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IMPACT OF TOURISM ON ECONOMIC GROWTH IN CROATIA

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ABSTRACT

Although impact of tourism on the economy has been researched in the literature, the results of studies deliver varying conclusions leaving the field open to further studies. While the literature has so far dealt with cases of large tourism sectors, there has been no research on cases of dominant tourism sector in transitional post-socialist economies. Tourism certainly plays an important role in the Croatian economy, but so far research tested the impact it actually has on economic growth. This paper attempts to fill this gap by testing what is the long-term impact of tourism on growth of GDP. The author tests whether tourism enables increase in level of productive factors and indirectly ensures long-term development (TKIG hypothesis), or it contributes by delivering short-term profits. The results of the paper imply that TKIG hypothesis is confirmed in the case of Croatia. Tourism receipts can enable increase in capital goods imports and there is a mechanism through which increase in tourism specific productive factors leads to economic growth. However, the organization of the tourism sector, as well as political elite's attitudes towards tourism have an important effect on determining impact tourism has on the economy.

KEY WORDS
VAR model; tourism sector; capital goods; imports; economic growth; Croatia.

ECONLIT KEYS
C32; H54; L83; O11.

1. INTRODUCTION

Importance of tourism exports for the growth of the economy has recently started to gain momentum. While the current body of literature provides quite extensive research of the relationship between tourism and growth, the debate is still largely opened. Moreover, the literature has so far not focused on the cases of post-socialist countries where tourism has a large contribution to GDP and exports structure.

This paper focuses on the case of Croatia where tourism is one of the most important sectors, but so far, there has been no research aimed at testing the relationship between tourism and economic growth. Moreover, it is a case of transitional post-socialist economy in which tourism was initially part of planned, rather than market economy. The paper contributes to the existing literature by focusing on this relationship in a tourism dependant, service sector focused economy which has so far pursued a 'middle way' between mass, low-income and diversified, high-income, elite type of tourism. Croatia is also an interesting case because it is a relatively small country which can be dependent on coastal tourism and yet it is much different from small island tourism countries which have little option than to rely on tourism for their development (Brown, 1998).

Methodologically, the paper tests for Granger causality between tourism exports, capital goods imports and economic growth in the case of Croatia. Due to nature of the statistical data the paper explores the hypothesized relationships through a Vector Autoregression model. Statistical analysis shows that that there is a positive relationship between tourism receipts and imports of capital goods, which further translates into economic growth. However, lack of relationship between economic growth and goods for further production tentatively implies that revenues fail to be invested properly into other sectors of the economy. The findings seems to confirm earlier research according to which tourism development without monopoly over production of tourism good does not provide a clear channel for growth (Nowak et al., 2007).

Paper is organized as follows. Second section reviews the existing literature on the relationship between tourism exports and growth and highlights the niche this paper is planning to research. In the third section I provide background on Croatian

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economic development, on the role tourism plays in Croatian economy and on the type of transition tourism and the overall economy went through in last three decades. In the fourth section I introduce the method of analysis, data and the results of the Vector Autoregression model and Granger causality. Fifth section discusses the results of the statistical analysis in the Croatian context. Sixth section discusses the results, provides some concluding remarks and suggests possibilities for future research.

2. LITERATURE REVIEW

After Shan and Wilson initially proposed the so-called tourism led growth hypothesis (TLGH) (Shan and Wilson, 2001), it has been tested on a wide sample of countries and regions. Several regions such as the Mediterranean (Dritsakis, 2004; Katircioglu, 2009) and Asia-Pacific (Chen and Chiou-Wei, 2009; Khalil et al., 2007; Kim et al., 2006; Lee and Chang, 2008) have been widely researched through single case study analyses, and most of the results imply either that tourism-led growth or growth-led tourism development occurs. Proenca and Soukiazis brought some evidence that tourism in certain South European countries from 1990-2004 was conducive to income convergence (Proenca and Soukiazis, 2008). Fayissa et al. on the sample of 17 Latin American countries show that profits from the tourism industry and investments in physical and human capital have a positive contribution to GDP and economic growth (Fayissa et al., 2009). The authors draw the same conclusion on the case of 47 African countries (Fayissa et al., 2007).

However, some papers have also argued that effects of tourism might not be unambiguously positive for the growth. Studies of Copeland and Chao et al. have been first to introduce the theoretical possibility of negative impact tourism might have on growth. Both show through mathematical simulations and models that tourism can lead to immiserizing growth (Chao et al., 2006; Copeland, 1991). Their research efforts were supported through work on impact tourism has on welfare, either through national and sub-regional case studies, or through theoretical models (Hazari and Nowak, 2003; Hazari et al., 2003; Nowak et al., 2003, 2005).

Holzner's paper tested the existence of "beach disease" on a sample including 134 countries and argued that countries with higher income from tourism have both

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higher levels of investment and secondary school enrolment which are explained by increased demand for transport infrastructure and foreign languages acquisition (Holzner, 2010). The author's analysis shows that countries dependant on tourism are rather outward oriented with low levels of real exchange rate distortion. Countries that have high income from tourism also have high revenues from taxes on goods and services and moreover, opposite to the conclusions of Copeland and Chao, tourism does not seem to lead to a contraction of the manufacturing sector. Cross-country growth regressions on income level sub-samples also show that tourism specialization had a significant impact only in countries with above average income per capita levels. This finding is comparable to additional panel data studies which also show that investments in tourism tend to be more profitable in countries with higher levels of physical capital. However, the author adds a warning that his results are short-to-medium term based and that in the long run, Copeland's model of negative impact tourism has on the growth could be correct.

Arguably different is the study of Capo et al. on the case of the sub-national Balearics and the Canary Islands, whose economies are heavily orientated towards tourism (Capo et al., 2007). The authors argue that both show signs of Dutch tourism disease and that, as a result, their economic growth is compromised in the coming years. The tourist boom that took place in the early 1960s led to a considerable increase in wealth, thanks to the new recreational use that was found for the islands' natural coastal resources. Tourism and non-tradable commodities (services and construction) received greater investments, while agriculture and especially industry received only marginal attention. Even though the incomes of the population have risen considerably as a result of this shift in production, long-term sustainability of these growth rates has been shown to be illusory. The paper singles out depletion of natural resources and lowering profits due to low levels of education and training, innovation and technological progress.

The relationship between tourism and development was also tested on the case of small tourism countries (STC) where the general conclusion was that tourism specialization is correlated with faster growth. One of the most important studies in this group is written by Brau et al. on growth of tourism micro-states with less than 1 million inhabitants. The authors show that tourism is a viable option for less developed countries in which development through industrialization is not easy due

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to the existence of persistent gaps in technology levels. They document that small tourism countries grow faster specifically due to tourism specialization than oil, OECD, less developed countries (LCD) and other small countries do. However, they do suggest that two mechanisms can explain these results –first, terms of trade effect which enables sustainable fast growth in the long run and second, environment exploitation where STCs obtain fast growth for a period by accelerating the exploitation of the environment to which tourists are attracted (Brau et al., 2007). It should be noted that even the long-run growth scenario can be pessimistic if the dynamics of sectoral productivities are in favour of high-tech industries, as suggested by much of the endogenous growth literature.

Directly opposing Brau et al. (Brau et al., 2007) positive findings on STC is the research undertaken by Figini and Vici. They show that previous studies have been plagued by methodological misspecifications and have not fully encompassed long term effects of tourism specialization. Finally, their study argues that there was not any significant causal relationship between tourism specialisation and economic growth in micro-size tourism countries (Figini and Vici, 2010).

Literature identifies two main channels through which tourism can help in delivering economic growth. First channel is through the so called tourism exports led growth hypothesis which assumes that tourism leads to increase in total factor productivity and through spill-over effect acts as technological improvement. The second channel which has been termed tourism exports – capital goods imports – growth hypothesis (TKIG) has until recently been neglected. In this framework, tourism revenues ensure foreign currency needed for further finance of capital imports. Even if tourism does not lead to technological progress, it promotes capital accumulation through expansion of the volume of imports. Tourism-capital goods imports-growth hypothesis (TKIG) has been originally tested on the case studies of Spain (Nowak et al., 2007) and Tunisia (Cortes-Jimenez et al., 2011). Cortes-Jimenez confirms that tourism, through providing finance for capital goods, has had a positive impact on the economic growth in Spain. Tunisian case is to an extent even more interesting since the authors argue that tourism does seem to finance imports of capital and intermediary good, but that transmission effect from capital imports to growth applies only in the short run. They argue that in the long-run, although tourism

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contributes significantly to Tunisian economy, the role of tourism has not been instrumental in supporting growth and development.

While the relationship between tourism exports and growth has been extensively researched, the literature review show unclear findings as to in which situation is the impact positive or negative in the long run. There has been no research on a case study which is characterised by the middle way between mass "sun, sea and sand" and diversified high income type of tourism. In addition, based on the literature review I argue that Croatia represents an interesting case study for re-testing the relationships between tourism exports due to its relative dependence on tourism sector. Next section outlines the role of tourism in Croatian economy and classifies the type of tourism pursued.

3. THE ROLE OF TOURISM IN THE CROATIAN ECONOMY

Development of Croatian economy has been strongly impacted by recent war for independence which resulted in secession from Socialist Federative Republic of Yugoslavia and transition from socialist self-management to capitalism. Much of the economic activity in Croatia still reflects impacts of socialism, tourism not being an exception. After Croatia became independent large branches of industrial sector collapsed due to the lack of profitability and mismanaged privatization. Service sector became increasingly important, especially real estate, financial and insurance activities, as well as trade and tourism related services(Croatian Bureau of Statistics, 2012). For Croatia, one of the most important foreign policies was opening up and re-joining the Europe, especially through membership in the European Union. In this sense, the role of tourism was important in turning Croatia towards service dominated economy as opposed to socialist orientation towards large and mostly unprofitable industries (Poljanec-Borić, 2010).

Tourism had a significant and strategic role even while Croatia was part of Yugoslavia. During the period of socialism, tourism served as economic confirmation of non-aligned status of Yugoslavia. As argued by Poljanec-Boric, tourism was a source of foreign currency and it was considered to be strategically important sector since identity-wise it turned the country towards the West, as compared to heavy industrialization which was designed under the impact of the socialist block. On the

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country level, considering that 88% of tourism receipts came from Croatia it has also been interiorised as part of Croatian national economic identity within Yugoslavia (Poljanec-Borić, 2010).

In the phase of initial international tourism development, Croatia was a part of a socialist country which resulted in tourism sector being systematically shaped through strategy of low prices and high numbers of guests with specific focus on workers right for vacation. Development of the sector in socialism led to creation of uniform, "bathing tourism" characterized by overall low costs and cheap accommodation. Additionally, tourism was focused primarily on the coast which received 95% of overnights, while the inner part remained tourism-wise mostly underdeveloped. However, such orientation has started to change from since 1970s in accordance with global orientation towards sustainable development in general and tourism specifically (Kobasic, 1987).

According to World Tourism and Travel Council (WTTC), tourism remained among important sources of revenue even during the war. Hence it is not surprising that it is continued to be seen as one of the most important economic sectors. Additionally, total tourism revenues in the last decade generated more than 25% of the Croatian GDP. Values are available in Table 1 in the Appendix.

Infrastructure inherited from Yugoslavia reflects well socialist philosophy of tourism for masses. Just before the war escalated, Yugoslavia had 450,000 accommodation units in private housing, or more than twice as much as in hotel accommodation, where it had 266,000 units. This relationship was even stronger in Croatia since coastal based tourism was mostly developed through construction of private summer houses and development of camping sites. Hotels and apartments villages were significantly less represented, which reflected mass and low cost tourism. Moreover, while the number of tourist arrivals grew almost up until the war started, the rise in quantity substituted, rather than supplemented rise in quality (Kobasic, 1987).

There has been significant change in the attitude towards mass type of tourism in the meanwhile and currently both academics and practitioners advocate sustainable tourism. To an extent this has also had an impact on Croatian policy makers. Regardless of their political orientation Croatian governments have strongly emphasized the need for further development of tourism sector. There is formal acknowledgment that tourism sector needs to be based on principles of sustainability,

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but policy implementation does not necessarily follow the rhetoric. In certain cases emphasis on sustainability seems to include "on the surface" adaptation of ideas that are advocated by academia and international organizations, rather than real dedication to a certain policy goal Hence, tourism strategies developed have so far reflected declarative acceptance of sustainability principles, while application of principles is still lagging behind. Moreover, tourism coordination requires substantial capacities since it requires cooperation of private, public and state institutions. Therefore, beside in lack of motivation, implementation of certain plans oriented towards more sustainable and diversified tourism might also be problematic due to coordination problems.

Therefore, although there has been declarative change of orientation towards sustainable practices and towards an increase in the quality of the offer, quantity still seems to be prevailing policy goal. Moreover, tourism still tends to be mostly connected to coastal regions which have strong natural advantage in pursuing summer oriented - sun, sea and beach tourism. Inner parts of the country remain largely underused. The capital city Zagreb is slowly becoming a touristic destination, but for most of the tourists arriving to Croatia it is still rather a transitory than a goal point. Moreover, tourism is still characterized by distinct seasonal patterns, where most of the visitors arrive in the summer months and existing tourism offer is concentrated on this period (Institute for Tourism, 2013). Pre- and post-season can be characterized by lack of tourism offer, even though necessary natural and cultural resources could enable either longer or whole year season (Corak and Marusic, 2009). Due to strongly expressed regional and seasonal character, tourism can hardly be considered as a key sector of the economy (Poljanec-Boric, 2011). This assessment is only supported by the type of the infrastructure tourism is based on in which complementary accommodation capacities, such as private accommodation and campsites, have a more pronounced role than primary ones.

This section has provided a short background on the role of tourism in Croatian economy as one of the main sectors contributing to GDP. Moreover, I have also outlined how tourism developed in Croatia and what are its characteristics; strong seasonality, regional character, orientation to mass rather than quality tourism and focus on sun, sea and beach type of tourism product. Finally, I have pointed out that

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based on these characteristics tourism should perhaps not be considered as the key economic sector of the economy.

4. ECONOMETRIC ANALYSIS AND RESULTS

Based on the outlined importance of tourism for Croatian economy, as well as country specificity in development of mid-way tourism type characterized by quantity rather than quality I proceed with quantitative analysis of the impacts tourism has on economic growth. The paper tests for Granger causality between tourism exports, capital goods imports and economic growth in the case of Croatia. The hypothesis is that imports of capital goods financed through tourism revenues enable increase of productivity and result in economic growth. Variables used are real gross domestic product (GDP), real imports of capital goods (CIG) and tourism expenditures (TOUR).Time series plot of variables is shown as Figure 1 in the Appendix.

The analysis can be summarized in following steps. I start by checking if the variables are stationary or integrated of first order. I further test if the variables are cointegrated by using Johansen trace test. In the cases when variables are not cointegrated, the literature suggests proceeding with Vector Autoregression Model and appropriate tests for Granger causality.

There were two sources of data available for the tourism variable. I originally tested the model with the data for tourists' expenditures available from WTTC database. I used the cointegration method and Granger causality analysis based on the vector error correction model, but since data was available only from 1988 there were no clear findings on the relationship between economic growth and tourism. However, tourism expenditures were also available from Currie et al. (Currie et al., 2004), available from 1980 till 2002 which adjust the existing data from Croatian Bureau of Statistics to current methodology of measuring tourism expenditures by Croatian National Bank. These data were complemented with Croatian National Bank's data available till 2011. Hence, I have decided to use Currie and CNB's data which provide observations also for earlier years and increase the reliability of the results and power of the model. The problem with data is that it includes pre-independence data which are methodologically relatively consistent, but represent relationships between three variables in two different countries. While this is

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methodologically problematic, I assume that there is a certain level of institutional continuity from Yugoslav period to independent Croatia. Therefore, within this theoretical framework encompassing observations from final Yugoslavian period, from 1980 to 1991, should not be too problematic. However, further studies with additional time points should enable checking the validity of this analysis.

Source for GDP growth and imports of capital goods (CIG) variables is Croatian Bureau of statistics (CBS). All of the variables are expressed in American (USD) dollars and have been transformed into real terms by using consumer price index with 2000 as a base year. Plot of the level and growth variables are available as Figure 1 and Figure 2 in the Appendix.

In the first step I use two unit root tests for checking stationary of the variables: the augmented Dickey Fuller test (ADF) and Kwiatkowski Phillips Schmidt Shin (KPSS) test. Enders elaborates that variables are stationary when mean and the variance of a series are constant through time and the autocovariance of the series is not time varying (Enders, 1995). Optimal lag length is chosen based on Akaike's information criterion (AIC), since it provided a more conservative suggestion than Schwarz's Bayesian information criterion (SBIC) and the Hannan and Quinn information criterion (HQIC). Output is presented in Table 2 of the Appendix. All three tests include a constant in the regression and do not reject the null hypothesis that there are no unit roots, hence GDP, CIG, TOUR are non-stationary in levels and integrated of first order. Output of both tests is shown in Table 3 in the Appendix.

In the next step I check if the variables are related in the long-term, by using Johansen test for cointegration. Results show that there is no long-run equilibrium between LTOU, LIMP and LY series. Since there are no cointegrating vectors among LY, LIMP and LTOUR I proceed with a Vector Auteregression (VAR) instead of Vector Error Correction (VECM) model, which allows application of conventional causality tests with non-cointegrated variables. Output is presented in the Table 4.

Generating the first differences and re-running the tests for unit root shows that variables CIG and TOUR are stationary in first differences, while tests for stationarity in first differences ΔGDP deliver mixed results. Both Augmented Dickey Fuller and KPSS test shows that first differences are stationary only on 90% confidence level. In order to avoid excessive differentiation of GDP variable I construct a GDP growth variable which is integrated of first order. Output is represented in the Appendix as

Table 3. I run a basic autoregressive model specified with one lag for ΔGDP growth, ΔCIG and ΔTOUR, followed by a Granger causality test. In this case, the VAR model can be notated as:

$$GDP\ growth_t = \alpha_1 + \sum_{p=1}^{1} \beta_{1p}\ GDP\ growth_{t-p} + \sum_{p=1}^{1} \delta_{1p}\ \Delta CIG_{t-p} + \sum_{p=1}^{1} \gamma_{1p}\ \Delta TOUR_{t-p} + \varepsilon_{1t}$$

$$\Delta TOUR_t = \alpha_2 + \sum_{p=1}^{1} \beta_{2p}\ GDP\ growth_{t-p} + \sum_{p=1}^{1} \delta_{2p}\ \Delta CIG_{t-p} + \sum_{p=1}^{1} \gamma_{2p}\ \Delta TOUR_{t-p} + \varepsilon_{2t}$$

$$\Delta CIG_t = \alpha_3 + \sum_{p=1}^{1} \beta_{3p}\ GDP\ growth_{t-p} + \sum_{p=1}^{1} \delta_{3p}\ \Delta CIG_{t-p} + \sum_{p=1}^{1} \gamma_{3p}\ \Delta TOUR_{t-p} + \varepsilon_{3t}$$

Where α is the vector of the constant term and β, γ and δ are the coefficients of the lagged variables. In order to test whether ΔCIG Granger causes GDP growth, joint significance of the coefficients $\delta_{11} = \delta_{12}$ is examined with F-test. Same applies for the hypothesis that ΔTOUR Granger causes GDP growth; if $\gamma_{11} = \gamma_{12}$ are jointly significant it would imply that results favour that there is Granger causality from ΔTOUR to ΔGDP growth. Output of Granger causality Wald test is shown in Table 5 of the Appendix.

We start analysing the results from the perspective of tourism-capital goods import-economic growth hypothesis. Based on these results it can be argued that there is Granger causality from tourism receipts to imports of capital goods. Due to small p-value it can be concluded that the coefficients on the lags of ΔTOUR are not jointly zero in the equation for ΔCIG, indicating the alternative hypothesis that tourism receipts Granger cause capital goods imports. This finding confirms that tourism revenues were instrumental in financing goods for further production over the period of 1980 to 2011. But the results also show that this relationship is bidirectional since imports of capital goods also Granger cause tourism receipts. Significance of this relationship implies that tourism development is boosted by capital goods, such as roads, hotels and other parts of infrastructure developed for tourism in past three decades.

Moreover, the output seems to imply on a 90% confidence level that capital goods imports Granger cause GDP growth. Therefore, since tourism receipts finance capital goods imports and GDP growth is encouraged by imports of capital goods, the

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tourism – capital goods import – growth hypothesis in the case of Croatia is confirmed. On the other hand, results do not indicate that GDP growth Granger causes import of capital goods, which would indicate that increase in real gross domestic product does not lead to investments into capital goods required for further production. These two relations, between tourism receipts and imports of capital goods and lack of unidirectional causality between GDP growth and capital goods imports could imply that tourism enables import of capital goods necessary and specific for tourism development, but that overall GDP growth boosted by tourism does not lead to further imports of productive means necessary for development of other sectors. While one should be careful in the interpretation of the data, lack of relationship between GDP growth and capital goods imports CIG could perhaps be interpreted as a type of policy failure. There seems to be no causal relationship from economic growth to capital goods imports, while the existing Granger causality from tourism receipts to imports of capital goods, leads to GDP growth. Imported intermediary goods are used for tourism development and revenues obviously fill the central budget, but tourism revenues are not reinvested for the development of productive means in other sectors of the economy. Reasons for suggested policy failure should be searched for within institutional environment which relatively successfully develops tourism sector while neglecting other parts of the economy.

From the perspective of tourism led growth hypothesis, it can be argued that tourism receipts do not directly Granger cause economic growth. Based on the result in Table 5 coefficients on the lags of ΔTOUR in the equation for GDP growth are not jointly zero. While tourism is an important part of GDP in Croatia, this finding can be interpreted as lack of sectorial ability to influence growth potential, perhaps because other sectors would also need to contribute to growth in a cross-sector connected economy.

Such an explanation would also be in agreement with theoretical background of TKIG model; namely growth through tourism can only be achieved through offer diversification and monopoly over tourism good. Croatia provides a tourism good that is easily substituted by the tourism product of other Mediterranean countries. In conditions of dependency on tour operators (Cavlek, 2005) and a small number of countries tourists come from, the prices of tourism product are forced downwards, but so is the quality of the product. These factors have a negative impact on the ability of

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the tourism to be the key sector in the economy and to contribute to economic growth in the long-run. Simultaneously, tourism revenues grow due to increase of tourism sector productive volume, rather than quality. Such a strategy has a rather short term focus and should be complemented by emphasis on redistribution of other sectors of the economy.

5. DISCUSSION

While the results of this study are not generalizable to other developing countries, they imply that high dependency on tourism is perhaps not the optimal way for development. While Croatian case delivers differing results from already existing studies on Spain and Tunisia(Cortes-Jimenez et al., 2011; Nowak et al., 2007), it confirms that increase in accommodation capacity without quality increase can deliver a short term growth, but that mass type of tourism is not the best developmental model. Utilization of natural resources, such as beautiful scenery and climate can enable high participation of tourism in the GDP levels, but due to certain type of policy failure there is no diversification of the economy. In the absence of quality increase, countries like Croatia are facing a danger of overusing their natural beauties, while effectively failing to encourage wider economic development through tourism revenues.

In this sense, the paper confirms Nowak et al. findings; tourism development based on un-differentiated sun, sea and sand tourism which does not enable monopoly over production of tourism good does not seem to be a clear channel for growth (Nowak et al., 2007). However, it can help maintain a relative social peace due to extremely high rents that specialization in tourism offers in short run. Relying on tour operators and a small number of source countries leads to a type of race to the bottom in producing the same tourism good for lowest prices and quality of the product. Two hypotheses which seem to provide mechanisms of how tourism sector receipts translate to growth do not seem to be plausible in mass tourism locations with no diversification in product offer. There is no technological progress and economic diversification, while increase of productive means contributes only to tourism sector growth, which can be instructive in the course of further economic development of Croatia. While tourism cannot be dismissed as valuable source of

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income, development of other sectors which could deliver technological progress would be a policy worth pursuing. Moreover, relying on tourism sector in creating revenues even when there is no specific policy followed for its development or sufficient efforts of coordination between sectors in implementation should be a strategy to avoid. Partnerships between public and business sector as well as cooperation of all decision-makers are instrumental for development of tourism product which can incentivize further economic development. Finally, even if ad-hoc tourism development, engineered without following a specific policy design does help in filling the budget, it would not be a long-term potential since mass tourism inevitably destroys the very ground on which it is made, natural environment. Environmental degradation as well as cultural blending undoubtedly have a negative impact on the potential of tourism to be a long-term engine of growth in tourism dependant countries.

6. CONCLUSION, STUDY LIMITATIONS AND FUTURE RESEARCH

The paper has researched whether tourism exports-capital goods imports-growth hypothesis can be inferred for the case of Croatia. Moreover, the paper tests if there is direct causal relationship between tourism receipts and economic growth. In order to test these two hypotheses I use a Granger Causality test and Vector Autoregression model due to lack of cointegration among non-stationary variables. The case of Croatia is especially important since it is one of the new examples of tourism dependency in a non-island, but still a small open economy, which has in observed period gone through a transition from socialist self-management to capitalism system. Moreover, it pursuits a middle way of mass tourism with relatively undifferentiated tourism offer in classical sun, sea and beach model, dependence on tour operators and strong regional bias. Additionally, the country is an interesting case study due to its services orientation, but is still considered to be among developing countries.

The paper confirms the tourism exports – imports of capital goods – economic growth hypothesis; tourism receipts and imports of capital goods are in a bidirectional causal relationship and imports of capital goods spill over to economic growth. However, growth of productive means seems to be limited to tourism sector since

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achieved growth does not translate to further technological progress and economic diversification. This hypothesis would require further testing with more robust specification that depicts a complex relationships technological progress and growth of human capital on the basis of tourism revenues. Nevertheless, the results of Granger causality test imply that tourism should not be considered a key sector of Croatian economy since its contributions to growth of Croatian economy have been overemphasized. Further research should focus on elaborating what is preventing use of achieved economic growth through increase in productive means to close a loop and further inspire imports of capital goods in sectors other than tourism.

This paper suggests two explanations. First, type of tourism sector in Croatia does not enable monopoly over production of tourism good, hence preventing long term positive impacts of increased capital goods in delivering economic growth. This would confirm previous research arguing that mass "bathing" type of tourism oriented to sea, sun and beach, can be seen only as short-term developmental policy in developing countries. Second explanation would refer to a policy failure in the use of increased capital goods for which it should also be further researched to understand how it relates to tourism dependency. Finally, results of this model should be taken with caution; in order to increase the number of observations data was gathered also for the Croatian pre-independence period. With the passage of time and perhaps quarterly acquired data one should be able to test impacts of tourism on the economic growth solely on the basis of data from the period after Croatia gained independence.

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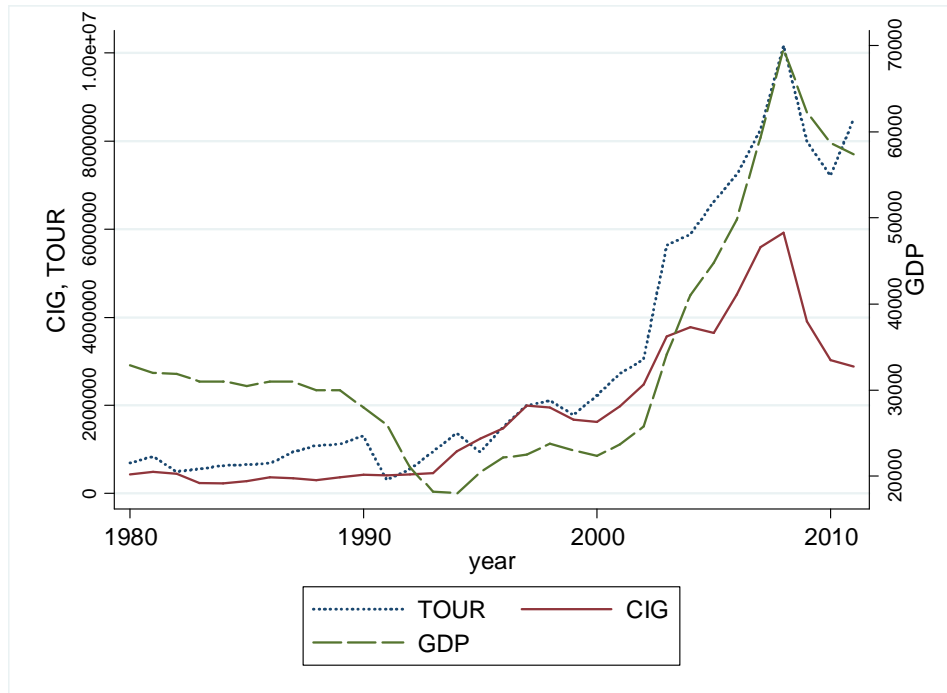
Appendix

Figure 1 Time series plot of GDP, CIG, TOUR
Source: Croatian Statistical Bureau, annual statistical reports and Croatian National Bank
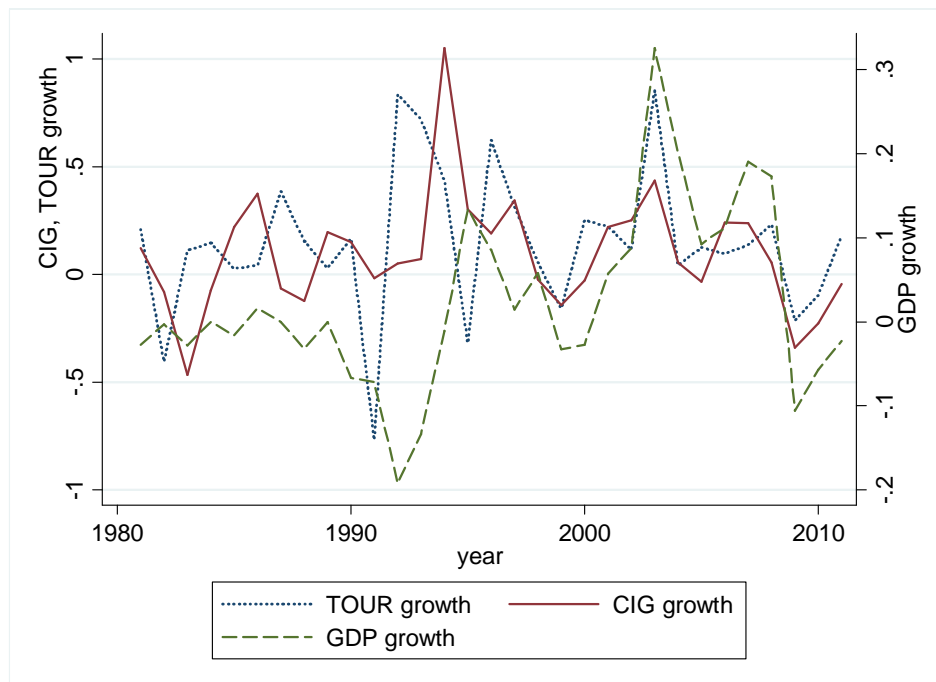

Figure 2 Time series plot of GDP growth, CIG growth, TOUR growth

Source: Croatian Statistical Bureau, annual statistical reports and Croatian National Bank

Year	Total tourism contribution to GDP	Year	Total tourism contribution to GDP
1988	21.5	2000	16.2
1989	17.3	2001	18
1990	13.7	2002	26.7
1991	10.8	2003	26.2
1992	9.7	2004	27.9
1993	17.1	2005	28.6
1994	17.8	2006	27.8
1995	11.5	2007	29.1
1996	15.9	2008	25.3
1997	17.6	2009	26.9
1998	17.1	2010	26.3
1999	15.4	2011	27.8

Table 1 Total tourism contribution as percentage of GDP
Source: World Travel and Tourism Council

LAGS	AIC	HQIC	SBIC
0	56.84	56.88	56.98
1	56.19	56.36*	56.77*
2	56.17*	56.47	57.18
3	56.54	56.96	57.98
4	56.78	57.34	58.66

Table 2 VAR lag selection criteria

Augmented Dickey Fuller test				
	GDP	GDP growth	CIG	TOUR
Constant	-0.966	-2.687*	-1.424	0.221
Result	I(0)	Unclear	I(0)	I(0)
	ΔGDP	ΔGDP growth	ΔCIG	ΔTOUR
Constant	-2.857*	-4.723***	-4.408***	-4.389***
Result	unclear	I(1)	I(1)	I(1)

Notes: *,**, *** denote significance at 10%, 5% and 1%, respectively
Table 3a. Augmented Dickey Fuller stationarity test

KPSS test

	GDP	GDP growth	CIG	TOUR
Constant	0.787481***	0.065	1.36077***	1.36127***
Result	I(0)	I(1)	I(0)	I(0)
	ΔGDP	ΔGDP growth	ΔCIG	ΔTOUR
Constant	0.376276*	0.0548193	0.096675	0.247104
Result	Unclear	I(1)	I(1)	I(1)

Notes: *,**, *** denote significance at 10%, 5% and 1%, respectively

Table 3b. KPSS stationarity test

Maximum rank	Trace statistic	5% critical variable
0	21.9672	29.68
1	9.2767	15.41
2	0.0397	3.76
3		

Table 4. Johansen test for cointegration (2 lags)

Equation	Excluded	Chi2	DF	Prob>chi2
GDP growth	ΔCIG	3.05	1	0.08
GDP growth	ΔTOUR	1.00	1	0.32
GDP growth	ALL	3.08	2	0.22
ΔCIG	GDP growth	0.52	1	0.47
ΔCIG	ΔTOUR	3.73	1	0.05
ΔCIG	ALL	5.94	2	0.05
ΔTOUR	GDP growth	0.97	1	0.32
ΔTOUR	ΔCIG	7.45	1	0.01
ΔTOUR	ALL	10.01	2	0.01

Table 5. Granger Causality Wald tests