

**Aljaž  
Nerad**

**Antony R  
O'Rourke**

**Marko  
Koščak**

**MJERENJE DIREKTNIH I  
INDIREKTNIH UČINAKA TURIZMA  
NA BDP METODOM TSA  
(SATELITSKI RAČUN TURIZMA):**

**Analiza rezultata za Sloveniju i njena  
najveća turistička tržišta**

**MEASUREMENT OF DIRECT  
AND INDIRECT EFFECTS OF  
TOURISM ON GDP BY TSA:**

**Analysis of the Results for Slovenia  
and Its Biggest Touristic Markets**

**SAŽETAK:** Turizam, brzorastuća industrija, prisutan u Sloveniji kao i u ostatku svijeta, suočava se s nepotpunim statističkim praćenjem. U većini zemalja praćenje se odvija u skladu s definiranim kriterijima statističkog praćenja. Iz tog razloga je teže jasno definirati i učinkovito prikazati brzinu kojom se industrija mijenja te njezin domet. Stoga rješenje leži u primjeni satelitskog računa turizma (TSA), koji “pruža detaljan statistički pregled i predstavlja osnovni alat ekonomskog doprinosa turističkog sektora” (TSA: RMF, 2008). Zahvaljujući postojećem trendu šire globalne primjene takvog statističkog praćenja brojnih zemalja diljem svijeta, cilj empirijskog dijela ovog članka je provjeriti učinkovitost ove metodologije u praćenju turističkih tijekova. Učinkovitost smo provjerili u Sloveniji te na njezina četiri najveća turistička tržišta (npr. u Austriji, Italiji i Njemačkoj) i predočili analizu. Prvo, dokazali smo da je dodana vrijednost izračunata pomoću satelitskog računa turizma barem 2% viša u ove četiri zemlje od dodane vrijednosti izračunate tradicionalnim statističkim metodama. Nadalje, učinkovitost ove metode pomaže dokazati učinak koji je posljednja

**ABSTRACT:** Tourism, recognized as a fast-growing industry, present, globally as well as in Slovenia, is facing incomplete statistical monitoring. In most countries monitoring is conducted in accordance with established statistical monitoring criteria. Therefore, rapid changes and the scope of the industry cannot be clearly identified and effectively presented. A key to more complete statistical monitoring is the application of tourism satellite accounts (TSA), which “is a standard statistical framework and the main tool for the economic measurement of tourism” (TSA:RMF, 2008). Due to the trend of a wider global application of such statistical monitoring to numerous countries around the world, the intention of the empirical part of this paper was to check the effectiveness of this methodology in monitoring tourism flows. The effectiveness was checked in Slovenia and in its four largest tourism markets, (e.g. Austria, Italy and Germany) in the analysis. First, we have shown that the calculated tourist value added by the method of tourist satellite accounts per national economy in these four countries is at least 2% greater than the calculated tourist value added

*Aljaž Nerad, Fakultet turizma, Sveučilište u Mariboru* **adresa:** Cesta prvih borcev 36, 8250 Brežice **telefon:** 041 741 602  
**e-mail:** aljaznrd@gmail.com

*Antony R O'Rourke, dr., Institut za održivi razvoj Greenlines, Barcelos, Portugal* **e-mail:** tony.orourke@phonecoop.coop

*Marko Koščak, dr., Fakultet turizma, Sveučilište u Mariboru* **adresa:** Cesta prvih borcev 36, 8250 Brežice **telefon:** 040 202 898  
**e-mail:** marko.koscak@um.si

gospodarska kriza imala na turizam. Uopće metoda i rezultati ukazuju na učinkovitost ove metode, što olakšava znanstvenicima i stručnjacima promicanje njenog daljnjeg razvoja.

**KLJUČNE RIJEČI:** satelitski račun turizma, gospodarski doprinos, statističko mjerenje turizma, BDP od turizma

in these four countries, measured by traditional statistical methods. In the following, due to the efficiency of this method, we have shown the impact of the last economic crisis on tourism. In general, the methodology, as well as the results, shows the effectiveness of the method, which allows academics and professionals to promote its further development.

**KEY WORDS:** tourism satellite accounts, economic contribution, statistical measurement of tourism, tourist GDP

## UVOD I TEORIJSKA POZADINA

### Uvod

U članku kojeg su napisali Cvikl & Alič (2009.) turizam je opisan kao multidisciplinarni fenomen – brzorastuća gospodarska aktivnost koja u mnogim zemljama širom svijeta igra važnu ulogu u ekonomskom i tehnološkom razvoju naroda. To se odražava na otvaranje radnih mjesta, promicanje ulaganja, razvoj infrastrukture te stvaranje dobiti od deviznog poslovanja (Tisdell, 2013.). Odunga, Manyara & Yobesia (2019.) primjećuju da, usprkos važnosti turizma, on kao industrijska aktivnost još nije eksplicitno prepoznat od strane Standardne industrijske klasifikacije svih gospodarskih djelatnosti (SIC). Prema tvrdnjama Antolinija & Grassinija (2019.), to predstavlja problem ako govorimo o mjerenju turizma u okvirima toga da turističke djelatnosti ne obuhvaćaju samo ekonomski sektor, nego i poljoprivredu, industriju i usluge. Iz tog je razloga i literatura na temu ekonomske analize turizma neuravnotežena, kako tvrde Sinclair & Stabler (2002.). S jedne strane, provedena su brojna istraživanja na temu potražnje, potom istraživanja prognoze i multiplikacijskih učinaka turizma, dok se s druge strane premalo pažnje pridaje ostalim gospodarskim temama u turizmu. Usprkos neskladu i nepotpunosti mjerenja i praćenja turizma, Ivandić & Marušić (2017.) ističu da je uvođenjem TSA metode, koja se temelji na okosnici i metodologiji standardnih SNR tablica, turizam usvojio okvir međunarodno koordiniranih mjerenja direktnog makroekonomskog doprinosa turizma, koji je istovjetan pokazateljima potrošnje u turizmu i proizvodnje u turističkoj industriji. Međutim, usprkos prednostima TSA metode, Wu, Liu, Song, Liu & Fu (2019.) upozoravaju da je, zbog visoke cijene prikupljanja potrebnih podataka te kašnjenja u objavljivanju istih, u nekim zemljama nemoguće prikupljati podatke redovito te uvesti ovu metodologiju u praksu.

Bez obzira na to, definiranje statističkog praćenja turizma pomoću TSA metode u svim zemljama

## INTRODUCTION AND THEORETICAL BACKGROUND

### Introduction

In the work by Cvikl & Alič (2009), tourism is presented as a multidisciplinary phenomenon - a rapidly growing economic activity that in many countries around the world plays an important role in the economic and technological development of nations. This is reflected in the creation of jobs, the promotion of investment, the development of infrastructure and the creation of foreign exchange earnings (Tisdell, 2013). Odunga, Manyara & Yobesia (2019) note that despite the importance of the industry, tourism as an industrial activity is still not explicitly recognized in the Standard Industrial Classification of All Economic Activities (SIC). According to Antolini & Grassini (2019), this poses a problem in measuring tourism in that tourism activities not only encompasses the economic sector, but also engage in other sectors such as agriculture, industry and services. For this reason, according to Sinclair & Stabler (2002), the literature on the economic analysis of tourism is also unusually imbalanced. On the one hand, numerous studies have been carried out on some topics, in particular on demand, forecasting and multiplier studies of the impact of tourism; on the other hand, little attention has been intended to other economic studies in tourism. Despite the imbalance and incompleteness of tourism measurement, Ivandić & Marušić (2017) point out that by introducing TSA based on the framework and methodology of standard SNR tables, tourism has acquired a framework for internationally coordinated measurements of the direct macroeconomic contribution of tourism, which corresponds to tourism consumption indicators and production of the tourism industry. However, despite the advantages of the TSA method, Wu, Liu, Song, Liu & Fu (2019) warn that due to the high cost of collecting the necessary data and delays in issuing data, the methodology in some countries makes it impossible to collect the data regularly and subsequently apply it in practice.

bilo bi od presudne važnosti jer turizam sve više dobiva na važnosti u ekonomskom i društvenom razvoju zemalja širom svijeta. Korist od procjene takve metode nemaju samo vlada i turistička industrija već je ona bitna i za formuliranje turističke politike i strategije, te je, u konačnici, korisna znanstvenicima koji analiziraju gospodarske učinke turizma. Ali vrlo je bitno naglasiti, kako ističu Elgar (2006.) i OECD (2010.), interes koji vlada i turistička industrija imaju po pitanju ispitivanja gospodarskih čimbenika koji utječu na turističke tijekove te na prilagodljivost turističke potražnje u slučaju tržišnih promjena. Poznavanje tih čimbenika je bitno radi predviđanja turističke potražnje, planiranja infrastrukture i turističkih sadržaja te razvoja kvalitetne turističke politike (Elgar, 2006.). U današnje vrijeme, brojne interesne skupine imaju potrebu za praćenjem specijaliziranih podataka u turizmu. To su industrija, industrijske udruge, lokalna zajednica te akademski krug. Dupeyras (2009.) je sve aktere podijelio u dvije kategorije korisnika ovih računa. U prvoj kategoriji nalaze se političari koji dolaze iz javnog sektora, a u drugoj poslovni korisnici iz privatnog sektora. Prema tvrdnjama Canade (2009.), TSA je moguće koristiti u brojnim dokumentima ili strategijama politike jer predstavljaju vrijednu informaciju za turističku djelatnost. Slično kao i Canada (2009.), Dwyer, Forsyth, & Spurr (2004.) smatraju da je TSA moguće koristiti indirektno u scenarijima određivanja politike te za mjerenje učinka koji promjena ima na BDP (poput 10-postotnog rasta dolaznog turizma) i ostale makroekonomske agregate. Gore spomenuta mišljenja zaokružuje Bederoff (2005.), koji tvrdi da se podatke dobivene pomoću TSA metode također može koristiti za praćenje razvoja turizma u zemlji ili regiji. Ove interesne skupine trebaju specijalizirane podatke iz čitavog niza razloga, kao što su analiza tržišta, marketing, učinkovitost, ljudski potencijali, razvoj, analiza politike te brojnih drugih (Ujedinjeni narodi, 1994.). Unatoč ovim činjenicama i interesu za praćenjem statističkih podataka, turizam još uvijek nema odgovarajuće sveobuhvatne

But nevertheless, establishing a statistical monitoring of tourism using the TSA method in all countries would be important, since given the increasingly important role of tourism in the economic and social development of countries around the world, assessing its contribution is not only valuable to government and the tourism industry but to the formulation of tourism policies and strategies, and after all to academics who are analyzing the economic impacts of tourism. But it is important, as Elgar (2006) and OECD (2010) point out, to emphasize the interest of the government and the tourism industry in exploring the economic factors affecting tourism flows and the responsiveness of tourism demand in the event of a change in the market. Knowledge of the factors is useful for accurate forecasts of tourism demand, planning of infrastructure and facilities for tourists and for developing a quality tourism policy (Elgar, 2006). Today, the need to monitor specialized data in tourism is shown by many stakeholders, such as industry, industry associations, local communities and the academic sphere. Dupeyras (2009) placed all the actors in two categories of users of these accounts, in the first category he placed politicians coming from the public sector, in the second category he placed business users coming from the private sector. According to Canada (2009), TSA can be used in various policy documents or strategies because they provide valuable information for tourism activity. Similarly to Canada (2009), Dwyer, Forsyth, & Spurr (2004), argue that TSA may also be used indirectly in some policy scenarios and in relation to measuring the impact of change on GDP (such as a 10% increase in inbound tourism) and other macroeconomic aggregates. The above opinion is rounded off by Bederoff (2005), who states that TSA data can also be used to monitor tourism development in a country or region. These pressure groups have specialized data needs regarding a wide variety of issues, such as market analysis, marketing, efficiency, industrial investment, human resources, development, policy analysis, and many more (United Nations, 1994). Despite these facts and the interest in monitoring statistics, tourism does

statističke podatke temeljene na nacionalnim računima i nacionalnom statističkom sustavu. Oni bi omogućili praćenje prikupljanja reguliranih podataka kao homogene jedinice praćenja podataka (Ministarstvo gospodarstva, 2004.). Stoga smo u ovom istraživanju odlučili ispitati učinkovitost TSA metode tako što smo u analizu uključili Sloveniju i njezina četiri najveća turistička tržišta – Austriju, Italiju i Njemačku. Time ćemo pokazati da izračunat doprinos turizma u nacionalnim ekonomijama, izračunat TSA metodom, iznosi barem 2% više nego doprinos turizma u ovim četirima zamljama mjeren tradicionalnim statističkim metodama. To samo potvrđuje potrebu za primjenom ove metodologije jer, usprkos visokim troškovima i teškoćama koje prikupljanje podataka nosi, mislimo da ju je moguće implementirati u svim zemljama, uključujući Sloveniju. To je stoga što su brojni autori, kao npr. Wu, Liu, Song, Liu & Fu (2019.) te Frent & Frechtling (2015.) pokazali način i metodu bržeg i jeftinijeg prikupljanja potrebnih podataka za potrebe proizvodnje TSA metode.

### Pregled literature

Kako pišu Bryan, Jones, & Munday (2006.), polazna točka s koje ćemo razumjeti i uopće početi gledati turističku industriju kao gospodarsku granu su nacionalni računi, ali s te točke je teško shvatiti čitavu industriju zbog složenosti turističke potražnje te njezine povezanosti s ponudom turističkih proizvoda. Za razliku od sustava nacionalnih računa, koji se, kako kaže Fretchling (2010.), koristi za mjerenje direktnog doprinosa turizma nacionalnoj ekonomiji, TSA – koji je kao metoda strogo vezan za Sustav nacionalnih računa (2008.) – se definira kao službeni statistički instrument koji:

☞ predviđa obujam turizma, njegov direktan gospodarski doprinos BDP-u i stopi zaposlenosti u jednoj godini

☞ omogućuje usporedivost podataka ne samo između država već i između određenih gospodarskih djelatnosti (Frechtling, 2011.).

not have as yet adequate comprehensive statistics based on the principle of national accounts and the system of national statistics, since this would only enable the collection of regulated statistics to be monitored as a homogeneous statistical observation unit (Ministry of the Economy, 2004). Therefore, in this research we decided to test the effectiveness of the TSA method by including in our analysis Slovenia and its four largest tourism markets - Austria, Italy and Germany. In this we show that the calculated tourist value added by the method of TSA per national economy in these four analysed countries was at least 2% higher than the calculated tourist value added in these four countries measured by traditional statistical methods. This confirms the need to apply this methodology, since we believe that, despite the high financial costs and difficulties in data collection, it may be implemented in all countries, including Slovenia, since many authors such as Wu, Liu, Song, Liu & Fu (2019) and Frent & Frechtling (2015) presented ways and methods enabling faster and less costly collection of the necessary data for TSA production purposes.

### Review of literature

According to Bryan, Jones, & Munday (2006), a general starting point for understanding and accounting for the contribution of the tourism industry to the economy is a national account, in which it is difficult to capture the whole industry due to the complexity of tourism demand and its relation to the supply of tourism products. Unlike the system of national accounts, which, according to Fretchling (2010), is used to measure the direct impact of tourism on the national economy, TSA - which as a method are strictly related to the System of national accounts (2008) - are defined as the official statistical instrument that actually:

☞ estimates the size of tourism, its direct economic contribution to GDP and employment in a given year

☞ enables comparability of data not only between countries but also with other areas of economic activity (Frechtling, 2011)



U članku autora Dwyera, Forsytha & Spurra (2004.), vidimo da TSA sadrži niz koncepcija, definicija, klasifikacija i pravila koja državi omogućavaju primjereno razumijevanje i ocjenjivanje turizma kroz gospodarstvo. Prema tvrdnjama Bryana, Jamesa & Mundaya (2006.), TSA pomaže da razumijemo opseg i ulogu onih aktivnosti koje nisu nužno obuhvaćene običnim nacionalnim računovodstvenim okvirom. To objašnjava termin "satelit" jer on opisuje dodatke konvencionalnim nacionalnim računovodstvenim okvirima. Istovremeno, TSA je alat koji mjeri i procjenjuje vrijednost roba i usluga koje podupiru turizam u skladu s globalno prihvaćenim koncepcijama, klasifikacijama i definicijama. Ova metoda datira još iz kasnih 80-ih godina 20. st., kad su Organizacija za ekonomsku suradnju i razvoj (OECD) i Svjetska turistička organizacija (UNWTO) počele razvijati i promicati okvir TSA metode, zamišljen kao usklađeni niz računa gospodarstva u turizmu s koncepcijama, klasifikacijama i definicijama, koji se odnose na širinu i u skladu su s računima nacionalnog gospodarstva (Kenneally & Jake, 2012.). Prema podacima koje navode Wu, Liu, Song, Liu & Fu (2019.), Kanada je prva izdala nacionalni TSA 1994., a do 2001., prema pisanju Kenneallyja & Jake'sa (2012.), TSA je usvojen u 44 države. Taj broj se do 2007. povećao na 70. Premda su turističke prognoze promicale međunarodne organizacije poput Svjetske turističke organizacije (UNWTO) i Organizacije za ekonomsku suradnju i razvoj (OECD), putem TSA metode kasnih 80-ih, metoda mjerenja učinaka u turizmu je formalno usvojena 2001. (TSA: RMF, 2008.). Ali 2008., kad je izdan metodološki dokument pod nazivom Satelitski račun turizma: Preporučeni metodološki okvir, u kojem se nalaze glavne smjernice za postavljanje TSA, dobili smo najnoviju valjanu verziju prognoza i mjerenja koju su odobrile međunarodne organizacije (TSA: RMF, 2008.). Međutim, usprkos činjenici da su prošla već tri desetljeća, Svjetska trgovačka organizacija (UNWTO) tvrdi da postoje problemi koje treba riješiti kako bi se TSA metoda ozakonila ili čak nadogradila (Fretchling, 2011.).

In the work of Dwyer, Forsyth & Spurr (2004), we see that TSA contain a set of concepts, definitions, classifications and accounting rules that enable a country to properly understand and evaluate tourism throughout the economy. According to Bryan, James & Munday (2006), TSA provide an understanding of the size and role of activities not specifically identified in the ordinary national accounting framework. This may explain the term "satellite" which is used to describe additions to conventional national accounting systems, while presenting a TSA as a tool by which the value of goods and services produced to support tourism can be measured and evaluated in accordance with globally agreed concepts, classifications and definitions. The history of this method goes back to the late 1980s, when the Organization for Economic Co-operation and Development (OECD) and the World Tourism Organization (UNWTO) began to develop and promote the TSA framework, designed as a coherent set of tourism accounts with concepts, classifications and definitions, which are related to breadth and generally in line with national accounts (Kenneally & Jake, 2012). According to the data found in the work of Wu, Liu, Song, Liu & Fu (2019) Canada was the first country to issue a national TSA in 1994, and by 2001 according to Kenneally & Jake's (2012) TSA had established in 44 countries, and by 2007 the number had increased to 70. Although the measurement of tourism was promoted by the international organizations, UNWTO and OECD using the TSA method in the late 1980s, this method of measuring tourism was formally endorsed in 2001 (TSA: RMF, 2008). But, in 2008, when a methodological document entitled Tourism Satellite Account: Recommended Methodological Framework was issued, where the main guidelines for the production of TSAs were provided, we obtained the latest, valid, version of measurement approved by international organizations (TSA: RMF, 2008). However, despite more than three decades of work, the UNWTO recognizes that there remain issues which require to be addressed in order to legitimize or even expand TSA (Fretchling, 2011).

## TSA statistički mjerni sustav

Ujedinjeni narodi (2008.) smatraju da preporučene metodološke okvire iz 2008. treba promatrati iz dva kuta. S jedne strane, treba ih gledati kao statistički alat koji nadopunjuje koncepcije, definicije, agregate i klasifikacije koji su već prikazani u Međunarodnim preporukama za statistiku turizma i dijeli ih u analitičke tablice s elementima pomoću kojih možemo uspoređivati procjene među regijama, državama ili skupinama država. Ti su elementi također usporedivi s drugim međunarodno priznatim makroekonomskim agregatima. S druge pak strane, moramo ih promatrati kao okvir koji državama definira smjernice za daljnji razvoj njihovog statističkog sustava turizma, a čiji je glavni cilj nadopuna satelitskog računa turizma, što je sinteza sustava prikazana u deset tablica:

- ☞ Tablica 1 prikazuje dolaznu turističku potrošnju.
- ☞ Tablica 2 prikazuje domaću turističku potrošnju.
- ☞ Tablica 3 prikazuje odlaznu turističku potrošnju.
- ☞ Tablica 4 prikazuje unutarnju turističku potrošnju.
- ☞ Tablica 5 prikazuje račun proizvodnje turističke industrije i ostalih industrija.
- ☞ Tablica 6 prikazuje ukupnu domaću ponudu i domaću turističku potrošnju.
- ☞ Tablica 7 prikazuje stopu zaposlenosti u turističkoj industriji.
- ☞ Tablica 8 prikazuje bruto investicije u fiksni kapital.
- ☞ Tablica 9 prikazuje ukupnu turističku potrošnju.
- ☞ Tablica 10 prikazuje nenovčane pokazatelje (Ujedinjeni narodi, 2008.).

Ovaj sustav deset tablica prikazan gore, prema pisanju Giannopoulosa & Boutsinasa (2016.), prvenstveno se koristi jer pruža detaljne i analitičke informacije o svim aspektima turizma u odnosu na njegov direktan gospodarski utjecaj referentnih gospodarsatva. Ove tablice, kako ističe Eurostat (Eurostat Europske komisije,

## The TSA statistical measurement system

The United Nations (2008) argues that the recommended methodological framework of 2008 should be viewed from two angles. On the one hand, it should be considered as a statistical tool that complements those concepts, definitions, aggregates and classifications already presented in the International Recommendations for Tourism Statistics and divides them into analytical tables providing elements for comparing estimates between regions, countries or groups. countries. These elements are also comparable to other internationally recognized macroeconomic aggregates. On the other hand, we need to look at it as a framework that provides guidance to countries in further developing their tourism statistics system, the main objective of which is to complete the satellite account system, which could be understood as a synthesis of the specific system shown in the ten tables:

- ☞ Table 1 shows inbound tourism consumption.
- ☞ Table 2 shows domestic tourism consumption.
- ☞ Table 3 shows outbound tourism consumption.
- ☞ Table 4 shows internal tourism consumption.
- ☞ Table 5 shows production accounts of tourism industry and other industries.
- ☞ Table 6 shows total domestic supply and domestic tourist consumption.
- ☞ Table 7 shows employment in the tourism industry.
- ☞ Table 8 shows gross fixed capital formation.
- ☞ Table 9 shows tourism collective consumption.
- ☞ Table 10 shows non-monetary indicators (United Nations, 2008).

The system of ten tables presented above, according to Giannopoulos & Boutsinas (2016), is primarily used to provide detailed and analytical information on all aspects of tourism in relation to its direct economic impact on the economics of references. This set of tables, as highlighted by Eurostat (Eurostat European commission, 2009), contains

2009.), sadrže podatke koji pokazuju da se tablice oslanjaju na dosljednost koncepcija, definicija i klasifikacija te naglašavaju najvažnije. Istovremeno, opisuju sadržaj svake tablice te njihovu uzajamnu povezanost. Također spominju izvedene agregate koji ukazuju na veličinu turizma (Statistička komisija UN-a, 2008.).

Na temelju gore navedenih tablica, Dwyer, Forsyth & Spurr (2004.) naglašavaju da TSA omogućava korištenje okvira novčanog tijeka koji je moguće slijediti od turističkog potrošača do proizvodne jedinice ili dobavljača, budući da je TSA standardna metoda po kojoj turizam pridonosi glavnim ekonomskim agregatima, poput domaćeg bruto proizvoda, stope zaposlenosti, dodane vrijednosti i potrošnje. Gore opisana TSA metoda izračunava gospodarsku djelatnost koja se odnosi na turizam pomoću potražnje, ponude, poreza, plaća, trgovine i investicija. Ti su elementi kvantificirani da daju uravnoteženu sliku ponude i potražnje roba i usluga u turističkoj ekonomiji i mogu biti ispitani pojedinačno i kao dijelom agregata. TSA, kao mjera dodane vrijednosti, nas izvješćuje o ukupnoj potrošnji koju turizam čini u nacionalnoj proizvodnji (Dwyer, Forsyth & Spurr, 2004.).

Budući da je TSA složena metoda, istražuju je brojni autori. Leidner (2004.) definira TSA kao okvir statističkog računovodstva u turizmu, jer ona mjeri robu i usluge u skladu s međunarodnim standardima, konceptima, klasifikacijama i definicijama koje dozvoljavaju dosljedno uspoređivanje s ostalim industrijama u državi i među državama. Frangialli i Svjetska trgovačka organizacija (WTO) (2006.) preporučuju TSA kao osnovni instrument pri kreiranju politike EU-a kako bi se podigla vjerodostojnost turizma kao alata gospodarskog razvoja. Bederoff (2005.) tvrdi da su dobroti od TSA za turizam nebrojene i da države poput Švedske, te je posljednjih godina TSA prepoznata kao najvažniji alat za kreiranje politike. Kako bi dokazao da je TSA važna statistička metoda, Frechtling (2013.) dodaje da je ova metoda izniman alat za mjerenje direktnih učinaka turističke potrošnje na nacionalno

data showing how the tables rely on consistency between concepts, definitions and classifications and highlight those aspects that are the most important. At the same time, they also describe the contents of each table and their interconnections. They also introduce various aggregates that could be derived to indicate the size of tourism (Statistical Commission United Nations, 2008).

Based on the above set of tables, Dwyer, Forsyth & Spurr (2004) emphasizes that TSA provide a framework of cash flows that may be traced from a tourist consumer to a manufacturing unit or supplier in the economy, since TSA are a standard method by which tourism contributes to the main economic aggregates, including gross domestic product, employment, added value and consumption.. The TSA method presented above is designed to provide a measure of tourism-related economic activity through demand, supply, taxes, wages, trade and investment. The aforementioned components are identified and quantified to provide a balanced picture of the supply and demand for goods and services in the tourism economy and allow them to be examined individually and in aggregate. TSA, as a measure of added value, tell us instead of total expenditure what the contribution of tourism to national production has been (Dwyer, Forsyth & Spurr, 2004).

Due to the complexity of TSA, many authors have researched TSA. Leidner (2004) defined TSA as a framework for statistical accounting in the field of tourism, as they measure goods and services in accordance with international standards, concepts, classifications and definitions that allow consistent comparisons with other industries in each country and between countries. Frangialli & WTO (2006) recommend the use of TSA as a basic instrument in EU policymaking to enhance the credibility of tourism as a tool for economic development. Further observations are added by Bederoff (2005), who states that the benefits of using TSA for tourism are numerous and for countries such as Sweden, TSA have been recognized as the most important policy-making tool for many



gospodarstvo. S njim je suglasan i McArthur (2015.), koji smatra da TSA metoda olakšava kreatorima politike usporedbu turizma s drugim ekonomskim sektorima na temelju usporedivih koncepata poput stope zaposlenosti, BDP-a i plaća. Stoga je TSA usklađen sa sustavom nacionalnih računa koji imaju jasno definiran pristup mjerenju ekonomskog sektora. Baš zbog činjenice da autori imaju tako različita mišljenja, Hadjidakou, Chenoweth, Miller, Druckman & Li (2014.) ističu da, gledano iz perspektive države, podaci dobiveni iz deset tablica služe za prepoznavanje profitabilnijeg turizma i daju vrijedan uvid, što pomaže poboljšanju turističke politike. To potvrđuje i Hara (2008.), koji i dodaje da je kreiranje TSA omogućilo uvid u neprocjenjive podatke o tome gdje turisti troše novac i spoznaje koji sektori direktno profitiraju i ovise o njihovoj potrošnji. To TSA čini odgovarajućim alatom za definiranje obujma kao i opće važnosti turističkog sektora.

Premda su TSA najkorisniji alati za ocjenu doprinosa turizma ekonomiji, radovi Wua, Liua, Songa, Liua & Fua (2019.), Frenta (2018.) i Vukasovića (2017.) govore da su njihov sastav i praktična primjena u mnogim državama i regijama ograničeni iz razloga što nema adekvatnog znanja te zbog toga što je priprema TSA skupa i zahtijeva puno vremena. Zatim, odvajanje podataka o turizmu od tablica nacionalnog *imputa/outputa* može biti komplicirano te se TSA metode obično uvodi kasno, što ograničava njihovu praktičnu primjenu. Njihove navode potvrđuje izjava Antolinija & Grassinija (2019.) da samo sedam država članica EU-a redovito generira ekonomske pokazatelje TSA, usprkos svim ohrabrenjima Eurostata.

Ali unatoč svemu tome, Frechtling (2013.) vjeruje da bi se uvođenjem TSA pokazale brojne dobrobiti za kreatore politike, industrijske dužnosnike, radnike u turizmu i ostale, budući da satelitski računi imaju posebnu vrijednost jer su vjerodostojni, sveobuhvatni i usporedivi. Kako bi unaprijedili primjenu TSA u praksi, Wu, Liu, Song,

years. In order to prove the importance of the TSA statistical method, with its claim, Frechtling (2013) adds that this method is an exceptional tool for measuring the direct effects of tourism consumption on the national economy. His view is joined by McArthur (2015), who argues that using TSA enables policy makers to compare tourism with other economic sectors based on comparable concepts such as employment, GDP and wages. Therefore, TSA are aligned with a system of national accounts that have a well-defined approach for measuring the economic sector. Due to the numerous opinions of many authors, Hadjidakou, Chenoweth, Miller, Druckman & Li, (2014) point out that from a country perspective, data obtained using ten relevant tables can be used to identify more profitable tourism and provide valuable insight, which may then be applied to inform and improve tourism policy. This is also confirmed by Hara (2008), who adds that the creation of a TSA provides invaluable data on where tourists spend their money and the extent to which different sectors directly benefit and depend on their spending, making them a suitable tool for describing such size as well as the general importance of the tourism sector.

Although TSAs are the most useful tool for assessing the contribution of tourism to the economy, the works of Wu, Liu, Song, Liu & Fu (2019), Frent (2018), and Vukasovic (2017) indicate that their composition and practical use are limited in many countries or regions for reasons, which primarily result from the preparation of TSA, because in some countries or regions they do not have adequate knowledge, their preparation is very time consuming and expensive; secondly, separating tourist data from national accounts or input / output tables can be complicated and TSA are often released late, what limiting their use in practice. His allegations only further reinforce Antolini & Grassini's (2019) statement that currently only seven countries in the EU regularly produce key economic indicators and TSAs, despite all the encouragement from Eurostat.

Liu & Fu (2019.) uvode inovativan internetski informacijski sustav, koji integrira funkcije u čitavom proizvodnom lancu. To uključuje unos i pohranu podataka te upravljanje podacima, sastavljanje tablica i statističku analizu, prognozu scenarija te procjenu politike, na temelju tablica koje kreira sustav. Ukratko, sustav koji su stvorili Wu, Liu, Song, Liu & Fu (2019.) je u stanju učinkovito spremati podatke, upravljati njima te automatski i redovito kreirati TSA master tablice. To uvelike olakšava posao akademskim skupinama i industriji, a TSA se razvija i primjenjuje. Kako bi angažirali države da sudjeluju u kreiranju TSA, Frent & Fretchling (2015.) su predstavili program koji usklađuje određeni TSA sa standardima Ujedinjenih naroda. Proces procjene usklađenosti ima nekoliko koraka:

1. odabir države
2. prikupljanje podataka o metodologiji te predstavljanje tih podataka
3. potrebno je usporediti definicije, klasifikacije, metodologiju, izvore podataka, tablice i makroekonomske agregate sa standardima Ujedinjenih naroda te identificirati odstupanja
4. preporuka veće usklađenosti TSA u državi sa standardima Ujedinjenih naroda.

Rad autora pokazuje da stručnjaci naporno rade kako bi olakšali kreiranje TSA i olakšali usporedivost podataka dobivenih TSA-om za svaku državu, pojednostavnjujući kreiranje i spremnost za upotrebu.

Prema tome, zbog prednosti i korisnosti TSA metode te rješenja koja ona nudi u proizvodnji, htjeli smo pokazati složenost i korisnost ove metode, za koju smo izradili analizu učinkovitosti za nacionalne račune Slovenije, Austrije, Italije i Njemačke. Odlučili smo analizirati i usporediti ove tri države sa Slovenijom jer su one naši najveći izvozni partneri u području turizma. Budući da je slovensko tržište malo, bitno je izvoziti turizam jer će bez izvoznog turizma slovenski turizam propasti. Ovo potkrepljuju

But despite all this, Fretchling (2013) believes that with the introduction of the TSA, there are many additional benefits that policy makers, industry officials, tourism industry workers and others should be aware of, as satellite accounts have special value in that they are credible, comprehensive and comparable. To improve and maximize the use of TSA in practice Wu, Liu, Song, Liu & Fu (2019) introduce an innovative web-based information system that integrates functions across the entire assembly process chain. This encompasses data entry, data storage and management, as well as compiling tables and producing statistical analysis and other applications such as statistical analysis, scenario forecasting, and policy evaluation based on tables created by the system. In short, the system created by Wu, Liu, Song, Liu & Fu (2019) is capable of effectively storing, managing data entry, and automatically and regularly assembling TSA master tables, which provides guidance and emphasis to academic groups and industry for the development and use of TSAs. In order to increase the involvement of countries in the production of TSA, Frent & Fretchling (2015) present a program to determine the compliance of a particular TSA with United Nations standards. The conformity assessment process is based on several of the following steps:

1. select a country
2. obtain data on methodology and presentation of results
3. it is necessary to compare definitions, classifications, methodology, data sources, presentation tables and macroeconomic aggregates with United Nations standards and to identify deviations from these
4. to make recommendations for greater TSA compliance in the country with United Nations standards.

The authors' work shows that experts are working hard to facilitate the production of TSAs and to enable comparability of the data obtained by the TSA method in each country with each other,

statistički podaci koji dokazuju važnost izvoza u ovoj dinamičnoj i brzorazvijajućoj industriji. Prema statističkim podacima, slovenski turizam je 2016. ostvario više od 10 milijuna noćenja, što smješta Sloveniju iznad europskog prosjeka. U Sloveniji su inozemni turisti ostvarili 3 032 256 dolazaka i 7 342 118 noćenja. To čini 12%-tni rast u broju dolazaka i 11%-ni rast u broju noćenja, u odnosu na 2015. S druge strane, domaći turisti su ostvarili 1 285 248 dolazaka i 3 837 761 noćenja. To čini 5%-ni rast u broju dolazaka i 3%-ni rast u broju noćenja. Najveći broj noćenja evidentiran je od strane turista iz tri navedene zemlje, te ih to smješta na prva tri mjesta u ostvarenim noćenjima. U praksi, to znači da turisti iz Austrije, Italije, Njemačke, Hrvatske, Nizozemske, Ujedinjenog Kraljevstva, Mađarske, Srbije, Izraela i Češke čine 42.6% svih turističkih noćenja u Sloveniji, ili 64.9% svih noćenja svih stranih turista. Usprkos trenutno viokim brojkama, dobra vijest za slovenski turizam je da Slovenija nastavlja s rekordnim brojem dolazaka i noćenja iz navedenih zemalja za 7-9% (STB, 2017.). Na temelju dobivenih podatka za Sloveniju, Austriju, Italiju i Njemačku, moguće je izračunati glavne agregate TSA za 2007., 2008., 2009., 2014., 2015. i 2016.

## EMPIRIJSKI DIO

### Metode rada

Za potrebe empirijskog dijela, koristili smo kvantitativno istraživanje, u kojem smo objedinili temeljne materijale s podacima dobivenima standardnim mjernim procedurama (Moon, 1998.). Prema tvrdnjama Myersa (2009.), takvo istraživanje stavlja naglasak na brojke koje se pripisuju vrijednostima na kojima se grade teorijske konstrukcije. Proučavani fenomen je znanstveno podržan te je istraživanje idealno, budući da je cilj našeg istraživanja fokusiran na rezultate. Istovremeno, stavili smo naglasak na pouzdanost, koju Mužić (2004.) opisuje kao

thereby facilitating the readiness and regular production of TSAs.

Therefore, because of the advantages and usefulness of the TSA method, and because of the solutions offered in the field of producing, we wanted to show the complexity and usefulness of this method, for which we made an analysis of the efficiency of the accounts in Slovenia, Austria, Italy and Germany. We decided to analyse and compare these three countries with Slovenia because they are our biggest export partners in the field of tourism. Due to the small size of the Slovenian market, it is important that we export tourism, since without such export, Slovenian tourism is doomed to collapse; this is supported by the statistical data which demonstrates how important export is in this very dynamic and rapidly developing industry. According to statistical data, Slovenian tourism in 2016 exceeded 10 million overnight stays, which places Slovenia above the European average. In Slovenia, foreign tourists generated 3032256 arrivals and 7342118 overnight stays, which represents a 12% increase in the number of arrivals and an 11% increase in the number of overnight stays compared to 2015. On the other hand, domestic tourists generated 1285248 arrivals and 3837761 overnight stays, which represents a 5% increase in the number of arrivals and a 3% increase in the number of overnight stays. The largest number of overnight stays was recorded by the tourists coming from the three aforementioned countries, which regarding overnight stays occupy the first three places. In practice this means that tourists from Austria, Italy, Germany, Croatia, the Netherlands, the United Kingdom, Hungary, Serbia, Israel and the Czech Republic generate 42.6% of all touristic overnight stays in Slovenia, or 64.9% of all overnight stays of all foreign guests. Despite the current high numbers, the good news for the Slovenian tourism is also that the country continues with a record growth of arrivals and overnight stays of tourists from the countries listed above by 7-9% (STB, 2017). Based on the data obtained for Slovenia, Austria, Italy and Germany,

tipičnu značajku kvantitativnog istraživanja. S ciljem provođenja kvantitativnog istraživanja, proveli smo komparativnu analizu sekundarnih podataka dobivenih iz baza statističkih podataka Eurostata, OECD-a (Organizacije za ekonomsku suradnju i razvoj) te Svjetske banke. Svi su prikupljeni podaci najprije uneseni u elektronsku bazu podataka u Excelu te su potom izvezeni u SPSS program (Statistički paket za društvene znanosti).

Pripremajući teorijsku pozadinu, možemo zaključiti da autori naglašavaju prednosti i korist TSA metode za demonstraciju stvarnog učinka koji turizam ima na nacionalni BDP. Iz tog razloga tvrdimo da je dodana turistička vrijednost izračunata TSA metodom (direktni i indirektni učinci) na nacionalna gospodarstva Slovenije, Austrije, Italije i Njemačke (izražena u postocima BDP-a) viša za barem 2% u usporedbi s dodanom turističkom vrijednošću nacionalnoj ekonomiji (ostale metode mjere bez indirektnih utjecaja na turizam). Kako bismo potvrdili tvrdnju da su pokazatelji uspjeha turizma u Sloveniji, Austriji, Italiji i Njemačkoj u razdoblju od 2014.–2016., prema analizi TSA, u prosjeku bolji nego u razdoblju od 2008.–2010., koristili smo t-test za nezavisne uzorke, koji se koristi za uspoređivanje nezavisnih uzoraka kako bi se odredilo postoje li statistički značajne razlike između dviju varijabli (De Sa, 2007.), a prije toga smo provjerili pretpostavku ekvivalentnosti varijance pomoću Levenogov testa.

### Prikaz rezultata

Ova analiza je pokazala (na temelju tradicionalnih procjena turističke industrije za nacionalne ekonomije Slovenije, Austrije, Italije i Njemačke) da je izračunata dodana turistička vrijednost doista manja za barem 2% od izračunate turističke vrijednosti dobivene TSDA metodom, što potvrđuje svrsishodnost korištenja TSA metode kao sredstva koje demonstrira stvaran gospodarski doprinos turizma na nacionalnoj razini (Jones & Munday, 2010.). Kako bismo potvrdili gore

it is possible to achieve the calculation of the main aggregates of TSA for the years 2007, 2008, 2009, 2014, 2015 and 2016.

## EMPIRICAL PART

### Working Methods

For the purposes of empirical work, we have used quantitative research, in which we have basic material and collected data obtained through standardized measurement procedures (Moon, 1998); Since, according to Myers (2009), such research emphasizes the figures that attribute the values on which theoretical constructs are structured and that the functioning of the phenomenon studied is scientifically advocated, this research is ideal, since the aim of our research was result oriented. At the same time, we placed great emphasis on reliability, which Mužić (2004) describes as a typical feature of quantitative research. For the purpose of conducting the quantitative survey, we have carried out a comparative analysis of secondary data obtained from Eurostat, OECD and International World Bank statistical databases. All the collected data were first entered into an electronic database in Excel and then exported into the SPSS program (Statistical Package for the Social Sciences).

In preparing the theoretical background, we may conclude that the authors highlight the advantageousness and usefulness of the TSA method for demonstrating the real impact of tourism on a country's GDP. For this reason, we made the claim that the calculated tourist value added by the TSA method (direct and indirect effects) on the national economy in Slovenia, Austria, Italy and Germany (as a % of GDP) is higher by at least 2% as calculated tourist value added to the national economy (other methods measure without indirect effects of tourism). To verify the claim that tourism performance indicators in Slovenia, Austria, Italy and Germany were in 2014–2016, in the analysis of TSA, better on average than in 2008–2010, we used the independent sample t-test to check for catheters,

**TABLICA 1. UČINAK TURIZMA U ODABRANIM ZEMLJAMA ZA RAZDOBLJE OD 2007.-2010. I 2014.-2016.**  
**TABLE 1. THE EFFECT OF TOURISM IN THE SELECTED COUNTRIES FOR THE YEARS 2007-2010 AND 2014-2016**

	N	ARITMETIČKA SREDINA ARITHMETIC MEAN	STANDARDNA DEVIJACIJA STANDARD DEVIATION	RAZLIKA DIFFERENCE	t	p
Direktni učinak (u % BDP-a) Direct effect (in % GDP)	28	3,72	0,774	6,61	14,326	<0,001
Ukupni učinak (u % BDP-a) Total effect (in % GDP)	28	10,33	2,186			
Razlika / Difference	<b>t</b>			<b>p</b>		
6,61	14,326			<0,001		

**TABLICA 2. UČINAK TURIZMA U AUSTRIJI ZA RAZDOBLJE OD 2007.-2010. I 2014.-2016.**  
**TABLE 2. THE EFFECT OF TOURISM IN AUSTRIA FOR THE YEARS 2007-2010 AND 2014-2016**

	N	ARITMETIČKA SREDINA ARITHMETIC MEAN	STANDARDNA DEVIJACIJA STANDARD DEVIATION	RAZLIKA DIFFERENCE	t	p
Direktni učinak (u % BDP-a) Direct effect (in % GDP)	7	4,78	0,458	8,50	20,749	<0,001
Ukupni učinak (u % BDP-a) Total effect (in % GDP)	7	13,28	1,280			
Razlika / Difference	<b>t</b>			<b>p</b>		
8,50	20,749			<0,001		

**TABLICA 3. UČINAK TURIZMA U NJEMAČKOJ ZA RAZDOBLJE OD 2007.-2010. I 2014.-2016.**  
**TABLE 3. THE EFFECT OF TOURISM IN GERMANY FOR THE YEARS 2007-2010 AND 2014-2016**

	N	ARITMETIČKA SREDINA ARITHMETIC MEAN	STANDARDNA DEVIJACIJA STANDARD DEVIATION	RAZLIKA DIFFERENCE	t	p
Direktni učinak (u % BDP-a) Direct effect (in % GDP)	7	3,54	0,271	4,73	23,738	<0,001
Ukupni učinak (u % BDP-a) Total effect (in % GDP)	7	8,26	0,559			
Razlika / Difference	<b>t</b>			<b>p</b>		
4,73	23,738			<0,001		



**TABLICA 4. UČINAK TURIZMA U ITALIJI ZA RAZDOBLJE OD 2007.-2010. I 2014.-2016.**  
**TABLE 4. THE EFFECT OF TOURISM IN ITALY FOR THE YEARS 2007-2010 AND 2014-2016**

	N	ARITMETIČKA SREDINA ARITHMETIC MEAN	STANDARDNA DEVIJACIJA STANDARD DEVIATION	RAZLIKA DIFFERENCE	t	p
Direktni učinak (u % BDP-a) Direct effect (in % GDP)	7	3,63	0,415	5,53	18,792	<0,001
Ukupni učinak (u % BDP-a) Total effect (in % GDP)	7	9,16	0,877			
Razlika / Difference	<b>t</b>			<b>p</b>		
5,53	18,792			<0,001		

**TABLICA 5. UČINAK TURIZMA U SLOVENIJI ZA RAZDOBLJE OD 2007.-2010. I 2014.-2016.**  
**TABLE 5. THE EFFECT OF TOURISM IN SLOVENIA FOR THE YEARS 2007-2010 AND 2014-2016**

	N	ARITMETIČKA SREDINA ARITHMETIC MEAN	STANDARDNA DEVIJACIJA STANDARD DEVIATION	RAZLIKA DIFFERENCE	t	p
Direktni učinak (u % BDP-a) Direct effect (in % GDP)	7	2,93	0,388	7,69	14,991	<0,001
Ukupni učinak (u % BDP-a) Total effect (in % GDP)	7	10,62	1,390			
Razlika / Difference	<b>t</b>			<b>p</b>		
7,69	14,991			<0,001		

navedenu tvrdnju, provjerili smo pretpostavku jednosmjerne analize varijance Levenovim testom te smo potom proveli t-test za nezavisne uzorke.

Tablice 1-5 jasno pokazuju prednosti TSA metode, budući da ona cjelovito i eksplicitno odražava turizam kroz njegove komponente (Pham, 2019.). Stoga, možemo reći da svaka država koja je ozbiljna oko turizma treba čim prije ažurirati praćenje turističkih tijekova te ih pratiti koristeći metodu TSA. Samo se kvantificiranjem ukupne gospodarske vrijednosti turizma može pridonijeti strateškoj percepciji vrijednosti turizma, vezano za

which is used to compare independent samples to determine if there are statistically significant differences between the two variables (De Sa, 2007), prior to which we verified the assumption on the equivalence of variance with Leven test.

### Presentation of the results

This analysis has shown, in particular, that the calculated tourist value added, based on traditional estimates of the tourism industry per national economy in Slovenia, Austria, Italy and Germany, is indeed less by at least 2% than the calculated

njegov utjecaj na ponudu i *downstream* industrije nacionalnog gospodarstva (Kubičková, Michálková & Fodranová, 2017.).

Nastavno na dokazanu učinkovitost TSA metode, kako je prikazano u prethodnim tablicama – koju Frent & Frechtling (2015.) opisuju kao izvanrednu metodu koja mjeri direktan gospodarski utjecaj turizma na nacionalnu ekonomiju – naglašavamo da je to jedina metoda koja proizvodi makroekonomske agregate direktno usporedive s BDP-om, stopom zaposlenosti te drugim elementima nacionalnog sustava računa, što su sve preduvjeti za ispitivanje kakav je učinak nedavna gospodarska kriza imala na turizam. Time smo htjeli pokazati da se TSA metodom može doći do osnovnih informacija koje određuju odgovor koji turistička industrija ima na takve izazove (Papatheodorou, Rosselo & Xiao, 2010.). Ona naglašava vjerodostojnost, integritet (Frechtling, 2013.) i usporedivost podataka s turizmom, po državama i godinama (Buccellato, Webber & White, 2010.). Kako bismo pokazali utjecaj krize, analizirali smo pokazatelje izvrsnosti za sve četiri države (Austriju, Italiju, Njemačku i Sloveniju) od 2014.-2016., za koje tvrdimo da su u prosjeku bolji od onih između 2007. i 2010. Usprkos različitim mišljenjima autora, donja analiza pokazuje glavne turističke pokazatelje za sve četiri zemlje, i rezultira neznačajnim t-testom, koji nije potvrdio da je turizam u ove četiri zemlje bio uspješniji u razdoblju od 2007.-2010. nego što je to bio između 2014. i 2016 (Tablica 6). Dapače, ona rezultira vjerodostojnim pokazateljima koje će analizirati turističke državne institucije, industrija te svi dionici turizma dobivši usporediv i jasan uvid u turističku stvarnost (OECD, 2000.) kao i u utjecaj raznih drugih faktora. U našem slučaju, gospodarska kriza je odabrana s obzirom na opseg turizma u svakoj pojedinoj državi. Za eksperiment gore navedenih tvrdnji koristili smo t-test za nezavisne uzorke te smo ranije ispitali pretpostavku jednosmjerne analize varijance Levenovim testom.

tourist value added TSA value, thus confirming the expediency of using TSA as a means of demonstrating the real economic contribution of tourism at national level (Jones & Munday, 2010) To verify the above statement, we first checked the assumption of one-way analysis of variance with Leven test and then carried out the t-test for independent samples.

The above tables clearly show the advantages of the TSA method, since the TSA method fully and explicitly captures tourism through its components (Pham, 2019). Therefore, we can agree that every country which is serious about tourism should update the monitoring of tourist flows as soon as possible and monitor them according to the method of TSA. It is only by quantifying the total economic value of tourism that it is possible to contribute to a strategic perception of the value of tourism in connection with its impact on the supply and downstream industries of the national economy (Kubičková, Michálková & Fodranová, 2017).

Below, due to the demonstrated efficiency of the TSA method in the tables above – described by Frent & Frechtling (2015) as an exceptional method that measures the direct economic impacts of tourism on the national economy – we highlight it as the only method that produces macroeconomic aggregates directly comparable to the GDP of the country, national employment and other elements of the national system of national accounts, required to test the impact of the recent economic crisis on tourism. By examining the impact of the recent economic crisis on tourism, we wished to demonstrate that the basic information required to determine the responsiveness of the tourism industry to such challenges (Papatheodorou, Rosselo & Xiao, 2010) may be obtained by the TSA method. This therefore, highlights credibility, integrity (Frechtling, 2013) and the comparability of data with tourism, both across countries and between years (Buccellato, Webber & White, 2010). To show the impact of the crisis, we analysed the performance indicators for all four countries (Austria, Italy, Germany and Slovenia) 2014-2016,

**TABLICA 6. TURISTIČKI POKAZATELJI ZA ODABRANE ZEMLJE ZA RAZDOBLJE OD 2007.-2010. I 2014.-2016.**  
**TABLE 6. TOURISM INDICATORS FOR SELECTED COUNTRIES IN THE PERIOD 2007-2010 AND 2014-2016**

	PERIOD	N	ARITMETIČKA SREDINA ARITHMETIC MEAN	STANDARDNA DEVIJACIJA STANDARD DEVIATION	t	p
Domaći turizam po glavi stanovnika Domestic tourism per capita	2007-2010	16	3,07	0,770	-0,259	0,399
	2014-2016	12	3,15	0,865		
Dolazni turizam po glavi stanovnika Inbound tourism per capita	2007-2010	15	1,26	0,894	-0,780	0,222
	2014-2016	12	1,55	1,020		
Odlazni turizam po glavi stanovnika Outbound tourism per capita	2007-2010	14	1,41	0,702	-0,046	0,473
	2014-2016	12	1,42	0,622		
Primici po glavi stanovnika (EUR) Receipts per capita (EUR)	2007-2010	16	1008,9	574,14	-0,344	0,367
	2014-2016	12	1089,6	667,05		
Potrošnja po glavi stanovnika (EUR) Expenditure per capita (EUR)	2007-2010	16	732,6	271,12	-0,184	0,428
	2014-2016	12	753,8	341,28		
Broj zaposlenih na svakih 1000 stanovnika Employees per 1000 inhabitants	2007-2010	10	25,24	6,509	0,148	0,443
	2014-2016	6	24,78	4,909		

## Diskusija

Gornjom analizom smo s jedne strane potvrdili tvrdnje brojnih autora koji kažu da TSA metoda omogućava precizno mjerenje veličine turističkog sektora (Rossouw, Saayman & Saayman, 2010.), a s druge strane smo naglasili tendenciju prihvaćanja TSA metode kao jedinog odgovarajućeg načina mjerenja gospodarske važnosti turizma na nacionalnoj razini (Jones & Li, 2015.). Također je bitno da sve zemlje, bez iznimke, uzmu u obzir metodologiju Ujedinjenih naroda prilikom dizajniranja TSA metode jer, u slučaju polovičnog pridržavanja metodologije, glavna svrha TSA metode bit će oslabljena, a glavna svrha je usporedivost učinka mjera na turizam u svim zemljama (Frent & Fretchling, 2015.). Iz gornjih tablica,

which we claimed to be better on average than in 2007-2010. Despite the differing opinions of the authors, the analysis below shows the overall analysis of the main tourist indicators of all four countries, resulting in insignificant t-test that did not confirm that tourism in all four countries was higher in 2007-2010 than in 2014-2016 (Table 6). Thus, providing credible benchmarks for national tourist authorities, industry and all tourism stakeholders with comparable, and clear insights into the realities of tourism (OECD, 2000) as well as the impact of various other factors. In our case, the economic crisis was selected with regard to the extent of tourism in each country. For the experiment of the above claims we used the t-test for independent samples and checked the assumption of one-way analysis of variance with the Leven test beforehand.

koje prikazuju učinkovitost statističke metode za turizam, vidljivo je zašto je TSA metoda općenito prepoznata kao standardni alat kojim se mjeri doprinos turizma nacionalnoj ekonomiji (Wu, Liu, Song, Liu & Fu, 2019.). Zbog dokazane učinkovitosti možemo tvrditi da je implementacija ove metode nedovoljno iskorištena u praksi, unatoč činjenici da su brojni znanstvenici uveli TSA metodu u svojim zemljama, uključujući Njemačku (Ahlert, 2007. in Wu, Liu, Song, Liu & Fu, 2019.), Island (Frenz, 2018. in Wu, Liu, Song, Liu & Fu, 2019.), Nizozemsku (Heerschap et al., 2005. in Wu, Liu, Song, Liu & Fu, 2019.), Irsku (Kenneally & Jakee, 2012. in Wu, Liu, Song, Liu & Fu, 2019.), Indiju (Munjal, 2013. in Wu, Liu, Song, Liu & Fu, 2019.) i Tanzaniju (Sharma & Olsen, 2005. in Wu, Liu, Song, Liu & Fu, 2019.). Ukratko, TSA metodom je moguće realizirati i pojednostavniti dobivene podatke – a koji ne uključuju podatke ni o čemu drugom osim o turističkoj industriji – ocjenu sveukupnog gospodarskog učinka turizma te analizu turističke politike i turističkih prognoza, što predstavlja izazov svim tvorcima gospodarske politike na svim razinama vlasti (Rossouw & Saayman, 2011.).

Koristeći TSA metodu za demonstraciju pokazatelja turističkog uspjeha za odabrane godine, pokazali smo učinke posljednje ekonomske krize, za koju BMJ (2013.) kaže da je snažno utjecala na sve države svijeta. Te indicije podupiru pokazatelji Svjetske banke, koje možemo pronaći u radu koji potpisuju Eugenio-Martina & Campos-Soria (2014.) te koje pokazuju da je 2009. bruto domaći proizvod (BDP) po glavi stanovnika niži za 3.39%, dok je u zemljama Europske Unije niži za 4.74%, a u SAD-u za 4.37%. Međutim, kad je u pitanju turistička industrija, autori nisu tako jednoobrazni. Neki autori, poput Papatheodorou, Rossellóa & Xiaoa (2010.), smatraju da turizam podrazumijeva diskrecijski (neograničeni) prihod i tradicionalno predstavlja industriju koja je osjetljiva na ekonomsku

## Discussion

By carrying out the above analysis we confirmed on one hand the statements of many authors who claim that that TSA provide accurate measurements of the size of the tourism sector (Rossouw, Saayman & Saayman, 2010), and on the other further reinforced the tendency that the TSA method should become accepted as the only suitable way of measuring the economic significance of tourism at the national level (Jones & Li, 2015). It is also important that all countries, without exception, should take into account the United Nations methodology when designing the TSA, since only partial adherence to the methodology impedes one of the main purposes of the TSA, which is concerned with the comparability of impact measurements on tourism across countries (Frenz & Fretchling, 2015). From the above tables which show the effectiveness of the statistical method for tourism monitoring TSA, it may be seen why the TSA are generally recognized as standard tools for measuring the contribution of tourism to the national economy (Wu, Liu, Song, Liu & Fu, 2019). Due to their demonstrated effectiveness, it may be argued that the implementation of this method remains underused in practice, despite the fact that different scientists have introduced the development of TSA in various countries, including Germany (Ahlert, 2007 in Wu, Liu, Song, Liu & Fu, 2019), Iceland (Frenz, 2018 in Wu, Liu, Song, Liu & Fu, 2019), the Netherlands (Heerschap et al., 2005 in Wu, Liu, Song, Liu & Fu, 2019), Ireland (Kenneally & Jakee, 2012 in Wu, Liu, Song, Liu & Fu, 2019), India (Munjal, 2013 in Wu, Liu, Song, Liu & Fu, 2019) and Tanzania (Sharma & Olsen, 2005 in Wu, Liu, Song, Liu & Fu, 2019). In short, with the data acquired by the TSA method - which does not include information about anything other than the tourism industry - the assessment of the overall economic impact of tourism, the analysis of tourism policy and tourism forecasting, which are challenges that all economic policy-makers on all levels of government are facing, may be realized and facilitated (Rossouw & Saayman, 2011).

neizvjesnost i nestabilnost. To znači da se, u slučaju teških ekonomskih prilika, od potrošača očekuje da će odabrati ne trošiti kapital na osnovne životne potrebe, kao što su hrana, dom ili potrebe obitelji. S druge strane, autori poput Ogorelca (2001., str. 95) tvrde da, provjerivši statističke podatke, valja primijetiti da je turizam jedan od rijetkih gospodarskih sektora koji bilježi rast čak i u vremenima svjetske ekonomske recesije. Usprkos različitim mišljenjima autora, gore opisane analize ukazuju na učinke krize, koja se reflektira na pad turističkih tijekova. Ali možemo potvrditi rezultate istraživanja koje su proveli Eugenio-Martina & Campos Soria (2014.) i koji tvrde da je europski turizam za vrijeme krize bio u padu. Ovo dokazuje važnost ovakve analize turizma putem TSA metode, kako navode Kolli, Munjal & Sharma (2014.). Takve analize nisu važne samo radi praćenja turističke aktivnosti unutar gospodarstva nego i zato jer predstavljaju osnovu koja će tvorcima politike pomoći u formuliranju odgovarajućih turističkih politika. Ipak, sudeći prema gore navedenim podacima, možemo biti optimistični jer se turizam opravio iznimno brzo u godinama koje su uslijedile nakon krize. Usprkos optimističnim statističkim pokazateljima, i turizam mora biti oprezan u današnje vrijeme političke nestabilnosti, Brexita i terorističkih napada koji se odnose na čitavu Europu i svijet, budući da je europski turizam suočen s najvećim izazovima od 1945. U svezi s tim, Hamper (2016.) smatra da je Europa, uključujući i četiri analizirane zemlje, kontinent s inovativnim pristupom situaciji koji će zadržati primat svjetske turističke supersile.

Međutim, unatoč rezultatima istraživanja koji kažu da je dodana vrijednost turizma izračunata tradicionalno u Sloveniji, Austriji, Italiji i Njemačkoj doista manja za barem 2% od one izračunate TSA metodom, nije moguće proizvesti svih 10 TSA tablica za sve godine, sa svim potrebnim podacima, budući da svaka od ove četiri zemlje ima svoje vlastite statističke podatke koji ne mjere sve potrebne turističke pokazatelje.

Using the TSA method to show indicators of tourism success for the selected years we demonstrated the impact of the last economic crisis, for which BMJ (2013) claims to have had a major impact on countries all over the world. These indications can be supported by the World Bank indicators that can be found in Eugenio-Martina & Campos-Soria (2014), and which show that the global gross domestic product (GDP) per capita in 2009 decreased by 3.39%, while it decreased by 4.74% and 4.37% for the countries of the European Union and the United States of America. However, in considering the tourism industry, the authors are no longer as uniform, since some authors, such as Papatheodorou, Rosselló & Xiao (2010), state that tourism involves discretionary income and is traditionally regarded as an industry that sensitive to economic uncertainty and volatility. This indicates that in difficult economic times, consumers are expected to prefer to retain capital for basic living needs, such as food, shelter and family needs. On the other hand, other authors such as Ogorelc (2001, p. 95) argue that when examining statistics, it should be noted that tourism is one of the few economic sectors that records growth even in periods of global economic recession. Despite the differing opinions of the authors, the above analysis indicated the impact of the crisis, which was reflected in the decline in tourist flows; thus we are able to confirm the results of the Eugenio-Martina & Campos Soria (2014) research, claiming that tourism in Europe was in decline during the crisis period. This has proved the importance of such an analysis of tourism through the TSA method, as cited by Kolli, Munjal & Sharma (2014). Such analyses are not only important for monitoring tourism activity in the economy but also for presenting the basis for policy makers to formulate appropriate tourism policies. Nevertheless, according to the above data, we can be optimistic, since tourism in the years after the crisis recovered exceptionally quickly. Despite optimistic statistical indicators, tourism must be very prudent, since nowadays there are issues such as political instability, Brexit and terrorist attacks



Na kraju, ali ne manje važno, vjerujemo da bi sve četiri analizirane zemlje trebale usvojiti isti pristup mjerenju turizma temeljen na TSA metodi prikupljanja podataka, koji omogućava i holistički pristup mjerenju produktivnosti turističke industrije (Pham, 2019.).

Kako navode Rossouwa & Saaymanova (2011.), u prošlosti je gospodarski učinak mjeren *input-output* modelima, koji uspješno pokrivaju neke gospodarske aspekte turizma, ali ne sve. To nas navodi na zaključak da su oni ne samo nepouzdana, nego i vrlo pristrani. Gornja analiza, koja se temelji na podacima prikupljenima TSA metodom, pruža mogućnost za dosljedno definiranje i primjenu podataka koji analiziraju sektore povezane s turizmom. Stoga bi, po našem mišljenju, u budućnosti bilo korisno ažurirati gore opisano istraživanje i proširiti ga na ostale europske države i države svijeta te tako podići valjanost istraživanja. Međutim, ažuriranje istraživanja zahtijeva veći angažman servisa odgovornih za statističko praćenje turizma u pojedinim državama te bi se tako izbjeglo uvrštavanje nepotpunih podataka kakve smo imali prilike vidjeti u samoj analizi.

## ZAKLJUČAK

Dobivene rezultate istraživanja moguće je primijeniti za vođenje ekonomske politike u proučavanim državama, budući da oni ukazuju na to da je TSA metoda važan alat za mjerenje direktnih učinaka turističke potrošnje na nacionalna gospodarstva. Zbog njezinog značaja i složenosti, ona ima velik utjecaj na ekonomsku politiku ovih četiriju država, što znači da samo dobro upravljanje gospodarskim vidom turizma može biti alat za vođenje šire ekonomske politike.

Najvažniji znanstveni doprinosi ovog članka su:

☞ utjecaj TSA metode na ekonomsku veličinu turizma u pojedinoj državi, što je moguće zaključiti iz empirijskog dijela, koji kaže da je dodana vrijednost turizma izmjerena TSA

that include the whole of Europe and make global as well as European tourism face the biggest challenge since 1945. Hamper (2016) consequently feels that Europe, including the four analysed countries, as being a continent with an innovative approach to tackle the situation in order to preserve the primacy of the world tourist superpower.

However, despite the finding in the survey that the calculated value added by tourism based on traditional estimates of the tourism industry per national economy in Slovenia, Austria, Italy and Germany is indeed less by at least 2% than calculated tourism value added according to the TSA method, it is impossible to produce, for all analysed years, all 10 TSA tables with all the required data, since each of the four analysed countries have their own statistics that do not measure all necessary tourism indicators. Last but not least, we believe that all four analysed countries should adopt the same tourism measurement approach based on TSA data collection, thereby providing a holistic approach to measuring tourism industry productivity (Pham, 2019).

Despite the fact that, according to Rossouwa & Saaymanova (2011), in the past the economic impact of tourism was measured using input-output models, which successfully cover some of the economic effects of tourism, but not the whole economic impact. This leads to estimates that are not only unreliable, but also strongly biased; the above analysis, based on data obtained using TSA, has shown an opportunity for consistent definitions and use of data that breaks down the sectors related to tourism. Therefore, in our opinion, in the future, it would be worth upgrading the above survey through extension to other European and world countries, thus improving the validity of the research. However, such an upgrade of the research would require a greater engagement of those services that are responsible for statistical monitoring of tourism in individual countries, to avoid including incomplete data, such as we encountered in the analysis itself.

metodom u Sloveniji, Austriji, Italiji i Njemačkoj barem za 2% viša od dodane turističke vrijednosti izmjerene tradicionalnim metodama statističkog mjerenja turizma;

☞ utjecaj prošle ekonomske krize na turizam, kako to demonstrira usporedba pokazatelja turističkog uspjeha u četiri države, mjereno TSA metodom, pokazuje da od 2014. do 2016. pokazatelji nisu bili bolji nego što su to bili od 2007. do 2010., a to dokazuje utjecaj koji je kriza imala te sposobnost osnaživanja turizma nakon zadnje svjetske ekonomske krize.

U bliskoj budućnosti će uvođenje TSA metode biti prioritet u onim državama koje se žele ozbiljno baviti najvažnijom svjetskom industrijom - turizmom – budući da TSA omogućava pristup detaljnim podacima o priljevu turista u zemlju, što je vrlo korisno za inovativnost i kreiranje turističke politike. Zemlje koje već imaju dobro razvijeno statističko praćenje turizma unutar nacionalnih računa, po ovom pitanju imaju prednost jer one samo trebaju usvojiti metodologiju i koordinirati ju s međunarodnim metodološkim standardima praćenja TSA metodom.

## CONCLUSION

The obtained research results may be used to guide economic policy in the countries studied, since the findings have indicated that TSA represent an important tool for measuring the direct effects of tourism consumption on national economies. Due to their magnitude and complexity, they have a significant impact on the economic policy of these four countries, which means that only appropriate management of the economic scope of tourism may be used as a tool to guide the wider economic policy.

The most important and, at the same time, the main scientific contributions of the article are:

☞ the impact of TSA on the economic size of tourism in an individual country, which can be deduced from the empirical part in which it turned out that tourism added value measured by TSA in Slovenia, Austria, Italy and Germany is by at least 2% higher than the calculated tourism added value measured by traditional and established methods of statistical measurement of tourism;

☞ the impact of the last economic crisis on tourism, as demonstrated by the comparison of the tourism success indicators in the four countries measured according by the TSA method, where it turned out that between 2014-2016, the indicators were not better than in the period 2007-2010, which showed the impact of the crisis and the ability to restore and strengthen the scope of tourism after the last global economic crisis.

In the near future, the introduction of TSA monitoring will be a priority of those countries that seek to seriously address this most important global industry - tourism - as TSA provides detailed data on tourist flows in the country, that is useful in terms of innovation and tourism policy design. The countries that already have a well-developed statistical monitoring of tourism within the framework of national accounts have the advantage at this point, since they only have to do adapt the methodology and coordinate it with the international methodological standards for monitoring TSA.

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