe Tauern 2016) , Tirol (Osttirol 2016) and Salzburg (Nationalpark 2016) was another successful project to create a regional identity with local foods. The agricultural products promoted were mountain sheep, mountain trout and potatoes. The value chain includes farmers or the producers of food, local restaurants, national park administrators and tourist promotion stakeholders. The cooperation over the provincial borders - Austria is a federal state, where different legislation can apply for single provinces - can be a hinder for a successful promotion of the National Park Hohe Tauern as a whole. The third visited Austrian tourist hot spot, the Großglockner Hochalpenstraße is connecting the Carinthian part with the Salzburg part of the national park. But, the panoramic mountain pass exceeding 2500m is only passable during summer.

Yet another example for the combination of tourism with local food is the “Cheese Street Bregenzerwald” in the most Western Austrian province of Vorarlberg (Käse Straße 2016). A variety of local small scale cheese plants – in German “Sennerei” - can be visited and different production methods of cheese can be studied. Cheese is a means to generate more value out of high quality Alpine milk production. Different cheese varieties in various maturity levels are produced and directly sold to visitors or due to a co-operation with local restaurants further added in value as particular elevated tourist menus. The altered cheese value chain means that the local milk produced is not exported as a raw material and entirely processed to higher or premium value products in the region.

There are several more examples of successful local and regional development in rural Austria. In general the level of professionalization increased practically everywhere in the country and many farmers are elevated to the position of entrepreneurs that have to learn many new things in order to have a viable business. Cooperation and communication with others is thereby a key requirement. For this guidelines of collected findings of a lot of local project were published (Austrian Ministry for Economic Affairs, Youth and Family, 2008). A cooperative plan describing and integrating all activities and businesses is required. This can be similar to a business plan of a single company. The concept has to be kept simple and transparent. A procedure for the internal communication process between the businesses involved is required. While the entities are independent, the promotion of the destination needs clear management structures with defined responsibilities. To achieve viable management structures initial public funding for a minimum of three years are required. For this purpose the EU established particular programs from where funding can be obtained. Only the 100% committed and most likely not all businesses of the destination should be initially involved. In a final stage all businesses should be included as the value of the clustering in a distinct tourism and food region means that the value of the total economic product is considerably higher than the sum of single businesses.

2.3. Growth of the Tourism Value Chain in Pleasure Region Austria - “Genussregion Österreich”

In an ideal final state entire rural Austria will have had developed a tourist destination profile with local food specialities. The agglomeration of many distinct food and tourism destinations gives more variation and value than a few stand-alone destinations. The tourism and food products become more sophisticated if one has to become distinct or better with regard to a particular food product. There can be competition between other tourism destinations. The cooperation within one region to achieve the wanted output will additionally increase the generated value in the chain. In an international context it will be impossible to market hundreds of Austrian typical regions. Instead the country profile of food specialities has to be provided and food lovers can choose for what product or experience they are going for and learn about the context in which their favourite food is produced. In case of neighbouring countries or tourists who return a search based on provinces could be the ideal entry. The passion will lead tourists and at the same time they can learn and get inspiration. The concept of “Genussregion Österreich – Pleasure Region Austria” (Genussregion Österreich 2016) was developed to give access to some 150 Austrian destinations in nine Austrian provinces covering large parts of rural Austria. All these destinations have worked on the concept to make their local food seen and interested visitors of the web page and potential tourists become aware of the specialities they can find in particularly here.

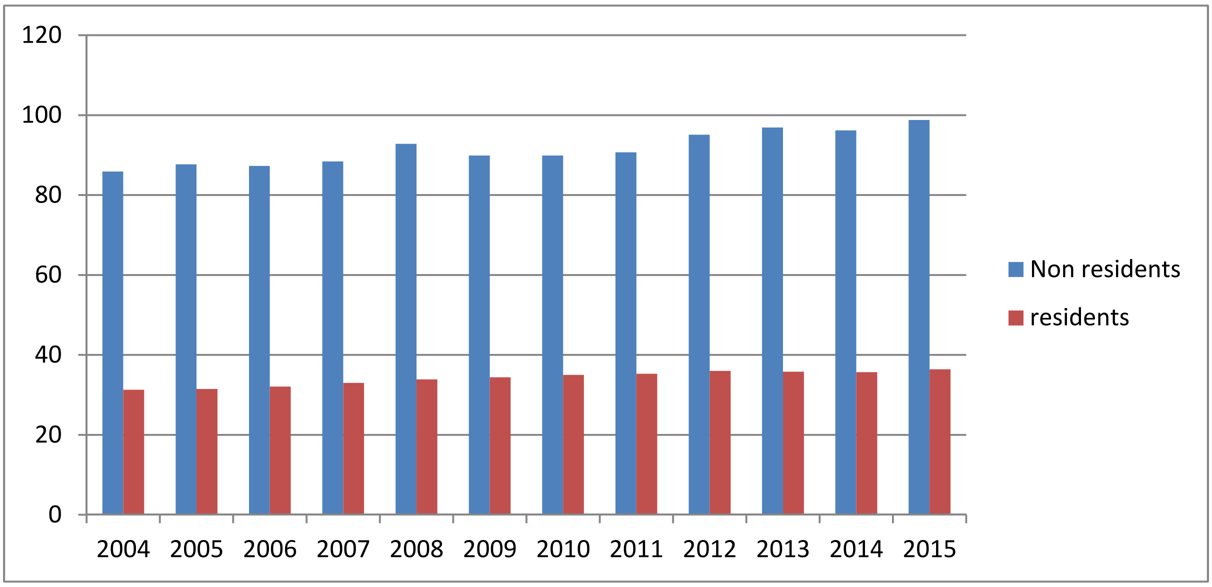
3. Economic shocks and disasters: changing value from outside destinations

Economic shocks summarize both demand shocks and supply shocks in Austrian tourism. Demand shocks originate on the side of tourists or customers, supply shocks relate to the service infrastructure in Austria. Disasters can be considered as a particular form of supply a shock.

3.1. The role of demand shocks for Austrian tourism

Austrian tourism is highly export oriented. This means that tourism services provided in Austria are considered as exports if they are consumed by foreigners. The share of foreign consumption on Austrian tourism is high and accounted in average 73% during the last decade. The income earned 2015 in Austrian tourism was 16.49 billion Euros. Considering the expenditures of the Austrian population consuming tourism outside the country with 8.12 billion Euros, the trade surplus from tourism was 8.37 billion Euros. This was 11.2% higher than the value of 2014. This surplus allows to balance trade deficits in other sectors and is very beneficial for Austrian economy.

Table 2: Austrian Tourism based on guest nights from non residents and residents 2004 to 2015

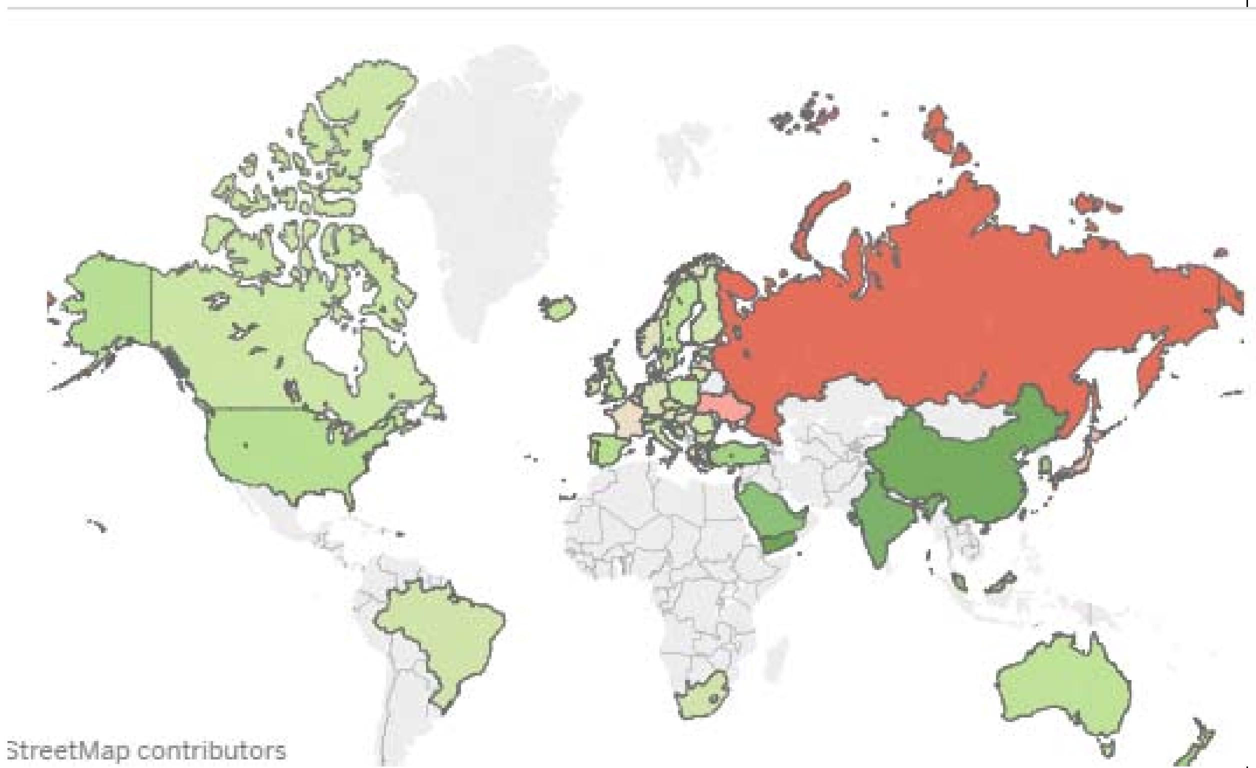


Source: Statistik Austria, 2016

On the other hand there is a strong dependency on foreign countries, primarily on Germany, which is the strongest single market of Austrian tourism coming even before Austrian residents. Thereafter comes Netherlands, Switzerland, Italy, UK, Czech Republic, France and Russia, all of them having more than 1% share in Austrian tourism.

Having a diversified mix of countries in the tourism portfolio can be an advantage in case of economic shocks. The dependency on Germany is extremely high and fiscal decisions in this country can have a higher impact than fiscal decisions within Austria (Fenz and Schneider 2006). Germany is economically one of the best performing countries in the EU and it is less likely to expect serious economic implications. This is more likely in countries like Ireland, Portugal, Spain, Italy, Greece or Hungary that experienced serious economic challenges during the last years. A collapse of the Euro was a not impossible scenario one year ago but did not happen. The recent referendum on the Brexit, the decision of the residents of Great Britain to leave the EU on June 23rd, 2016, is the impulse for a negative demand shock. However, the number of tourists from Great Britain is not really decisive for Austrian tourism. In addition Austrian tourism experienced a serious demand shock from Russia (WKO 2013) a country that brought similar foreign currency to Austria like Britain did. The Crimea conflict and the devaluation of the Russian Rubel reduced the number of Russian tourists by one third. On the positive side can be reported that Chinese tourists started to discover Austria. All in all both the domestic and non domestic tourism were steadily growing and despite the existence of demand shocks their impact was not crucial.

Figure 6. Positive and negative demand shocks for Austrian tourism



Source: https://www.austriatourism.com/tourismusforschung/tourismus-in-zahlen/oesterreichischer-tourismus-in-zahlen/naechtigungs-und-ankuenftezahlen

3.2. **The impact of supply shocks for Austrian tourism**

The main mean of transport in Austrian tourism is with 74% road traffic. Air traffic is steadily increasing but so far only 9% of tourists reach Austria by plane (WKO 2016). An increase of supply in flights would not necessarily show the wanted impact of tourism increase. In a working paper of the IMF Acevedo et al (2016) investigate in the role of air traffic based on time series data from US flight traffic to 15 destinations in the Caribbean Sea. A supply shock, an increase of frequency in flights by one percent lifts tourism only modestly by 0.3 and with a time lag. Flights to remote islands depend further on the readiness to pay a guaranteed number of seats in case the airline cannot find customers. In Austria with a comparatively low number of people arriving by plane the increase of flight frequencies might show better results than in the Caribbean.

With regard to road and train traffic Austria is well connected into inter European traffic concepts. Even the remote areas can be comfortably reached and the task is rather to hinder private traffic in particular mountain areas. Some destinations in particular the high Alpine villages have established motor traffic free zones. There are central parking places and from there tourists can proceed by coaches or public transport (BMVIT 2016). This widens the possibilities to walk in the destination and to better enjoy the destination in a slow path. In particular if high quality tourism with a higher value is aimed traffic regulation measures are very important. Free public transport from the central parking with taxis or buses is essential here.

Romero (2010) investigated into the likely consequences of the opening of Cuba to the Caribbean destinations. Despite there is one important player more in tourism the consequences for Caribbean were not considered to turn to negative. A larger region with many tourist destinations is becoming more interesting than smaller regions and tourism growth will concentrate here. This correspond to the situation in Austria where we find several hundred tourist destinations within a region of 50.000 km². Chen (2013) investigated in how far the US tax policy has an impact on Caribbean tourism. Increasing the marginal tax rate for the richest group from 34% to 35% had a highly significant impact on the value of shares in the hotel business. Here it is important to know that primarily US citizen invested into the Caribbean hotel infrastructure. In Austria the establishment of hotel infrastructure happened from bottom up. The early adopters from agriculture to tourism, e.g. in Obergurgl, did economically very well (IIASA 1972). They had even enough money to develop an entirely new tourist village called Hochgurgl in 2200m altitude. This village is owned by the people of Obergurgl and they do remarkable well until today. It is perhaps questionable if under today´s condition such an endogenous development could happen too.

Culiuc (2014) describes determinants in international tourism. He provides a list with the top 20 nations with viewpoint of overall weight of international tourism, where France is the number one and Austria number 12. When it comes to the relative per capita importance of tourism none of the larger states is present. Here the Maldives are in front. The small island state lives entirely on tourism and on foreign investment into tourism. This makes such a state very vulnerable to economic shocks. However, the Maldivians developed a risk sharing mechanism with outside investors to utilize their natural resources. The outsiders interesting in assets of Maldives have to wait years until they see a return of investment. It is entirely based on business returns. But until 2080 half of the land of Maldives covering 1200 small islands with together 300 km² could be under water (IPCC 2014). Political instability is another hinder to an extended tourism. The presidential candidate who got most votes in the first round of the election of September 2011, wanted to change the tourism policy from an exclusive resort based tourism separated from the local population to a much broader touristic policy with many small scale tourism companies involved. However, the targeted second round of election was cancelled and the current tourism policy remained. The tourism sector is highly vulnerable and supply shocks are likely to have much more dramatic impacts in small states than in medium countries like Austria or large countries.

3.3. **The role of disasters in tourism**

Disasters such as cyclones, earthquakes, flooding, drought and the corresponding extreme climate events can be considered as particular cases of supply shocks. Acevedo et al (2016) investigated also in the role of cyclones in the Caribbian Sea. They found only local impacts in case of a small disaster and the shrinking supply can be easily taken up by the neighboring destinations. In case of a regional disaster the impact is felt much more widely. In Austria it is more appropriate to speak about extreme events, extreme precipitation, heat, drought or frost. In part 2 we discussed the tourism-rural value chain and the establishment of entirely local kinds of “Genussregion - pleasure destination”. The

Wachau was exemplified with the “Wachauer Marille” and this year 2016 was a very bad year. In April when all apricot trees were flowering, several days of frost came very late. The entire harvest got lost by frost damage. People who come for the “Wachauer Marille” usually mature in July will be disappointed. The farmers lost a great part from their agricultural income. The frost was also effecting the wine, but not to the same extend like it did with the apricots. The Austrian climate risk insurance company reported on a loss of 270 million Euro for the Austrian agriculture and 35 million Euro for Lower Austria the province in which Wachau region is situated (ORF 2016). While climate extreme events are usually classified as 30, 50 or 100 years events, the frequency of return is increasing. If the harvest is damaged too often the marketing concept for the agricultural product is lost and coupling several economic activities like food production and processing, selling homemade products on the farm, cooperating with local restaurants does only bring efforts and risks that the combination of products will be associated with the failure of the targeted food.

In Austria the disasters are primarily limited to mountain risks and flooding in a local scale. Business continuity failures in tourism after damages or even disasters are rare and often not recognised by the public (Breiling 2016). We find established government agencies and the instruments in place collect a lot of risk information. The worst national disaster experienced in Austria happened in Kaprun in November 2000 when a technical failure caused a fire in an ascending train transporting skiers to the mountain top and claimed the lives of 155 people. The total number of fatalities in mountains are widely related to tourism. In addition a large part of the road accidents are in relation to tourism. In 2015 died 286 people in the mountains (Österreichisches Kuratorium für Alpine Sicherheit, 2016) and 475 (BMI, 2016) on the road. High speed is in general the worst single cause for all fatalities. Ski-related accidents are in their majority not related to natural hazards. Some 30 people are annually killed due to avalanches. During summer, the death toll in the mountains is slightly higher. Most of the fatalities do not relate to natural hazards.

Economic shocks or disasters in tourism supply chains are mainly connected to climate change. In Austria the connection between winter tourism and warming are well elaborated (Breiling et al. 1999, Steiger, Abegg 2015). The supply of natural snow as a key natural resource for winter tourism became limited in most tourist destinations. Snowmaking requires considerable water resources. In Austria winter tourism water needs surpassed the needs of agricultural irrigation. An additional problem is that the water resources used for snow making are not easily available and usually come from mountains often in competition to other uses (de Jong, 2015). Adaptation to counter this development became self part of the tourism-rural value chain. The lack of snow has to be countered by means of artificial snow production. The remaining skiing area with snow cover has to be used more efficiently by constructing new generations of faster ski lifts or to install lights to use the ski slope even at night when temperatures are generally cooler. Each year more than 500 million Euros or 6% of the turnover in winter tourism representing 40% of the turnover of the rope and cable cars are reinvested into climate change adaptation, safety and comfort measures (Österreichische Seilbahnen 2016) by the 300 largest winter tourism destinations. The tourism supply chain was altered and extended to Austrian industries (Doppelmayr 2016) or the Austrian branches of globally acting multi-national companies (SIEMENS 2011). The cost involved means also that a lot of small and medium scale companies, in particular in lower laying destinations were forced or will be forced to go out of business (Wiener Zeitung 2012, Kleine Zeitung 2015). In some cases the business failure is also due to the level of required funds from the public, mainly provincial governments and the shrinking budgets to support these activities and not solely due to climate related economic shocks.

4. Lessons for ASEAN countries

The ASEAN countries contribute with 9% to international tourism (ASEAN 2015). This ratio roughly represents the ASEAN share in global population, but the region is not developed homogenously. Huge differences exist. The five major cities and touristic hot spots of the region, namely Singapore, Bangkok, Kuala Lumpur, Phuket and Pataya accounted for a 60% and 57% share of all international visitors to the ASEAN region in 2013 and 2014 (Euromonitor 2015). Each of the five touristic light towers receives more international tourists than whole countries, namely Brunei, Cambodia, Lao, Myanmar, Philippines. This is widely related to the possibilities of mass transportation in hubs that can very efficiently throughput passengers. The negative side is that vast sub regions of the ASEAN region are touristic underdeveloped and it will require huge efforts to develop those regions.

International tourists originated in 2014 to 47% from other countries of the ASEAN region, 12.4% from China, 8.8% from EU countries, 4.8% from Korea, 4.4% from Japan, 4.2% from Australia, 3.1% USA, 2.8% India, 2.3% Russia and the remaining 10.3% from countries with less than 1% share in ASEAN tourism (ASEAN tourism statistics database 2016).

ASEAN countries are more heterogeneous than European countries are. The region as a whole has together the third largest GDP in Asia with 2.6 trillion US$ in 2014 (ASEAN 2015). Formally established in 2015, the Asian Economic Community (AEC) will be established comparable to the EU until 2025. ASEAN countries did not have the long cooperation that EU has but in particular ASEAN countries seem to use the experience made in Europe – such as compliance and monitoring of common goals - to form a common region out of 10 individual countries. Tourism is part of the vision of the ASEAN countries and was characterized in 2015 as follows (ASEAN 2015a):

"The AEC 2025 vision for tourism is for ASEAN to be a quality tourism destination offering a unique, diverse ASEAN experience, and committed to responsible, sustainable and inclusive tourism development, so as to contribute significantly to the socio-economic well-being of ASEAN peoples. The proposed strategic directions and action programmes address the core challenges facing the sustainable development of quality tourism and its integration within ASEAN Member States: creating a better balance in the distribution of benefits of tourism among ASEAN Member States, reducing concerns over safety and security, making cross-border formalities more convenient and less costly, and reducing transportation and destination infrastructure congestion."

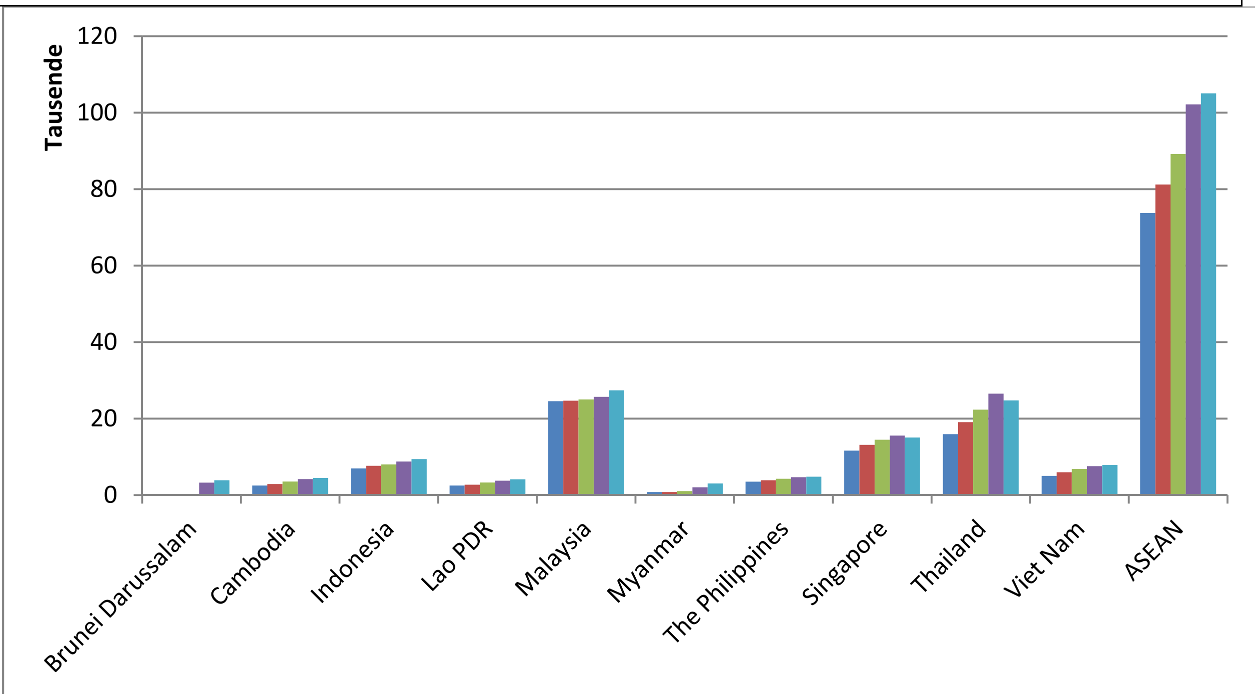
The Southeast Asian countries launched an ASEAN Tourism Strategic Plan for 2016 to 2025 (ASEAN 2015b) and have defined two strategic directions to enhance the competitiveness of ASEAN as a single tourism destination and to ensure that tourism is sustainable and inclusive. Actions related to the first direction are foreseen in i) promotion and marketing, ii) diversification of tourism products, iii) initiatives to attract tourism investments, iv) raise capacity and capability of the labour force, v) developing standards for facilities, services and destinations, vi) improve and expand the connectivity between destinations by building out infrastructure and vii) enhance travel facilitation. Actions in the second direction are viii) to upgrade local communities and public-private sector participation in the tourism value chain, ix) to ensure safety, security and the appropriate management of natural and cultural heritage sites and x) to increase responsiveness to environmental protection and climate change.

The expectations targeted for 2025 are: tourism will increase from a value currently at 12% GDP to 15% GDP. The current share in employment is 3.7% of the total workforce and should become 7%. The expenditures per international tourist should increase from USD 877.- to USD 1500.-. The average length of stay per foreign tourist should increase from 6.3 nights to 8 nights. The number of accommodation units could increase from 0.51 to 0.6 units per 100 residents. The number of awardees fulfilling ASEAN tourism standards should increase from currently 86 to 300. The number of interventions with regard to alterations of community based tourism value chain projects should increase from currently 43 to over 300.

4.1. **Diversity of the tourism sector in ASEAN countries**

In 2013 the ASEAN region surpassed for the first time the mark of 100 million foreign visitors and accounts for 8.5% of all global international visitors. In 2010 this mark was 6.9% and the rapid increase in the world market shares of international tourism and shows in what dynamic market we are in. The regional champions in tourism development are Malaysia and Thailand in absolute terms and Singapore in relative terms. These countries in particular have developed an important tourism sector and are the more advanced ones within the ASEAN region. Malaysia and Thailand have recently surpassed Austria with regard of arrivals of international visitors.

Table 2: National tourism of ASEAN countries 2010 to 2014



Source: : ASEAN Tourism Statistics Database (compiled from AMS data submissions, publications/reports, and/or websites of national tourism organizations/agencies, and/or national statistical offices)

In average each country receives 10 million foreign tourists or less than half of the international tourism in Austria. The indicators international tourist arrivals and overnight stays are different and country specific. For Austria the translation factor was 3.43 in 2014 while for Thailand the same indicator for 2007 was 9.19. In general applies that tourists stay shorter in small countries as there is less to see. A direct comparison on the value of tourism based on the indicator international tourism should be done with caution.

Malaysia and Thailand are the countries with most foreign tourists and the number of international arrivals approximately equals the corresponding number from Austria. Malaysia became wealthy in particular by exploiting the abundant oil reserves and investing it in building out general infrastructure and tourism infrastructure in particular. Some 27 million foreigners visited Malaysia in 2014, the number one ASEAN country of that year. Thailand received in the same year with 25 million tourists slightly fewer tourists but regained the status as number one country of the ASEAN region in 2015 with 29.8 million arrivals (Thai Tourism Statistics, 2016) mainly due to a strong increase of Chinese visitors to Thailand. Singapore has some 60% of the tourist arrivals in Malaysia or Thailand but the highest per capita numbers of foreign tourist arrivals per capita out of all ASEAN countries. Tourism has here a strong connection to business trips and tourism is a very well developed activity with the intention to invite foreign investments in the city state. Similar small in size with some 5000 km² Brunei Darussalam is the second small state in the ASEAN region but with only half a million population. The sultanate became rich due to the off shore exploitation of crude oil and had ambitious plans to develop tourism which first did not develop according to the plan. Brunei had until 2012 only 2% of the international tourism of Singapore. That time only the arrivals at the airport were counted. Then the way to count international arrivals was changed and all entries from land and water bound traffic included and the country Brunei Darussalam ended up with almost four million international visitors, most of them coming from Malaysia. This is the reason why this country has today by far the highest international tourism intensity of all ASEAN countries. The states Myanmar, Cambodia and Lao PDR have started later to develop their tourist industries and had for long time fewer resources available for this purpose. The political situation was additionally less stabile than in other countries. The low absolute and relative importance of tourism gives a lot of room for improvements and strong increases of these countries are expected in future. Finally we have with Indonesia, Philippines and Viet Nam three big countries with a surprisingly low number of international tourism, 9.5, 5 and 7 millions foreign tourists in 2014. The accumulated figure is not higher than the one of Austria. An explanation could be that the majority of tourism is domestic tourism and therefore not present in the international tourist arrivals survey. Alternatively one can state that the majority of the population in these countries is not yet involved into major tourism ventures.

4.2. **The possibility of establishing a tourism-rural value chain based on food specialities**

This option seems so far underexplored in ASEAN countries. However, in Indonesia the special food dishes from individual regions are well recognized and part of the touristic offer but cannot be used to promote a particular destination due to its uniqueness. Food imports to tourist destinations are the rule. Often the local food is estimated to be inferior to imported food from outside. This problem is very much related to food standards and the strict control and monitoring of food standards. If such programs start and the quality of a superb local destination product could be proven than higher prices could be asked for. An additional organic production method strictly restricted to natural, local fertilizer and pest control can additionally alter the value of food. More jobs will be created or secured and more money will remain in the local destination. But the food supply chain will again become local and an authentic local export product. A good example is Bali where the rice terraces received the status of a cultural world heritage (UNESCO 2016). Various brands of organic rice is produced here and sold at prices of up to IRP 40.000 or three USD per kg. The rice terraces classified as one out of 17 cultural heritage sites are also a key attraction for tourism and attract thousands of visitors daily. The cheaper imported foods produced in large quantities to offer inexpensive meals are less needed in a tourist destination. Tourists are ready to live up to high and exclusive expectations based on local food production.

Figure 7: Rice terraces in Bali – protected as a UNESCO Cultural Heritage

Source: Author July 18th, 2016

Another example of Bali is “Kopi Luwak” or civet coffee produced with support of the Asian palm civet (Paradoxurus hermaphroditus). It is branded as an exclusive regional product and can be bought via internet for USD 500.- for one kilogramm.

The impossibility to gain local food became a problem for many small fishing villages. I take Sendang Biru from Indonesian East Java, Malang district, as an example. The village is affected by both, local land use change and global change impacts. The coral reefs were dying and the mangrove forest disappeared. And finally the fish, the food disappeared. And consequently the people should leave the place as the basis to make a living became ever more limited.

Figure 8: Protecting the coral reefs and mangrove forest to secure the fish and seafood populations

Source: Author documentation from April 8th, 2016

Based on local initiative a mangrove forest protection group established. A resort was opened. The cooperation with universities, most of them from Malang was initiated and many new ideas entered the village. The environment protection combined both seafood and Mangrove forest protection. At the same time the destination got awarded the Indonesian eco-tourism award (Purnomo et al. 2013, Sendang Biru Action Group 2016, personal communication). In a next step particular kind of sea foods can be classified as authentic to the region and ecological assets can be combined with a much higher value from fisheries.

4.3. **Vulnerability of tourism sector in ASEAN countries to economic shocks**

The likely economic shocks to the tourism industry of ASEAN countries can differ a lot. Demand driven economic shocks are taking place in the countries where tourists live normally. Similar to Austria Thailand experienced a decrease of Russian guests. On the positive side there was particularly an increase of Chinese guests. But the increase of tourist arrivals does not necessarily connect to higher revenues. During the economic crises of 2008/09 fewer tourists came to visit ASEAN countries. However, not all the countries showed the same trend and in particular the ASEAN hubs are vulnerable to the global development.

Many economic shocks derive from the supply side. Due to the fact that there is more competition today than 20 years ago, the tourism business became in particular harder for the smaller businesses. In Phucket many smaller businesses had to close due to lacking profitability. This is despite the good news that there are ever more tourists coming to Thailand. Some tourists do not use the local offers and remain in their package tour hotels without consuming outside (Weerawit 2016). In 2014, the year of political unrest in Thailand 7% fewer tourists visited Thailand (Thailand Tourism Statistics 2016). However, in 2015, a year without political unrest, the increase was 20% and eventually many people postponed their coming to Thailand for one year. Bali in Indonesia experienced a terror attack in 2002 and 202 tourists died. After this, Balinese tourism declined but in 2013 Bali had 3.27 million foreign tourism arrivals (Jakarta Post, 2014) or more than 37% of total Indonesian tourism. It seems that after an initial decline the destination gets even better known and more attractive for other tourists in particular if authorities proof to avoid a similar attack. A positive image in the eyes of the tourists seems necessary to attract tourists. The long lasting military dictatorship in Myanmar was for long time a hinder to a successful implementation of tourism. But in general the majority of tourists is not very interested in the political conditions of the host country as long as they feel save.

4.4. **The role of disasters in tourism development of ASEAN countries**

Disasters play a much more decisive role in ASEAN tourism than what they do in Austria. Most pronounced was the tsunami disaster of December 2004 that hit many ASEAN countries at the same time. Out of 230,000 people killed some 6,000 or more than 5% where tourists. This raised concern on the safety of tourism and actions to hinder another event like this (UNEP 2008). Several programs like the Hyogo program for Action (UNDRR 2005) and the Sendai Action Plan (UNDRR 2015) brought global attention to disaster risks and how to reduce the risk. The ASEAN countries could profit from a globally concerted action and the knowledge on disaster risks and preparedness to counter the consequences is today in place. Acevedo et al (2016) analyzed the effect of cyclone disasters in the Caribbean by correlating the international risk database (Centre for Research on the Epidemiology of Disasters 2015) with economic time series. Only regional events are recognized in the economic figures. A disaster was methodologically treated like a supply side shock. However as the information on damage is considered to be poor, experts recommend to monitor damages in a more consistent way covering all the economic sectors.

5. Outlook

During the next decades the ASEAN economy in general and tourism economy in particular is likely to grow. Tourism will generate even more money, but this money will have to be distributed between ever more tourism destinations. Along with the development of wealth many more people of the ASEAN region will become tourists than what is the case today. Many of them will head to famous attractions within or outside the ASEAN region. This is very benign for the large international hubs. Already today we find five out of 20 top destinations within the ASEAN region. More than 60% of all international travellers arrive via these hubs that headed far upon in their development as compared to the rest of the region. In addition there are many more urban agglomerations with a significant number of tourists. They will be visited for many reasons like business, culture, education, medical treatments and many more primarily urban services.

Not all of the new tourists will seek for distant holidays but will rather explore their local and regional environments. While it could be very difficult to become an international recognized tourist destination it might be much easier for new destinations to develop first a local fame and to concentrate on local and regional tourists that share language and more customs than what tourists coming from far away do. While it is very difficult to develop a large competitive destination from within by initiative of local people it can be comparatively easy to develop a small and special destination. Using the maximum input of many resident decision makers the local knowledge can be used to develop touristic products that are not yet to be found everywhere. Local governments should widely support such initiatives and national governments have to guarantee that such programs are accordingly financed. Destinations are advised to prioritize from a basket of possibilities and to struggle to develop a particular service, experience or skill of inhabitants as an anchor for the development of tourism.

We presented how food and agricultural products can became a very successful touristic experience in rural areas and under what conditions such an aim can be reached. In many villages of Southeast Asia there is a lot of potential to do alike, but the locals are not aware of this possibility. Some destinations, primarily those used to tourism like Bali, have developed similar approaches of evaluating their local products much higher. This can go along with improving the connectivity to major urban centres or with the establishment or built out of guest houses or restaurants. In many cases it is not necessary to move to a better off place, but to stay and to work locally on a higher value. The tourism value chain goes thereby very well with the agricultural value chain and the joint product is higher than the sum of both.

However, a touristic development is not free of risk. There are considerable economic risks born from within or outside the region. Rapid developments and change in the economic context can lead to more favourable or worse conditions for tourism. The analysis of some economic shocks gave some indications of what challenges are ahead when starting new tourism ventures. Natural disasters are similar to a supply side shock. Emergency action plans for tourism ventures are good tools to counter the adverse effects. Even the occurrence of extreme or unusual weather events can be challenging when tourism is built up on a particular food or agricultural product. Even here it is of good advice to develop emergency plans.

New trends have to be considered. The success of smart phones that enable to get instant information on different destinations and attractions can change the business routines in tourism. Tourists become more spontaneous and can react on good or bad weather to consume tours or touristic attractions. Permanent access to internet provides also opportunities for new phenomena like the sharing economy which will become more dominant even in ASEAN. This includes finding accommodation, transportation and to get local tour guides. Being open and prepared for new trends will help to establish a viable tourism business.

References

Acevedo S., L. Han, H.S.Kim, N. Laframboise (2016). Flying to Paradise: The Role of Airlift in the Caribbean Tourism Industry. IMF Working Paper.

Almenland (2016). Information on the Almenland region and the ALMO trademark. http://www.almenland.at

ASEAN (2015). "ASEAN ECONOMIC COMMUNITY – At a glance". Information on key statistics. Jakarta

ASEAN (2015a). "ASEAN ECONOMIC COMMUNITY BLUEPRINT 2025 – position on tourism, p. 26. Jakarta

ASEAN (2015b). ASEAN Tourism Strategic Plan 2016-2025

ASEAN (2016). ASEAN Tourism Statistics Database. http://www.asean.org/storage/2015/11/tourism/

Austrian Chamber of Commerce (2014), *Tourism in Numbers*. (In German: WKO Tourismus und Freizeitwirtschaft in Zahlen). Vienna, June 2014.

Austrian Ministry for Economic Affairs, Youth and Family (2008). Food based tourism in Austria. Best practices for cooperation agriculture, food industry and tourism. Kulinarischer Tourismus Österreich Leitfaden für regionale Kooperationen Landwirtschaft + Lebensmittelgewerbe + Tourismus.

Austrian Ministry for Economic Affairs, Youth and Family (2012). Austrian Tourism and Overcoming Stagnation. Österreich Tourismus: Überwindung der Stagnation Chancen und Wege. Findings of Expert Commission.

BM.I (2015), Austrian Ministry of Interior: Press Release on Tourism Related Accidents During the Winter Half Year. http://www.bmi.gv.at/cms/bmi/_news/bmi.aspx?id=565849443664413174387 33D&page=0&view=1 (accessed 1 June 2015).

BMI (2016). Jahresstatistik 2015. http://www.bmi.gv.at/cms/BMI_Verkehr/jahresstatistik/start.aspx

BMVIT (2016). Sanft mobile touristische Angebote. Ministry of traffic, innovation and technology. https://www.bmvit.gv.at/verkehr/gesamtverkehr/tourismus/links/angebote/index.html

Breiling M. (2016). Tourism Supply Chains and Natural Disasters: The Vulnerability Challenge and Business Continuity Models for ASEAN Countries. 30pp. Jakarta ERIA-DP-2016-06.

Breiling M., P. Charamza. (1999). The impact of global warming on winter tourism and skiing: a regionalized model for Austrian snow conditions. Regional Environmental Change Journal. Volume 1.1. pp. 4-14.

Centre for Research on the Epidemiology of Disasters (2015). Global *Database on Natural Disasters 1994 to 2013*

Culiuc A. (2014). Determinants of International Tourism. IMF Working Paper.

De Jong, C. (2015), 'Challenges for mountain hydrology in the third millennium', *Frontiers In Environmental Science*, (3)38.

Doppelmayr (2016). The world of ropeways. https://www.doppelmayr.com/en/the-group/the-group/the-world-of-ropeways/

EU (1999). COUNCIL REGULATION (EC) No 1260/1999 of 21 June 1999 laying down general provisions on the Structural Funds. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31999R1260 (assessed on July 14th, 2014

EU (2010). The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future

Euromonitor International (2015). Top 100 cities destination ranking

Fenz G., M. Schneider (2006). Output fluctuations in Germany and Austria: comovement and shock transmission. National Bank of Austria, Vienna.

Genussregion Österreich (2016). Pleasure Region Austria http://www.genuss-region.at

ICAO (2016). The World of Air Transport in 2015. Annual Report of the International Civil Aviation Organisation. http://www.icao.int/annual-report-2015/Pages/the-world-of-air-transport-in-2015.aspx

IIASA (1972). The model Obergurgl. International Institute of Applied Systems Analysis, Laxenburg.

IMF (2014). World Economic Outlook Database, April 2014 http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx (assessed 12 July 2016)

IPCC (2014). Climate Change 2014: Impacts, Adaptation, and Vulnerability, Chapter 29, Small Islands, https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap29_FINAL.pdf

Käse Straße (2016). Information on the "Cheese Street of Bregenzerwald" http://www.kaesestrasse.at

Kleine Zeitung (2015). Neustart nach Insolvenz. http://www.kleinezeitung.at/steiermark/murtal/peak_murtal/4832874/Neustart-nach-Insolvenz_45-Millionen-Euro-fur-Skigebiet-Grebenzen

Laimer P., J. Ostertag-Sydler, E. Smeral (2012). Ein Tourismus-Satellitenkonto für Österreich, Methodik, Ergebnisse und Prognosen für die Jahre 2000 bis 2012. WIFO-Statistik Austria, Vienna.

Marillengenuss (2016). Information about the pleasure region Wachau and particularly on the apricots. http://www.marillengenuss.at

Nationalpark (2016). Information on the Salzburg part of the "National Park Hohe Tauern". https://www.nationalpark.at/de/urlaub/kultur-kulinarik/genussweg-hohe-tauern/

Nationalpark Hohe Tauern (2016). Information on the Carinthian part of the "National Park Hohe Tauern". http://www.nationalpark-hohetauern.at/de/articles/view/2788

OECD (2014). OECD Tourism Trends and Policies 2014

OECD (2016). OECD Tourism Trends and Policies 2016

ORF (2016). Wetterkapriolen: Rekordschäden in der Landwirtschaft. http://orf.at/stories/2356153/

Österreichische Seilbahnen (2016). Wahre Gipfelstürmer. http://www.seilbahnen.at

Österreichisches Kuratorium für Alpine Sicherheit (2016). Alpinunfallstatistik 2015. http://www.alpinesicherheit.at/de/Alpinunfaelle-2015/

Osttirol (2016). Information on the Tyrol part of the "National Park Hohe Tauern". http://www.osttirol.com/osttirol-erleben/osttirol-das-ganze-jahr/kulinarik/osttiroler-berglammwochen.html

Purnomo H., B. Sulistyantara, A. Gunawang (2013). Ecotourism business opportunity in the Sempu Island Sanctuary.

Romeo R. (2010). The Vacation Is Over: Implications for the Caribbean of Opening U.S.–Cuba Tourism. IMF Working Paper

Sendang Biru (2016). Webinformation on Sendang Biru, Malang district. http://www.eastjava.com/tourism/malang/sendang-biru.html

Sendang Biru Action Group (2016). Information provided by the Sendang Biru local action group: Mangrove replanting day on April 9th, 2016.

Siemens (2011). 15 billion Euro worldwide investment into winter sports infrastructure. http://www.siemens.com/presse/alpin

Statistik Austria (2015). Tourism in Figures 2014/15

Statistik Austria (2016). Monthly results from countries with regard to summer season 2015 and winter season 2015/16

Steiger R., B. Abegg (2015). Klimawandel und Skigebiete im Ostalpenraum. https://www.uibk.ac.at/geographie/personal/steiger/steiger_abegg_ostalpen_2015.pdf

Thai Tourism Statistics (2016). "Tourism arrivals from 2000 to 2016". http://www.thaiwebsites.com/tourism.asp (retrieved on July 16th, 2016)

UNESCO (2016). Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy http://whc.unesco.org/en/list/1194

United Nations Environment Programme (2008), *Disaster Risk Management for Coastal Tourism Destinations Responding to Climate Change. A practical guide for decision makers*. UNEP Nairobi

United Nations Office for Disaster Risk Reduction (2005), 2nd World Conference on Disaster Risk Reduction (2005). Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters. www.unisdr.org/wcdr.

United Nations Office for Disaster Risk Reduction (2015), 3rd World Conference on Disaster Risk Reduction (2015). The Sendai Framework for Disaster Risk Reduction 2015-2030. www.wcdrr.org/uploads/Sendai_Framework_for_Disaster_Risk_Reduction_2015-2030.pdf.

Weerawit (2016). "Going Down: Businesses on Phuket's famed Bangla Road suffer". http://www.thephuketnews.com/going-down-businesses-on-phuket-famed-bangla-rd-suffer-as-clientele-dries-up-55868.php

Wiener Zeitung (2012). Nach Insolvenz des Skigebietes. http://www.wienerzeitung.at/nachrichten/wirtschaft/oesterreich/484302_Schroecksnadel-und-Land-Niederoesterreich-kaufen-Hochkar.html

WKO (2013). "Market profile of the Russian Federation in Austrian Tourism". Markt Russische Federation. Austrian Chamber of Commerce

WKO (2016). Austrian Chamber of Commerce: Overview on Austrian Tourism - Tourismus und Freizeitwirtschaft im Überblick, Wien.

World Bank (2015). World Development Indicators. http://data.worldbank.org/data-catalog/world-development-indicators assessed on June 18th, 2015

World Economic Forum (2013), *Building Resilience in Supply Chains*, January 2013.

World Health Organization (2015), Ebola Situation Report. http://apps.who.int/ebola/current-situation/ebola-situation-report-17-june-2015.

World Tourism Organization (2015), World Tourism Barometer, Volume 13/1, January 2015, International tourist arrivals 2014, UNWTO Madrid

World Tourism Organization (2015a), UNTWO Tourism highlights 2015 Edition. UNWTO Madrid.

Zhang, X., S. Haiyan and G. Q. Huang (2009), 'Tourism Supply Chain Management: A New Research Agenda', *Tourism Management*. 30(3), pp. 345–358.