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THE SIGNS OF DUTCH DISEASE IN CROATIA

Abstract:

Croatia is the EU member specific by the highest share of tourism in GDP, making one-fifth of it. As tourism is prone to various external factors that are out of state control (clearly visible in the current coronavirus pandemic), along with its growing share in Croatia, the question of Dutch disease arises. The Dutch disease phenomenon refers to the state where one booming sector (e.g. natural resources, which are impersonated by tourism in this case) causes adverse effects on other sectors (e.g. manufacturing sector, industry) which finally leads to the decline in the economy's international competitiveness and deindustrialization. A core model of Dutch disease explains that a large inflow of foreign money will appreciate real exchange rate and cause both the spending and reallocation of resources between non-tradable and tradable sectors thus causing deindustrialization. The aim of this paper is to investigate whether the increasing tourism sector in Croatia has caused resource movement from other sectors towards the tourism sector which would confirm the presence of Dutch disease. Based on Croatian data in period 1995-2019 we conclude that (i) Croatia is highly specialized in tourism with (ii) tourism being a more important growth factor than industry and (iii) a highly important export category; also, (iv) there is a positive relationship between the tourism revenues growth and a number of employees in the tradable sector, and negative between the tourism revenues growth and a number of employees in the non-tradable sector; finally (v) the growth of tourism revenues did not lead to an appreciation of the real effective exchange rate. We conclude that Croatia is not sick with the Dutch disease but if the rapid growth of the tourism sector in Croatia continues, there could be negative effects of the Dutch disease in the future.

Keywords:

Dutch disease, Tourism, Exchange rate, Croatia

JEL Classification: F31, L83, P28

Introduction

Tourism is one of the largest and fastest growing sectors of the global economy (Weston et al., 2019) and it is an important driver of economic growth, globally and locally (OECD, 2020). According to OECD (2020:3) tourism provides real prospects for enduring and inclusive economic growth, generates foreign exchange, drives regional development, directly supports numerous types of jobs and businesses and underpins many local communities. Manera et al. (2016) concludes that tourism is a fantastic growth opportunity for the Mediterranean, particularly for less developed countries. In that context, tourism is the important driver of many European Union member states economies (EC, 2020a), but economies across Europe differ in terms of their reliance on tourism activities.

Tourism is a phenomenon with an important territorial dimension, uneven spatial distribution between and within countries and localized impacts, with many EU regions heavily dependent on this sector (Batista et al., 2019). It is exactly over-reliance on tourism that showed its worst side on the economy during last months of the COVID-19 crisis. The World Tourism Organization (UNWTO) foresees international tourism decline of 60% to 80% compared to last year, amounting to losses of between EUR 840 billion to EUR 1.100 billion in export revenues worldwide (EC, 2020a). The situation particularly affected countries with high share of tourism in GDP, like Croatia. Namely, in 2018, the total contribution of tourism to GDP in Croatia was estimated at 19.6% with tourism revenues increasing by 6.4% to HRK 75.1 million (OECD, 2020). Almost 20% of international tourism receipts share in a country's domestic output makes one of the highest worldwide shares. Croatian tourism is also a key source of export revenues with international tourism receipts share of almost 40% in total exports in 2018 (WDI). Tourism industries in Croatia directly employ 86.600 people, representing 6.6% of total employment (OECD, 2020). Above all, Hajdinjak (2014) concluded tourism enables long-term economic growth in Croatia. However, tourism in Croatia is seasonally skewed or typical "sea and sun" tourism with tourists coming mostly in coastal areas over the summer months. Orsini and Ostojić (2018: 1) find that international demand for Croatian tourism is more income elastic than for other Mediterranean destinations and that tourism revenue in Croatia is driven by the increasing number of tourist arrivals, while average spending per tourist is stagnating. They conclude that excessive reliance on the current tourism model may be unsustainable in the long run. If Croatia is over-relied on tourism will best be seen after current 2020 touristic season ends and effects of the corona-crisis occur.

The purpose of this paper is to investigate whether this over-reliance on tourism in Croatia before the COVID-19 crisis affected Croatian economy in sense that large inflow of foreign capital (money) encouraged resource allocation from other sectors towards the tourism sector finally causing deindustrialization. A theory called the Dutch disease has served as a framework. Dutch disease explains natural resource export *boom* effects on the economy. Theory predicts a real appreciation (due to money inflow) which causes above-mentioned reallocations making manufacturing less competitive thus leading to deindustrialization. Dutch disease will occur only if the reliance on that booming sector is really great.

The original model of Dutch disease referred to natural resources like natural gas, minerals or oil. This is the reason behind confusing it with the resource curse paradigm. The model is later

expanded on different sectors with common label – there is a large-scale inflow of foreign currency causing real appreciation and structural changes in the economy. Most often researched cases include foreign aid, remittances and tourism. In particular, tourism can lead to Dutch disease exposure in small state economies (Read 2002, Sheng 2011, Hobson, 2013).

It is arguable if the Dutch disease is a real disease causing negative overall economic effects or is it just an inappropriate negative term while the real intention was to describe a shift in production between sectors. Manera et al. (2016) state that Dutch disease concept systematize the long-term negative effects of an economy's specialization in the exploitation of natural resources. Some economists consider negative effects on the long-run economic growth need not necessarily occur (e.g. Kojo, 2014: 5), or that change in industrial structure cannot be considered a 'disease' in the direct meaning of this word (Mironov & Petronevich, 2015: 103). On the other side, some aspects of Dutch disease are worrying leading to negative opinion, e. g. in the light of natural resource curse situation where natural resource export boom is the cause of change in the economy (Oomes & Kalcheva, 2007); where heavy dependency on one sector makes the economy extremely vulnerable to external disturbances (Capó et al., 2007) or in the light of deindustrialization caused (e.g. Kenell, 2008).

Sachs & Warner (2001) empirically confirm that resource rich economies tend to have lower growth rates than resource poor economies and the reasons behind are threefold: (1) rent-seeking behavior arising from sudden large revenues causing misallocation of productive resources; (2) volatile revenues from resources which is bad for growth and, (3) Dutch disease – the effect on real exchange rate appreciation causing decline in competitiveness in other sectors. In this paper we will focus on third explanation – Dutch disease in Croatia, but the first option of rent-seeking behavior in tourism in Croatia is to be investigated in future work. The authors take the opinion rentier economy might best be seen on the Croatian labor market characterized by permanently low participation rates.

Considerable attention in the economic literature has been given to the original definition of Dutch disease however there is very little research related to the analysis of tourism and Dutch disease phenomena. In the debate weather Croatian economy suffers from the Dutch disease, this paper contributes by investigating the relationship between the tourism revenues and real effective exchange rate, tourism and industry contribution to the economic growth and employment in tradable and non-tradable sectors. Therefore, this study will serve as a complement to the studies that has been done about Dutch disease and previous studies about the tourism in Croatia. This study aims to provide new findings not present in traditional tourism economics literature. Our research focused on the 1995-2019 period which could help to understand the specific case of Croatia, to predict the long run developmental impact of the country's dependency on tourism and to find possible policy tools to foster economic growth of a tourism dependent country.

After this introduction, the chapter is structured in four sections. Section 2 includes the explanation of the core model of Dutch disease to get an overview of the symptoms the disease can show and how it can affect different elements in an economy. Also, it provides a brief literature review on empirical evidence of Dutch disease in general, and in the context of tourism. Section 3 explains the importance of tourism in Croatia, emphasizing Croatian tourism supremacy in the European Union. Thereafter, we investigate if main symptoms of Dutch disease are present

in Croatia. Although Croatian specialization in tourism is very high, the most important effects of the Dutch disease, resource movement and spending effect, show there is no Dutch disease present in Croatia. Finally, section 4 concludes and presents some economic policy measures and recommendations.

Dutch disease in theory and practice

The core model of Dutch disease

The Dutch disease assumes negative effect of a real appreciation caused by natural resource export *boom* on the manufacturing (or even agricultural) sector thus leading to deindustrialization. It is a term that generally refers to the negative consequences of large increases in a country's income followed due some natural resources export boom (Brinčíková, 2016) although that rapid rise in domestic expenditures itself is seen as positive.

The term 'Dutch disease' was first used in 1977 (on November 26th) in an article in The Economist (1977) to describe the unfavorable effects on the manufacturing sector in the Netherlands following the discovery of natural gas during the 1960s (Andrade and Duarte, 2017). Because of this natural reserves discovery in the North Sea region of the Netherlands, the real exchange rate appreciation of the currency that followed the boom of natural gas export reduced the profitability of manufacturing and service exports causing reallocation of production resources and finally deindustrialization. This particular economic impact has come to be known as Dutch disease. According to Oomes and Kalcheva (2007) the Dutch disease can be defined as "the notion that an exogenous increase in resource prices or in resource output results in real exchange rate appreciation and a decline in the manufacturing sector". Finally, we can conclude that Dutch disease is a way of describing effects on an economy caused by one booming export sector and economy's reaction on it, e.g. structural changes following.

First systematic analysis of Dutch disease model was presented in Corden and Neary (1982). Their seminal paper provides the first systematic analysis of the Dutch disease mechanism – that is, how an export boom causes a structural shift in an economy. They present static model with two sectors, one booming and other non-booming, usually known as the Core model. The adjustment mechanisms lying behind consider changes in real exchange rate and asymmetric growth paths within the tradable and non-tradable sectors (Baetas da Silva et al., 2016: 1). Namely, the natural resource export boom leads to a real appreciation of the domestic currency consequently leading to a contraction in tradable sectors (mostly manufacturing). Hence the explanation why the initial Dutch disease model setting was considered a possible explanation of deindustrialization.

The Core model describes a small open economy with three sectors; two internationally tradable (one booming e.g. tourism and other lagging e.g. manufacturing) and one non-tradable (e.g. retail trade, services and construction). Prices are exogenously determined in tradable sectors while prices in non-tradable sector are flexible and determined by domestic supply and demand. The only factor of production that moves freely between these sectors is labor. Economy adapts to boom in one tradable sector through two effects – the resource movement effect and spending

effect (Corden & Neary 1982: 1-5). The resource movement effect implies attracting labor in the booming sector from other tradable and non-tradable sectors. As the model assumes a fixed labor supply, output in these other sectors fall. The other, spending, effect is more important. It implies raised demand for non-booming sector products as a consequence of higher real income in booming sector. Since prices of tradable goods are exogenously given, and there is no international mobility of capital and labor, the prices in non-booming tradables cannot rise leading to increased import which will meet any excess demand for these products. As for non-booming non-tradables, the effect is twofold. One part of excess demand will be met by increased supply while the other part will cause the rise in prices due to delay in supply reaction. This increase in prices will result in a real exchange rate appreciation. Finally, two consequences of export sector growth are key ones: fall in employment and output in the non-booming tradable sector and fall in real exchange rate.

The original model of Dutch disease referred to natural resources like natural gas, minerals or oil (the reason behind confusing it with the resource curse). Later many economists expanded the model and also its definition by considering *booms* in different sectors, e.g. capital inflows such as foreign aid, remittances and tourism. Namely, it can be anything that increases wealth resulting from large-scale inflows of foreign currency leading to economy adjustment. The difference in modeling tourism in Dutch disease framework comes from two reasons: (1) in tourism, the goods and services are non-tradable, and (2) goods and services spent by tourists are bundled with "unpriced amenities" like climate, scenery, historical monuments etc. This will be considered in studying Dutch disease in Croatia.

Evidence of Dutch disease from other countries

As already mentioned, there is a wide economic literature analyzing the Dutch disease. More specifically, in the last thirty years, this analysis has covered almost all regions of the world. However, this issue has rarely been examined in the case of Croatia. To fill the research gap, we investigate the impacts of the tourism boom on a small open economy. In order to compare our research, we give a short review of other relevant studies on tourism caused Dutch disease.

Copeland (1991) in a well-known work examines the economic effects of an increase in tourism in a small open economy on welfare, output and factor prices in the host country using a general equilibrium international trade model. In his research, Copeland suggests that in order for a tourist boom to yield significant benefits, local residents must either reap gains from an improvement in the terms of trade relevant to tourism (the real exchange rate) or must extract some additional rent from unpriced natural amenities enjoyed by tourists. Moreover, Copeland (1991) argues that since a tourist boom will tend to increase the demand for non-tradables, it will attract domestic factors from the tradable sector (usually manufacturing), and hence a tourist boom may lead to deindustrialization. Moreover, Copeland (1991) gives evidence on tourism caused manufacturing sector contraction. Also, social benefits of tourism are captured by the immobile factor specific to the non-tradables sector. Chao et al. (2006) considers the effects of tourism in a dynamic, specific-factor model with capital accumulation, sectoral output and domestic welfare for an open economy. This study shows that the rise in the nontraded good price induces a diversion of

resources from the manufacturing sector to the nontraded sector, which dampens the demand for domestic capital by the manufacturing sector and hence capital decumulation. Therefore, the decline in the capital stock adversely affects the manufacturing sector, resulting in deindustrialization and welfare loss in the long run, reminiscent of the Dutch disease.

Capó et al. (2007) present a theoretical framework for the existence of Dutch disease in economies where tourism, as an emerging sector, coexists with a tradable sector and a non-tradable commodities sector. The authors analyze two Spanish regions, the Balearics and the Canary Islands, and find that both show signs of Dutch disease. They emphasize that the origin of the Dutch disease in tourism economies is not the abundance of natural resources or economic specialization but "the failure by economic agents to pay sufficient attention to the determinants of long-term economic growth" (Capó et al., 2007: 625). Similarly, Nowak and Sahli (2007b) examines the economy-wide effects of an inbound tourism boom on a small open island economy and addresses the complexities that surround the economic evaluation of the net effect of tourism growth on the host community using a general equilibrium framework. According to the research, non-tradable sector is affected both directly (via an increase in tourists' spending) and indirectly (via a second-round of demand by residents whose real income has increased).Their study provides a warning that tourism should not be increased without considering the overall impact on the economy. Holzner (2011) analyzes the danger of a Dutch disease effect for tourism-dependent countries in the long run (i.e. the 'Beach Disease' effect). Cross-country results showed that countries with higher shares of tourism income in GDP grow faster and they tend to have higher levels of investment and secondary school enrolment. Also, countries dependent on tourism showed to be rather outward oriented having low levels of real exchange rate distortion leading to conclusion there are no severe risks of the 'Beach disease'. On the contrary, Ghalia and Fidrmuc (2018) analyzing the effect of tourism on economic growth on 133 countries find that specialization in tourism per se had no significant effects on economic growth except when countries are both highly dependent on trade and on tourism in which case they tend to report significantly lower growth. They conclude that tourism has an effect analogous to the Dutch disease.

As for single-country analyses, Kenell (2008) examines whether the increasing tourism sector in Thailand has pulled resources away from other sectors in the economy towards the tourism sector with the General Equilibrium model. She concludes that increasing tourism industry has not led to Dutch disease in Thailand. Some recent papers are discussing different aspects of Dutch disease. Zhang and Yang (2018) analyze Dutch disease in Thailand using a DSGE model. Their results show that an externally driven tourism boom can actually improve welfare, albeit with the coexistence of the Dutch disease. Zhang and Yang conclude there is a trade-off for the policymakers to cure tourism-induced Dutch disease and make tourism development sustainable over time. Jayasuriya et al. (2020) discusses the economic effects of tourism on overall growth, structural change, employment and wages, household and spatial distributional effects, and potential for technological change and longer-term growth of Bali. The analysis results of the Balinese case suggest that "the measurable effects of tourism as a leading sector have been positive for future economic growth in the province". Dutch disease effects in Bali are mainly manifested in the attraction of factors of production into the tourist related industries, rather than spiraling prices and wages (Jayasuriya et al., 2020). Inchausti-Sintes (2015) analyze if tourism

triggers the Dutch disease in Spain by a recursive-dynamic CGE model. He finds that tourism has positive effects on economic growth, employment, terms of trade, and capital accumulation. But, Dutch disease effects can also be seen in induced deindustrialization and lower productivity gains implied by reallocation of resources which can cause lower long-run economic growth. Inchausti-Sintes (2015) also finds that tourism caused appreciation of the real exchange rate has undermined traditional sectors such as agriculture, mining and industry in Spain marking that effect as clear consequence of Dutch disease.

Regarding Croatia, Holzner (2005) states its economic dependence on the tourism sector is unique compared to the other transition countries but concludes there is no fear of a "Croatian Disease". More specifically, he writes: "countries with higher income from tourism tend not only to have higher economic growth rates but also higher levels of investment and secondary school enrolment" (Holzner, 2005). Researching countries dependent on tourism he also showed they are rather outward oriented with low levels of real exchange rate distortion so his final conclusion is that tourism does not seem to lead to the contraction of the manufacturing sector. On the other hand, Hajdinjak (2014) using VAR model on Croatian data showed that tourism should not be considered a key sector of Croatian economy since its contributions to growth of Croatian economy have been overemphasized.. She concludes that mass "bathing" type of tourism oriented to sea, sun and beach, can be seen only as short-term developmental policy in developing countries. Orsini and Pletikosa (2019) analyzed Croatian tourism in light of crowding-out other activities and role of externalities wondering if Croatia suffers from the symptoms of the 'Beach Disease' and whether tourism is a key driver of economic development by using a VECM model. According to their findings there is no over-reliance on tourism in Croatia. Also, tourism contributes to economic growth through employment and capital accumulation, but unlike exports it does not generate additional positive spillover effects. They conclude it is unlikely that tourism exerts any negative crowding-out effects on other tradable sectors in Croatia – at least not in the long run (Orsini and Pletikosa, 2019) meaning there is no 'Beach disease'. Opposite results were obtained by Tuncay and Özcan (2020) who investigate the existence of a long-term Dutch disease effect for selected Mediterranean countries with high tourism dependence during the period of 1996-2015. Their results obtained from the two estimators, Augmented Mean Group and Common Associated Effects, reveal the presence of Dutch disease in Croatia, along with some other countries.

Based on a literature review discussed above we can conclude that empirical studies conducted on Dutch disease caused by tourism shows there is no clear evidence for it regardless of the method used.

Dutch disease in Croatia – case of tourism

The importance of tourism in Croatia

Tourism is one of the world's largest economic sectors generating 10.3% of global GDP in 2019 and supporting one in 10 jobs (330 million) worldwide (WTTC, 2020). Over the past five years (2014 - 2019) one in four new jobs were created by the Travel & Tourism sector (from now on *tourism* or *tourism sector*) (WTTC, 2020). Tourism contributes 10% to the European Union GDP

and creates jobs for 26 million people through its direct, indirect and induced effects in the economy (World Tourism Organization, 2018).

Croatian tourism sector makes up almost 20% of GDP, tourism revenues exceed one fifth of GDP while manufacturing makes up around 12% (all industrial sector 16%) of GDP in 2018 (CBS, 2020). The tourist's main incentives to visit Croatia are weather and beaches. Besides this sun & sea tourism model, main characteristics of Croatian tourism are high seasonality, large share of overnights spent in private houses and camping grounds, and low levels of tourist expenditure (Orsini and Ostojić, 2018).

Considering tourism sector, Croatia is the top EU country by percentage of GDP contribution, by total contribution to employment as share of total employment and by foreign spending as percentage of exports (Table 1). In 2019, total contribution of tourism to GDP in Croatia was 25%. EU member states following Croatia are Greece (20.8%), Portugal (16.5%) and Spain (14.3%). In the same year total contribution of tourism to employment as share of total employment in Croatia was 25.1% (Greece and Malta following with around 21%) while the share of foreign spending in exports was 38.6% (Greece and Portugal following with 30.1 and 23.5 percent, respectively). As for the EU as a whole total contribution of tourism to GDP was 9.5%, total contribution to employment 11.2% and visitor exports 6.2% in 2019.

**Table 1: The importance of tourism sector in EU-27 in 2019**

Country	Total contribution to GDP (% of GDP)	Total contribution to Employment (% share of total employment)	Visitor Exports (Foreign spending, % of exports)
Austria	11,8	12,5	9,7
Belgium	4,3	4,9	2,4
Bulgaria	10,8	10,6	10,7
Croatia	**25,0**	**25,1**	**38,6**
Cyprus	13,8	13,2	17,3
Czech Rep.	6,5	8,0	4,1
Denmark	6,6	6,9	4,8
Estonia	11,7	11,3	9,6
Finland	7,5	8,1	4,8
France	8,5	9,4	7,7
Germany	9,1	12,5	2,9
Greece	20,8	21,7	30,1
Hungary	8,3	10,0	6,4
Ireland	4,3	5,9	3,0
Italy	13,0	14,9	7,9
Latvia	7,6	8,3	5,0
Lithuania	5,5	5,8	3,7
Luxembourg	8,9	11,1	3,3
Malta	15,8	21,1	9,6
Netherlands	5,7	10,1	2,9

Poland	4,7	5,0	4,4
Portugal	16,5	18,6	23,5
Romania	5,9	6,3	3,7
Slovakia	6,3	6,3	3,0
Slovenia	9,9	10,3	6,2
Spain	14,3	14,6	18,0
Sweden	8,2	9,8	6,9
EU	**9,5**	**11,2**	**6,2**

Source: WTTC, 2020

Tourism intensity in terms of nights spent by residents and non-residents at tourist accommodation establishments per inhabitant shows Croatia is again the top EU country with almost 22 nights spent per inhabitant in 2018 (more than 3 times the EU average – see Figure 1). This indicator measures tourism pressures since it relates the number of overnights with the resident population. Also, it implicates economic significance of tourism in a region more nuance than the absolute number of overnight stays and in that context may be used to analyze the sustainability of tourism (Eurostat, 2015).

Figure 1: Tourism intensity in EU-27 in 2018
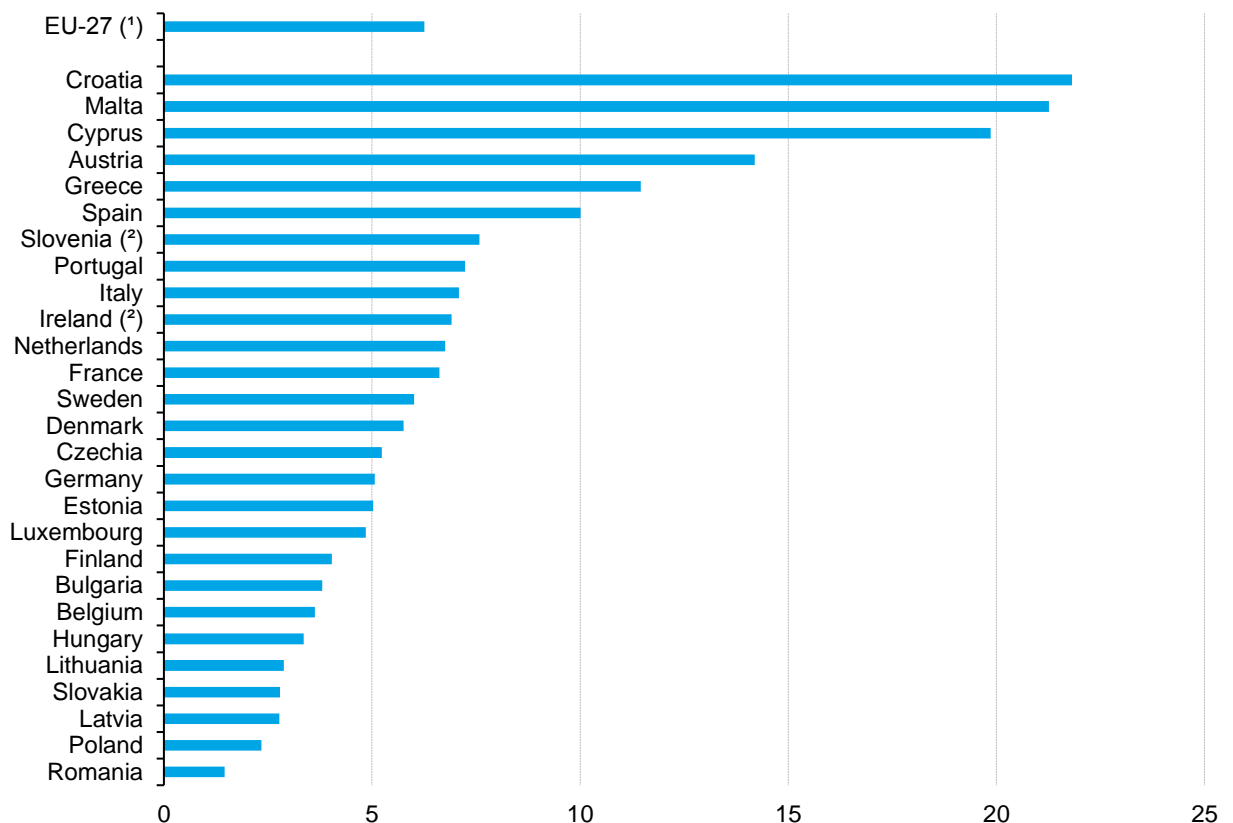
(¹) Estimate.
(²) Number of nights spent estimated using monthly data.

Source: Eurostat

World Tourism Organization (2018) states that Croatia continues to reap the benefits of the successful rebuilding of its tourism sector which has become a key driver of socio-economic progress through the generation of jobs, export income and infrastructure development in Croatia over the last decade. Figure 2 shows the movement of tourism total and direct contribution to GDP in the period from 1995 to 2019. According to the latest data from the World Travel & Tourism Council, the direct contribution of travel & tourism to GDP in 2019 was 11.4 % of GDP. On the other hand, its total contribution to GDP (including wider effects from investment, the supply chain and induced income impacts) was 25% of GDP. In sum, 2019 has been an extraordinary year for tourism in Croatia.

Figure 2: Tourism total and direct contribution to GDP in Croatia, 1995 – 2019
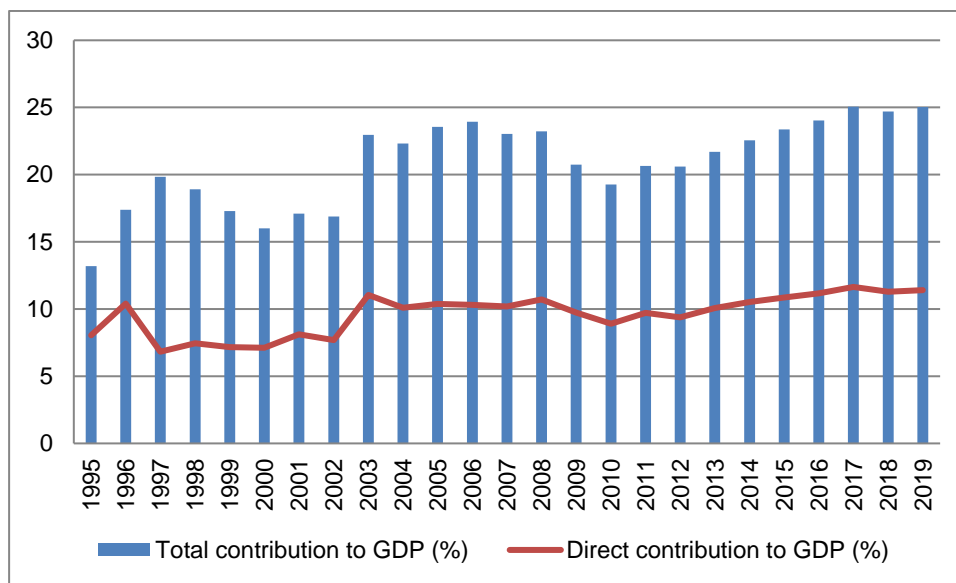
Source: WTTC, 2020

According to Croatian bureau of statistics, there were 19.6 million tourist arrivals and 91.2 million tourist nights recorded in commercial accommodation establishments in 2019. Compared to 2018, there was an increase in tourist arrivals of 4.8% and an increase in tourist nights of 1.8% (CBS, 2020). Figure 3 presents data on tourist arrivals and nights spent in Croatia from 1954 to 2019. In 1960s and 1970s the mass tourism expanded but the tremendous fall of 1990 happened because of the war. However Croatian tourism has since recovered and – except the temporary slump due to the global financial crisis – exceeded the values from the best pre-transition year. Also, data presented on Figure 3 reflect continued growth of Croatian tourism since 2013 after Croatia entered the EU.

Figure 3: Tourist arrivals and nights in tourist accommodation establishments in Croatia, 1954 - 2019
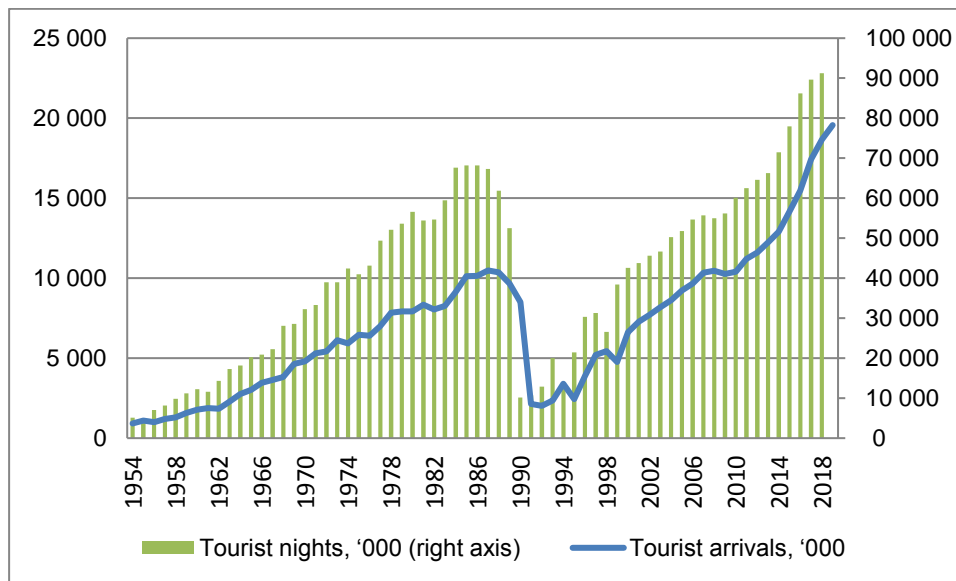
Source: CBS (2020)

In EU Member States for which data are available, tourism employment ranges from 4% to 13% of total persons employed (World Tourism Organization, 2018). According to WTTC data Spain and Austria have the highest share of tourism employment (13% each), followed by Croatia and the United Kingdom (both 12%). In absolute numbers, the United Kingdom and Germany had the highest employment in the tourism industries (2.2 million people each), followed by Italy (1.4 million) and Spain (1.3 million).

Tourism sector directly generated 187 thousand jobs in Croatia in 2019 (12.3% of total employment). The total contribution of tourism to employment (including wider effects from investment, the supply chain and induced income impacts) was 383 thousand jobs in 2019 (25% of total employment). These numbers (see Figure 4) are great but call for attention especially in times of economic difficulties as is for example COVID-19 crisis. The light at the end of the tunnel present studies that show employment in tourism tends to be recovering more quickly than other economic sectors (World Tourism Organization, 2018).

Figure 4: Tourism total and direct contributions to employment in Croatia, 1995 – 2019
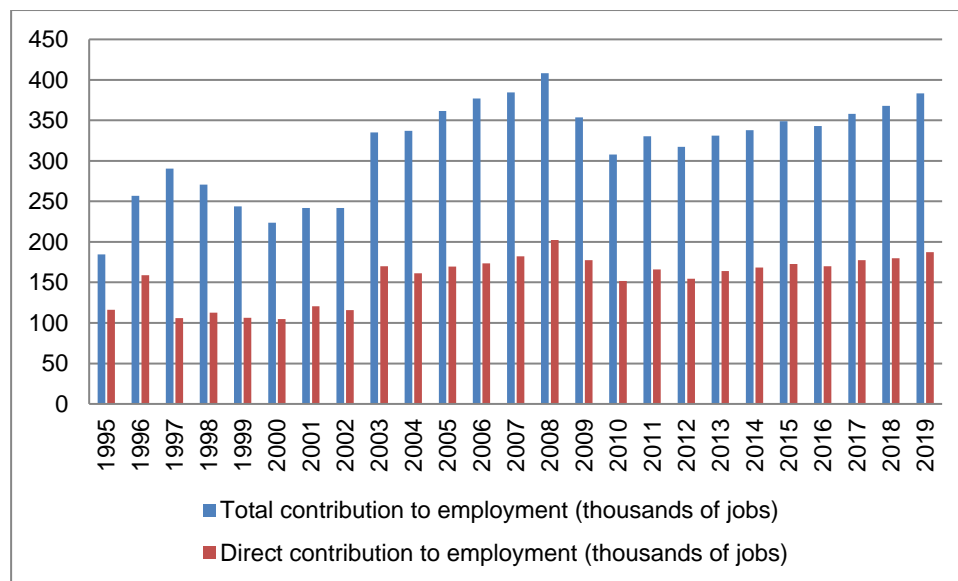
Source: WTTC, 2020

The presented data on Croatian tourism point to the conclusion that the Croatian economy is tourism dependent, with most important fact that tourism is a major contributor to the GDP. Hereby, economic policies on tourism should focus on broadening the touristic offer and reduce high seasonality of the current touristic model. Also, along with large revenue inflows, Croatian tourism model drives up the imports of consumption goods (Orsini, 2017). Therefore, coronavirus crisis effects are expected to be large and harsh on Croatian economy but the final effects are still to be seen after summer 2020 and in the year following.

Signs on existence of Dutch disease in Croatia

We consider tourism as the export boom sector according to the Dutch disease theory and look if the signs of it are present in Croatian economy. Since the tourism sector varies from other exporting sectors like commodity or natural resources, a straightforward application of the Dutch disease theory is not possible (Copeland 1991: 515-516, Nowak & Sahli 2007a: 51, Kenell, 2008). The Core model is not applicable because here the tourists move, and not the products, but as tourists consume normally non-tradable products and thereby generate foreign exchange we consider them as tradable. Nevertheless, diagnosing Dutch disease is always challenging. It implies examination of movement in resources and the real exchange rate taking into consideration a myriad of factors that affect economic performance. For example, real exchange rate is influenced by many factors and declining manufacturing sector / rising services sector is a global trend.

In Croatia, both the resource movement and spending effects on first sight can be important, with greater emphasis placed on the second one. The resource movement effect can occur as factors can be mobile between the tourism and all other sectors, but the labor mobility is low in general in

Croatia (Botrić, 2003: 93). The spending effect is more important as it occurs due to higher prices in tourism resulting from growing world tourist industry due to higher world income which generates higher wages and/or profits in the tourism, thus raising aggregate demand in the economy.

Our paper considers next factors to investigate if there are some symptoms of Dutch disease present in Croatia: the level of specialization of Croatia in tourism, relative contribution of tourism and industry sectors to the economic growth, relative position of tourism as the export category, resource movements, booming sector (tourism) effects on the employment in tradable and non-tradable sectors and on real effective exchange rate.

Firstly, suspicion of Dutch disease in Croatia caused by tourism can be seen on Figure 5. The scatter plots the relationship between GDP annual growth rate and international tourism receipts, as a share of total exports. In recent years interest in the role of tourism for economic growth arose, focusing on the role of international tourism as an export activity. International tourism is thus considered as an export in a non-traditional way, as it is in modified Dutch disease models focusing on tourism. Also, the share of receipts from international tourism in exports acts as an alternative proxy of tourism specialization (see e. g. Chiu & Yeh, 2016). Namely, the share of receipts from international tourism in GDP is an indicator of tourism specialization and is the most commonly used indicator for assessing the size of tourism according to Figini & Vici (2007) and Holzner (2011). At almost 40% in 2018, Croatia has the largest share of international tourism receipts in total exports in EU, regardless of GDP growth rate, which is relatively low (Figure 5). This indicates very high specialization of Croatia in tourism.

Figure 5: GDP growth and international tourism in EU27, in 2018
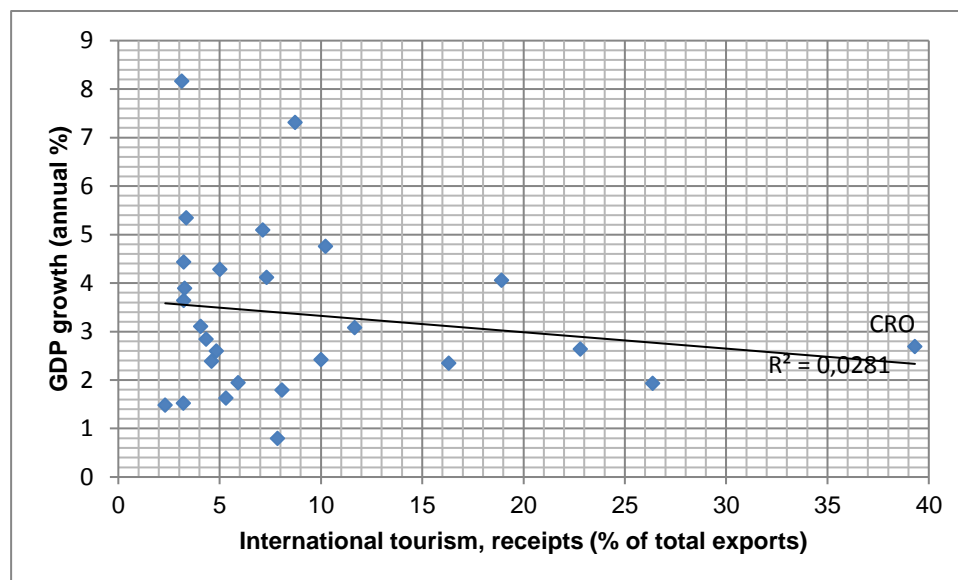
Source: WDI

While Figure 5 indicates there is a slightly negative relationship between GDP growth and tourism across EU countries in 2018, Croatian data from 1995 to 2018 show no clear relationship between GDP growth and size of tourism in terms of receipts share in exports (Figure 6a). But if

we look at the data for tourism revenues and look for the correlation with GDP growth, it is obvious that it is strong and positive (Figure 6b). We can thus conclude that Croatia is highly specialized in tourism with tourism revenues being important factor of growth from 2000 onward.

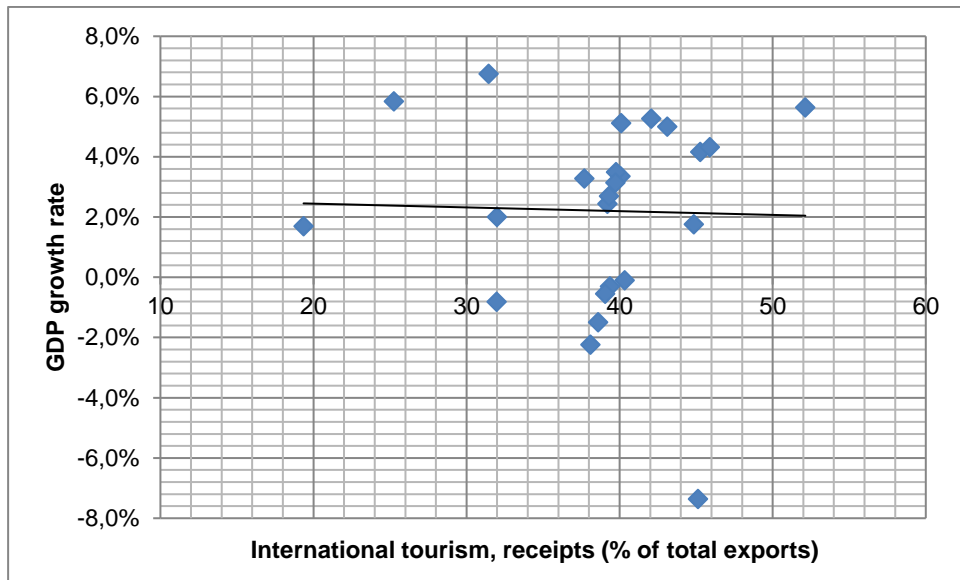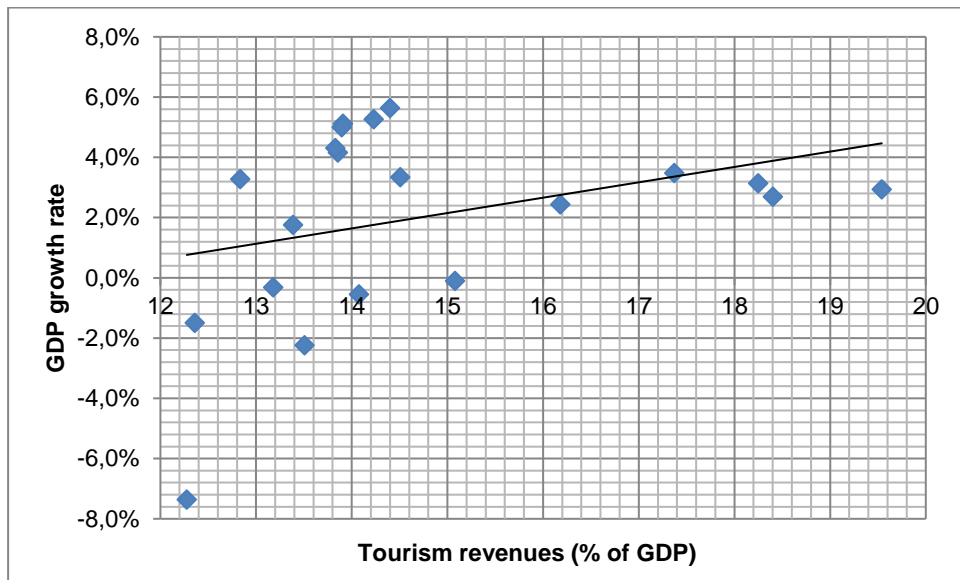**Figure 6a: GDP growth and international tourism (receipts as share of exports) in Croatia, 1995 – 2018**

**Figure 6b: GDP growth and international tourism (revenues as share of GDP) in Croatia, 2000 – 2019**

Source: WDI, CBS, CNB

In order to test Capó et al.'s (2007) argument that the Dutch disease problem in tourism economies is not the abundance of natural resources or economic specialization but the failure of long term economic growth, we plot tourism and GDP growth rates from 1960 to 2019 on Figure

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7. Also, we plot industry growth rates to get a notion on which sector contributes more to economic growth. We take 10-years periods in order to avoid high oscillations primarily in Croatian tourism, but also in other categories, especially during and after the Croatian War of Independence. The Figure clearly shows the volatility of tourism expressed as tourist arrivals, but also its high 10-year growth rates in all periods except wartime. Tourism growth rates are higher than GDP growth rates in all analyzed epochs excluding wartime and 1970s. As for the industry, it showed higher growth rates from GDP until the 1990s confirming how industry was important part of economy structure. In periods after the transition when tourism growth rates remain high and GDP growth relatively low, industry growth rates descended below the GDP growth rate. This can be a sign of Dutch disease, as the tourism leads the growth while industry is stagnating. This can also be potentially a big problem which is evident in the novel corona crisis. Croatian economy is possibly over-relied on tourism and thus should strengthen its industrial sector.

Figure 7: Tourism, GDP and industry GVA 10-year growth rates in Croatia, 1960 – 2019
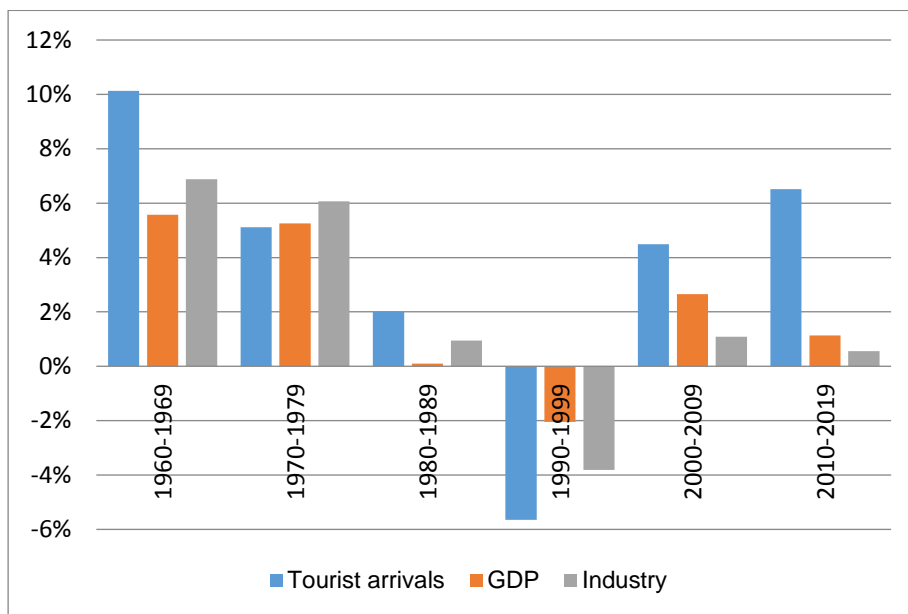
Source: CNB

It is already mentioned that tourism is recently often regarded as an export activity. UNWTO (2019: 8) claims tourism is an important component of export diversification, with a strong capacity to reduce trade deficits and to compensate for weaker export revenues from other goods and services. Their data show tourism is the world's third largest export category after chemicals and fuels, and ahead of automotive products and food. Also, interesting fact is that from 2012 - 2018 total export revenues from international tourism in the world grew faster than merchandise exports. Croatian data show the same: although export revenues still exceed tourism revenues, tourism growth rate is higher than exports growth rate from 2012 onwards (Figure 8).

Figure 8: Tourism and export revenues in Croatia, 2000 – 2019
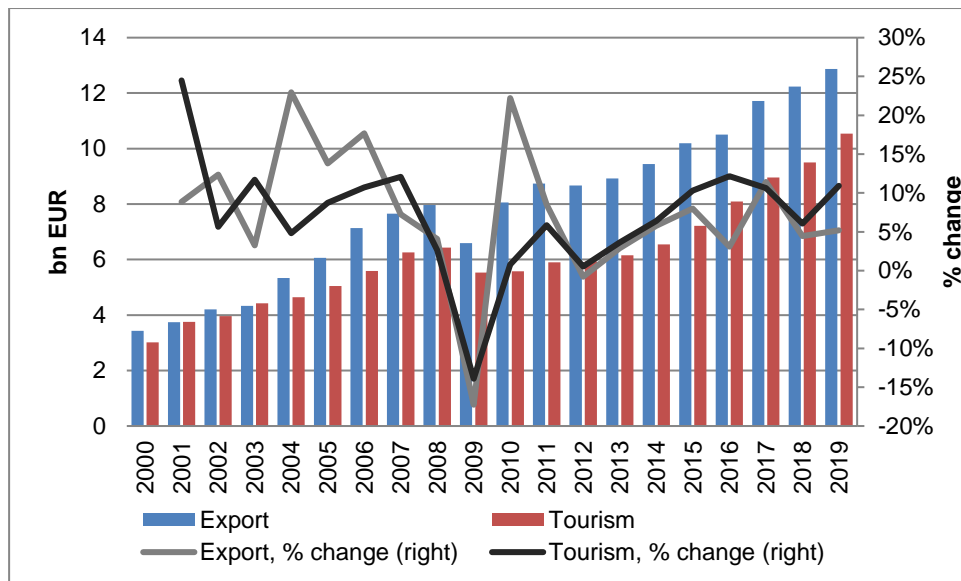
Source: CNB & Eurostat

Dutch disease is sometimes characterized as a source of deindustrialization and explained by resource movements. Beg et al. (2017) showed in Croatia not only relative deindustrialization occurred, but also absolute deindustrialization. In the context of resource movements, we look at the production resources trends on the Croatian labor market. We compare tourism and industry employment in Croatia after independence where it can be concluded that tourism sector overtook the lead in 2003 and since employs more people than industry does (Figure 9).

**Figure 9: Tourism and industry employment in Croatia, 1995 – 2019**
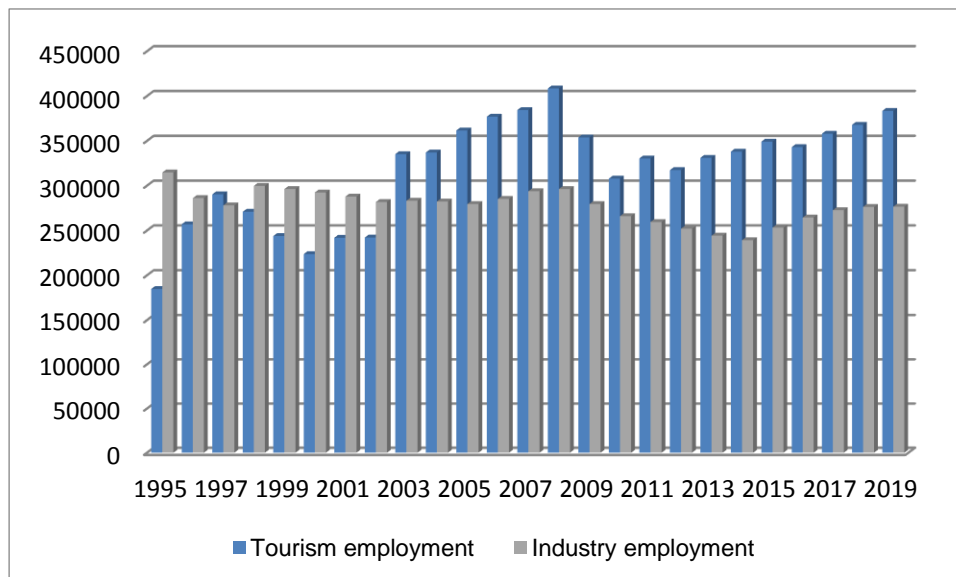
Source: WTTC & CBS

The thesis that tourism growth affects the employment in tradable and non-tradable sectors is investigated on next two Figures (Figures 10 & 11). Tradable sector is represented by agricultural and industrial sectors (without construction) while non-tradable sector is calculated by subtraction of services sector employment and employment in tourism sector. If there is a movement of labor from tradable to non-tradable sector the occurred tourism revenues growth would cause a decline in employment in the tradable sector and employment growth in the non-tradable sector. This would imply there is direct deindustrialization caused by the Dutch disease.

Figure 10 shows the relationship between tourism revenues growth and employment in tradable sector in Croatia is positive, while Figure 11 shows the relationship between tourism revenues and employment in non-tradable sector in Croatia is negative. Thus, as far as resources movement is considered, there is no sign of Dutch disease in Croatia.

Figure 10: Tourism revenues and employment in tradable sector in Croatia, 2000 – 2019
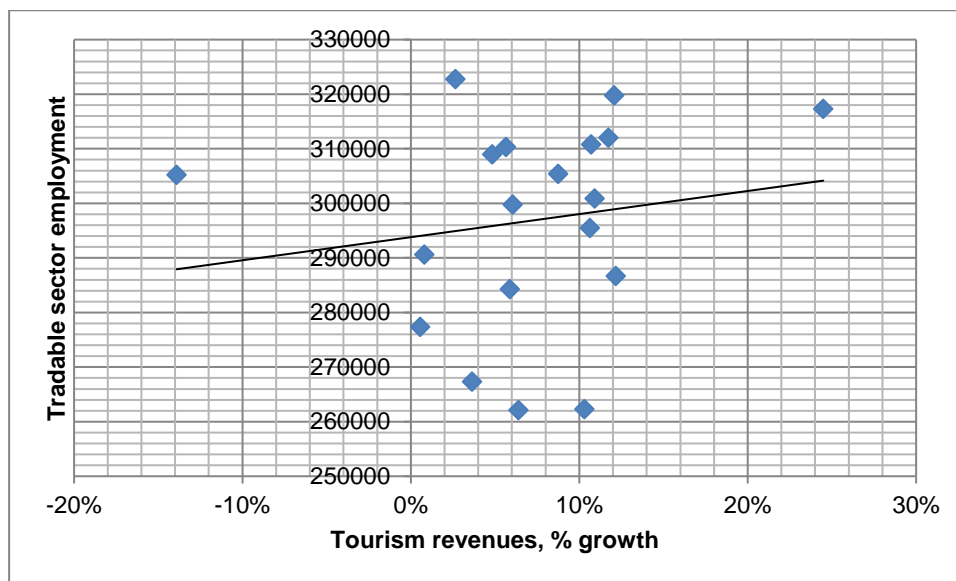

Source: CNB & CBS

Figure 11: Tourism revenues and employment in non-tradable sector in Croatia, 2000 – 2019
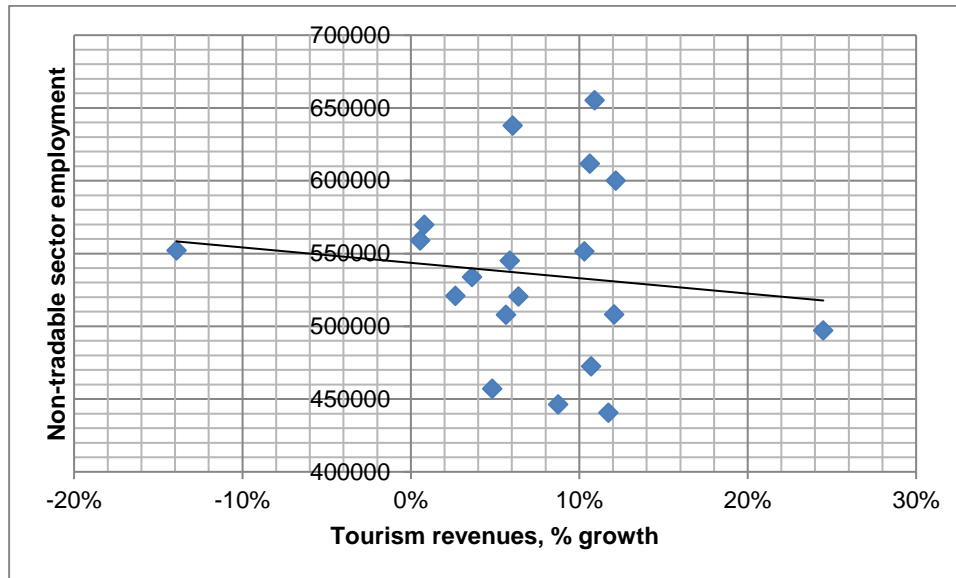
Source: CNB & WTTC

Finally, it remains to see the real effective exchange rate (REER) movements. The REER depreciated until 2010 when it reversed (Figure 12). As in 2010 Croatia was still in recession, REER appreciation can indicate its over-reliance on tourism or the Dutch disease presence. But still, while it is clear that the Croatian real effective exchange rate has appreciated substantially in recent years, this by itself cannot be regarded as evidence of Dutch disease, since the real exchange rate may have appreciated for other reasons (Oomes and Kalcheva, 2007). As real exchange rate is not the only competitiveness factor, export boom-driven appreciations do not necessarily mean the overall economy is becoming less competitive although the tradable sector may lose price competitiveness (Kojo, 2014).

Figure 12: Real effective exchange rate in Croatia, 1995 - 2019
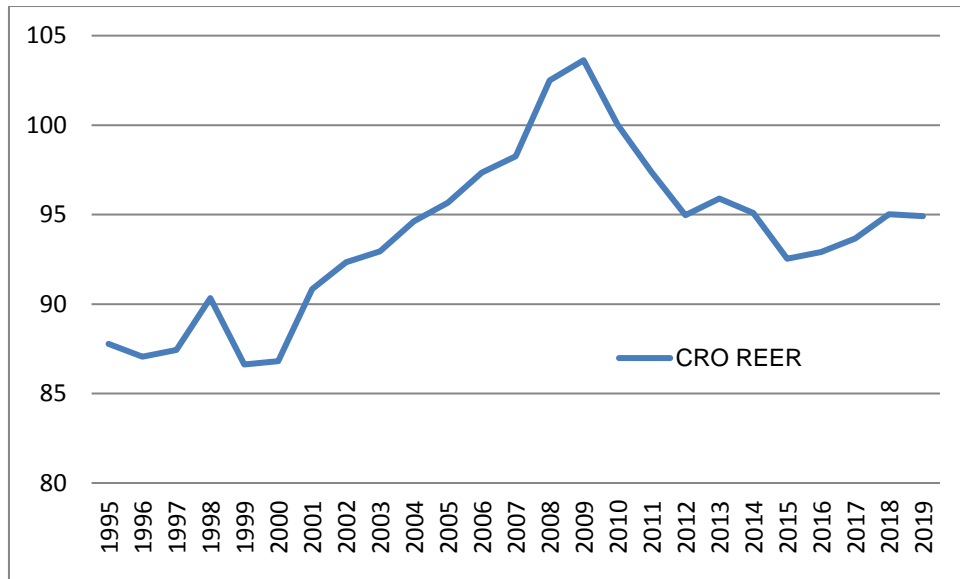
Source: Trading economics

The relationship between tourism revenues and real effective exchange rate (REER) is shown on Figure 13 where we can see that it is not negative as expected in the Dutch disease theory, meaning that tourism does not cause the REER appreciation. Just the opposite, we can see that this relationship is slightly positive leading to the conclusion that spending effect in Croatia did not occur.

Figure 13: Tourism revenues and real effective exchange rate in Croatia, 2000 - 2019
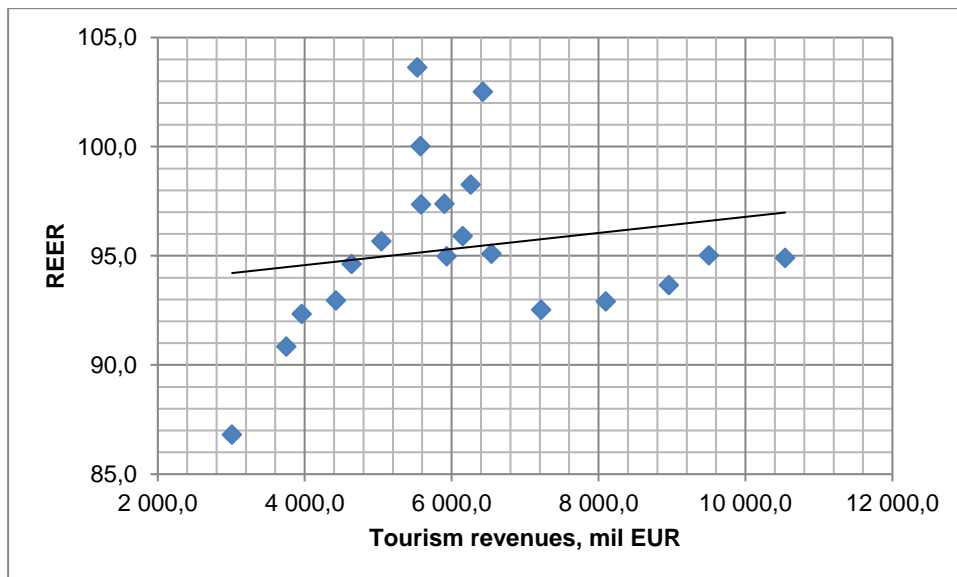
Source: CNB & Trading economics

Conclusion

The purpose of this study was to investigate if there are signs of the Dutch disease in Croatia. This phenomenon is analyzed regarding the flow of foreign currency from tourism in Croatia finally answering if growing tourism sector has caused the reallocation of resources between different sectors (from tradable to non-tradable sector), i.e. if main signs of the Dutch disease are present in Croatia.

The tourist boom in Croatia took place in the early 1960s leading to a considerable wealth increase. Over time, tourism and non-tradable commodities (services and construction) became the most important part of Croatian GDP. Croatia is the top EU country by total contribution of tourism to GDP (25%), total contribution of tourism to employment (25.1%) and by share of foreign spending in exports (38.6%). We find that Croatia is highly dependent and very high specialized in tourism which is bad due to its high sensitivity to external shocks. As tourism oriented countries showing Dutch disease can have serious negative consequences finally leading to lower economic growth (see Baetas da Silva et. al, 2016) it is not advisable that economic growth is based on tourism. This is best seen on the current COVID-19 effects on tourism which is global sector that is hit hardest, with Croatia being no exception going from over-tourism to non-tourism in just a few months. The strong industry as a growth fundament is standard recommendation. The European Union recognized the industry as the backbone of the economy with its new industrial policies that seek to limit negative effects of the Dutch disease. Hopefully Croatia will learn from the EU and work on its industrial sector as for now the data show that Croatian tourism growth rate is higher than export growth. For now, there are no signs of different direction and new opportunities for the transformation of Croatian economy and tourism into a sustainable direction as all Government actions are focused on preserving jobs.

Although tourism sector in Croatia employs more people than industry since 2003, the relationship between tourism revenues growth and employment in tradable sector is positive while between tourism revenues growth and employment in non-tradable sector is negative, meaning there is no sign of Dutch disease as far as resources movement are considered. Also, although Croatian real effective exchange rate has appreciated substantially in recent years, the relationship between tourism revenues and real effective exchange rate (REER) is positive, meaning that tourism does not cause the REER appreciation. Thus, neither the spending effect in Croatia occurred showing once more Croatia does not suffer from Dutch disease. Finally, despite the high share of tourism in Croatia we cannot conclude that Dutch disease is in action. But if the rapid growth of the tourism sector in Croatia continues, there could be negative effects of the Dutch disease in the future. Hereby, we agree with Rogoff (2005), Corden (2012) and Kojo (2014) that there should not be any policy response to the Dutch disease as price mechanisms alone will generate appropriate market responses to increased wealth. Economic policy should focus on providing an enabling environment for private sector growth.

Additional research could certainly give better support or even disproof the presented conclusions. Econometric model could reduce the difficulties of separating the typical causes of the Dutch disease from those originating in other domains. Also, possible future research on the after corona crisis tourism state in Croatia with comparison to next EU countries with highest

tourism share in GDP and employment, e.g. Greece, Portugal and Spain, should be quite interesting.

Acknowledgements

References

Andrade, João Sousa & Duarte, António Portugal (2017) Dutch disease in Central and Eastern European Countries, CeBER Working Papers 2017-03, Centre for Business and Economics Research (CeBER), University of Coimbra, https://www.uc.pt/en/uid/ceber/WorkingPapers/wp/wp_2017/wp2017-03.

Baetas da Silva, N., Sousa Andrade, J., Portugal Duarte, A. (2016) Alternative Sources of Dutch disease: A Survey of the Literature. GEMF Working Papers 2016-10, GEMF, Faculty of Economics, University of Coimbra.

Batista e Silva, F., Kavalov, B., and Lavalle, C. (2019) Socio-economic regional microscope series - Territorial patterns of tourism intensity and seasonality in the EU, Publications Office of the European Union, Luxembourg, doi:10.2760/061885, JRC117669.

Beg, M., Basarac Sertić, M., Družić I. (2017) Determinants of Deindustrialisation in Developed European and Post-Communist Countries, *Montenegrin Journal of Economics*, Vol. 13 (2017), No. 2; pp. 93-106.

Botrić, V. (2004) Regional Aspects of Unemployment in Croatia. *Croatian Economic Survey*, (6), 77-95.

Capó, J., Font, A. R. and J. R. Nadal (2007) Dutch disease in tourism economies: Evidence from the Balearics and the Canary Islands. *Journal of Sustainable Tourism*, 15:6, 615-627, DOI: 10.2167/jost698.0.

CBS (2020) Croatian bureau of statistics, www.dzs.hr.

Chao, C.-C., Hazari, B.R., Laffargue, J.-P., Sgro, P.M., Yu, E.S.H. (2006) Tourism, Dutch disease and welfare in an open dynamic economy, *The Japanese Economic Review*, Vol. 57., Issue 4, Pages 501-515.

Chiu, Y. B., Yeh, L. T. (2016) The Threshold Effects of the Tourism-Led Growth Hypothesis: Evidence from a Cross Sectional Model. *Journal of Travel Research*, Vol 56, Issue 5, Pages 625-637. https://doi.org/10.1177/0047287516650938.

CNB, Croatian national bank, https://www.hnb.hr/statistika/statisticki-podaci/sektor-inozemstva/platna-bilanca

Copeland, B. R. (1991) Tourism, Welfare and De-industrialization in a Small Open Economy, *Economica*, Vol. 58, No. 232, pp. 515-529.

Corden, W. and Neary, J.P. (1982) Booming sector and de-industrialisation in a small open economy. *The Economic Journal*, 92(368), 825–848.

Corden, W. (2012). Dutch Disease in Australia: Policy Options for a Three-Speed Economy. *Australian Economic Review*, 45(3): 290-304.

EC (2020) Tourism and transport in 2020 and beyond, European Commission, Bruxelles, 20.5.2020. COM(2020) 500 final, https://ec.europa.eu/transparency/regdoc/rep/1/2020/EN/COM-2020-550-F1-EN-MAIN-PART-1.PDF.

Eurostat (2015) Eurostat 2015 regional statistics – Tourism. Eurostat regional yearbook 2014. Available at: https://catedratim.files.wordpress.com/2017/01/eurostat-2015-regional-statistics-tourism.pdf (accessed 15 August 2020).

Eurostat, https://ec.europa.eu/eurostat/data/database.

Ghalia, T., Fidrmuc, J. (2018) The Curse of Tourism?. *Journal of Hospitality & Tourism Research*, Vol 42, Issue 6, pp. 979–996.

Hajdinjak, S. (2014) Impact of tourism on economic growth in Croatia, Enlightening Tourism. *A Pathmaking Journal*, Vol 4, No 1, pp. 30-51.

Hobson, K. R. (2013) Small States and Tourism: a Resource Curse Phenomenon? A Study in the Context of Grenada.

Holzner, M. (2005) Fear of Croatian Disease. Is there a danger of a Dutch disease Effect with respect to a boom in the tourism sector in Croatia in the long run - 'The Croatian Disease'? Doctoral thesis, WU Vienna University of Economics and Business, https://epub.wu.ac.at/1925/1/document.pdf.

Holzner, M. (2011) Tourism and Economic Development: The beach disease?. *Tourism management*, Vol. 32, Issue 4, pp. 922-933.

Inchausti-Sintes, F. (2015) Tourism: Economic growth, employment and Dutch disease. *Annals of Tourism Research*, 54: 172-189.

Jayasuriya, S., Sukadana, I W., Manning, C., Meydianawathi, L.G. (2020) The tourist boom in Bali: Is it harming prospects for long-term economic growth?. Working Paper 2020/1, ANU College of Asia and the Pacific.

Kenell, Lena (2008) Dutch disease and Tourism - The Case of Thailand. LUP Student Papers. Lund University Libraries. Available at: https://lup.lub.lu.se/student-papers/search/publication/1334498 (accessed 13 July 2020).

Kojo, Naoko C. (2014) Demystifying Dutch disease. *Journal of International Commerce, Economics and Policy*, Vol. 6, No. 2 (2015) 1550010 (23 pages). DOI: https://doi.org/10.1142/S1793993315500106.

Manera, C., Garau, J., Serrano, E. (2016) The evolution and impact of tourism in the Mediterranean: the case of island regions, 1990-2002, *Cuadernos De Turismo*, (37), 269-303. https://doi.org/10.6018/turismo.37.256241.

Mironov, Valeriy V. & Petronevich, Anna V. (2015) Discovering the signs of Dutch disease in Russia. *Resources Policy*, Volume 46, Part 2, 97-112. DOI: https://doi.org/10.1016/j.resourpol.2015.09.007.

Nowak, J-J. and Sahli, M. (2007a) Coastal tourism and 'Dutch disease' in a small island economy, *Tourism Economics*, 13 (1), pp 49-65.

Nowak, J. J., Mondher, S. and Cortes-Jimenez, I. (2007b) Tourism, capital good imports and economic growth: theory and evidence for Spain. *Tourism Economics*, Vol. 13, No. 4., pp. 515–536.

OECD (2020), OECD Tourism Trends and Policies 2020, OECD Publishing, Paris, https://doi.org/10.1787/6b47b985-en.

Oomes, Nienke & Kalcheva, Katerina (2007) Diagnosing Dutch disease: Does Russia Have the Symptoms? IMF Working Papers No. 07/102, International Monetary Fund.

Orisni, k. (2017) What drives Croatia's high import dependence? Economic Brief 029, European Commission, https://ec.europa.eu/info/sites/info/files/eb029_en.pdf.

Orsini, K., Ostojić, V. (2018) Croatia's Tourism Industry: Beyond the Sun and Sea. Economic Brief 036, European Commission, https://ec.europa.eu/info/sites/info/files/economy-finance/eb036_en.pdf.

Orsini, K., Pletikosa, M. (2019) Croatia's Tourism Industry – Part 2: Curse or Blessing?. Economic Brief 047, European Commission, https://ec.europa.eu/info/sites/info/files/economy-finance/eb047_en.pdf.

Rogoff, K. (2005) Rethinking Exchange Rate Competitiveness. Global Competitiveness Report 2005-2006, ed. Schwab, World Economic Forum, Geneva, Switzerland.

Sachs, Jeffrey D. & Warner, Andrew M. (2001) The Curse of Natural Resources. *European Economic Review*, Vol. 45, No. 4–6, 827–38.

The Economist (1977) The Dutch disease. The Economist, November 26, 1977, 82-83.

Trading economics, https://tradingeconomics.com/croatia/real-effective-exchange-rate-wb-data.html

Tuncay, N., Özcan, C. C. (2020) The effect of Dutch disease in the tourism sector: the case of Mediterranean countries. *Tourism and hospitality management*, Vol. 26 No. 1. https://doi.org/10.20867/thm.26.1.6.

UNWTO (2019) International Tourism Highlights, 2019 Edition, https://www.e-unwto.org/doi/pdf/10.18111/9789284421152.

WDI, World Development Indicators, https://databank.worldbank.org/reports.aspx?source=2&series=ST.INT.RCPT.XP.ZS&country=

Weston, R., Guia, J., Mihalič, T., Prats, L., Blasco, D., Ferrer-Roca, N., Lawler, M. and Jarratt, D. (2019) Research for TRAN Committee – European tourism: recent developments and future challenges, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels., https://www.europarl.europa.eu/RegData/etudes/STUD/2019/629200/IPOL_STU(2019)629200_EN.pdf.

World Tourism Organization (2018) European Union Tourism Trends, UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284419470.

WTTC, World Travel & Tourism Council: 2020. https://tool.wttc.org/.

Zhang and Yang (2018) Prescribing for the tourism-induced Dutch disease: A DSGE analysis of subsidy policies. *Tourism Economics*, 1–22, DOI: 10.1177/1354816618813046.