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ANALYSIS OF THE WORLD TOURISM MARKET IN THE PRE AND POST COVID PERIODS COVID-19

ANALIZA ŚWIATOWEGO RYNKU TURYSTYCZNEGO W OKRESIE PRZED I PO COVID-19

Keywords: regression analysis, world tourism market, pre-quarantine period, post-quarantine period
Słowa Kluczowe: analiza regresji, światowy rynek turystyczny, okres przed kwarantanną, okres po kwarantannie

Abstract

This study conducts a comprehensive regression analysis of the world tourism market, focusing on the pre-quarantine and post-quarantine periods. Utilizing a robust dataset spanning several years, we assess the impact of the COVID-19 pandemic on global tourism trends, examining key indicators such as tourist arrivals, revenue, and market dynamics. By employing multiple regression models, we identify significant factors influencing tourism patterns before and after quarantine measures were implemented. Our findings reveal marked shifts in tourist behavior, destination preferences, and industry resilience, highlighting the pandemic's profound effects on the tourism sector. The results provide critical insights for policymakers and industry stakeholders, emphasizing the need for adaptive strategies to navigate post-pandemic recovery and future market disruptions. This study contributes to the growing body of literature on tourism economics and offers valuable perspectives for enhancing the sustainability and robustness of the global tourism market.

Streszczenie

W artykule została przeprowadzona kompleksowa analiza regresji światowego rynku turystycznego, koncentrująca się na okresach przed i po kwarantannie. W artykule wykorzystano zbiór danych obejmujący kilka lat i został oceniony wpływ pandemii COVID-19 na globalne trendy w turystyce. W artykule przebadano kluczowe wskaźniki, takie jak przyjazdy turystów, przychody i dynamikę rynku. Stosując modele regresji wielokrotnej, zidentyfikowane istotne czynniki wpływające na wzorce turystyczne przed i po wdrożeniu środków kwarantanny. Wskazano wyraźne zmiany w zachowaniach turystów, preferencjach dotyczących miejsc docelowych i o działalności branży, podkreślając głęboki wpływ pandemii na sektor turystyczny. Zaprezentowane wyniki wskazują krytyczne spostrzeżenie dla decydentów i interesariuszy z branży, podkreślając potrzebę strategii adaptacyjnych w celu odbudowy po pandemii i przyszłych zakłóceń na rynku. Badanie to stanowi wkład w rosnącą literaturę na temat ekonomiki turystyki i oferuje cenne perspektywy dla zwiększenia stabilności i solidności globalnego rynku turystycznego.

INTRODUCTION

The COVID-19 pandemic has significantly changed the travel industry. Quarantine restrictions, border closures and other security measures have affected travel and tourism around the world. The stoppage of tourist activity had a serious impact on the economy of many countries. Many companies and enterprises in the field of tourism suffered significant losses or even ceased their activities. Understanding how tourism can recover after quarantine is important for planning future management and development of the tourism industry. Thus, the analysis of tourism in the pre-quarantine and post-quarantine periods is necessary to understand the impact of the pandemic on the industry and to develop strategies for the further development of the tourism industry.

LITERATURE REVIEW

The application of regression analysis in the tourism market has been extensively studied, reflecting the diverse methodologies and models used to forecast tourism demand and analyze market dynamics. This literature review synthesizes key contributions in this field, highlighting advancements and findings from notable studies.

Song and Li [2008] provide a comprehensive review of tourism demand modeling and forecasting, emphasizing the evolution of regression techniques and their application in predicting tourism trends. They discuss various models, including linear and non-linear regression, and highlight the importance of incorporating economic indicators and external shocks into forecasting models. Their work underscores the growing sophistication of regression methods in capturing the complexities of tourism demand [Song, Li, 2008].

Lim [1997] offers an earlier review of international tourism demand models, focusing on the application of econometric and regression-based approaches. Lim's study categorizes different models and assesses their predictive capabilities, providing a foundational understanding of how regression analysis has been employed to estimate tourism demand across different regions and time periods [Lim, 1997].

Goh and Law [2002] take a more focused approach by modeling and forecasting tourism demand for arrivals with stochastic nonstationary seasonality and intervention. Utilizing advanced regression models, they account for irregular seasonal patterns and external interventions, such as economic crises or natural disasters. Their findings demonstrate the enhanced accuracy of these models in forecasting tourism arrivals, highlighting the need for more nuanced approaches in regression analysis [Goh, Law, 2002].

Peng, Song, and Crouch [2014] conduct a meta-analysis of international tourism demand forecasting, aggregating findings from numerous studies to evaluate the effectiveness of various regression methods. Their research reveals the relative strengths and weaknesses of different regression models, providing valuable insights for practitioners seeking to improve forecasting accuracy. The study emphasizes the importance of selecting appropriate models based on specific market conditions and data characteristics [Peng, Song, Crouch, 2014].

Croes and Vanegas Sr [2005] apply econometric regression analysis to examine factors influencing tourist arrivals in Aruba. Their study identifies key determinants, such as income levels, relative prices, and marketing expenditures, and assesses their impact on tourism demand. The authors provide policy recommendations based on their regression findings, illustrating the practical implications of their analysis for destination management and planning [Croes, Vanegas Sr, 2005].

Song, Witt, and Li [2003] focus on modeling and forecasting the demand for Thai tourism using econometric models, including regression analysis. Their research highlights the significance of incorporating economic variables, such as exchange rates and income levels, into regression models to improve forecasting accuracy. The study's results underscore the effectiveness of regression analysis in capturing the economic drivers of tourism demand [Song, Witt, Li, 2003].

Coshall [2009] integrates volatility models with traditional regression techniques to forecast UK tourism demand. By combining these approaches, the study addresses the limitations of standard regression models in capturing demand volatility and improves the robustness of forecasts. Coshall's work demonstrates the potential of hybrid models in enhancing the precision of tourism demand predictions [Coshall, 2009].

Goh, Law, and Mok [2008] explore a rough sets approach combined with regression analysis to forecast tourism demand. Their innovative methodology provides an alternative to conventional regression techniques, offering improved accuracy and interpretability. The study's findings suggest that integrating rough sets with regression analysis can yield more reliable forecasts, particularly in complex and uncertain market environments [Goh, Law, Mok, 2008].

Overall, these studies illustrate the diverse applications and advancements in regression analysis within the tourism market. The literature highlights the critical role of regression models in understanding and forecasting tourism demand, emphasizing the need for continuous refinement and adaptation of these methods to address evolving market conditions and challenges.

METHOD

Regression analysis is a statistical technique used to model and analyze the relationships between a dependent variable and one or more independent variables. In tourism market studies, regression analysis is widely employed to understand and forecast tourism demand, identify key determinants, and evaluate the impact of various factors on the tourism sector. This method is particularly valuable due to its flexibility and ability to handle complex, multivariate relationships.

For analysis, we selected ten countries of the world, which are characterized by a relatively stable level of economic development and are geographically located in different parts of the world: China, Germany, Italy, Mexico, Spain, Thailand, Turkey, United Kingdom of Great Britain and Northern Ireland, United States of America, France.

Number of tourists, mln people (y) was chosen as the effective indicator in the regression analysis, three macroeconomic indicators were chosen as factor indicators, which in our opinion could hypothetically be interrelated with the effective one: GDP, mln US dollars (x_1), population, bln people (x_2), inflation rate, % (x_3). (table 1–6).

Table 1. Statistical data for regression analysis of the world tourist market, 2017

Country	Number of tourists, mln people y	GDP, mln US dollars x_1	Population, bln people x_2	Inflation rate, % x_3
China	153,26	12,31	1,369	1,52
Germany	37,452	3,691	0,082	1,5
Italy	89,931	1,962	0,06	1,23
Mexico	99,349	1,191	0,122	6,77
Spain	121,717	1,313	0,046	1,96
Thailand	35,592	0,456	0,07	0,67
Turkey	37,97	0,859	0,08	11,14
United Kingdom of Great Britain and Northern Ireland	41,08	2,68	0,06	2,56
United States of America	174,291	19,48	0,325	2,13
France	86,9	2,595	0,066	1,03

Source: made by the author on the basis on [1;2]

So, we can see that the leaders according to the number of tourists in 2017 were China and the United States of America, and the smallest number of tourists was observed in Turkey, Germany and Thailand. Accordingly, in terms of GDP, China and the United States of America also lead, while Thailand and Turkey have the lowest GDP indicators among the analyzed countries. The same countries also lead in terms of population. However, the highest level of inflation in 2017 among the analyzed countries was observed in Turkey and Mexico.

Table 2. Statistical data for regression analysis of the world tourist market, 2018

Country	Number of tourists, mln people y	GDP, mln US dollars x_1	Population, bln people x_2	Inflation rate, % x_3
China	158,61	13,89	1,403	0,82
Germany	38,88	3,974	0,082	1,73
Italy	93,23	2,092	0,06	1,14
Mexico	96,49	1,256	0,124	4,9
Spain	124,46	1,422	0,046	1,68
Thailand	38,18	0,506	0,071	1,06
Turkey	46,11	0,779	0,081	16,33
United Kingdom of Great Britain and Northern Ireland	40,28	2,871	0,066	2,48
United States of America	169,32	20,53	0,326	2,44
France	211,99	2,791	0,067	1,85

Source: made by the author on the basis on [1;2]

China, the United States of America and France were the leaders in terms of the number of tourists in 2018 among the analyzed countries. The smallest number of tourists was observed in Thailand and Germany. In terms of GDP in 2018, China and the United States of America led the way, while the lowest GDP was observed in Thailand and Turkey. In terms of population, China and the United States of America are consistently leading. The smallest population was observed in Italy and Thailand. The highest inflation rate in 2018 was in Turkey, the United Kingdom of Great Britain and Northern Ireland and the United States of America.

Table 3. Statistical data for regression analysis of the world tourist market, 2019

Country	Number of tourists, mln people y	GDP, mln US dollars x_1	Population, bln people x_2	Inflation rate, % x_3
China	162,53	14,28	1,408	2,9
Germany	39,56	3,889	0,083	1,45
Italy	95,39	2,011	0,059	0,75
Mexico	97,4	1,305	0,125	3,64
Spain	126,17	1,394	0,047	0,7
Thailand	39,91	0,544	0,071	0,71
Turkey	51,74	0,761	0,082	15,18
United Kingdom of Great Britain and Northern Ireland	40,86	2,851	0,066	1,79
United States of America	166	21,38	0,328	1,81
France	89	2,729	0,067	1,11

Source: made by the author on the basis on [1;2]

China, the United States of America and Spain were the leaders in terms of the number of tourists in 2019, the smallest number of tourists was observed in Germany and Thailand. In terms of GDP and

population in 2019, China and the United States of America are consistently leading. The highest level of inflation was observed in Turkey, and the lowest – in Spain and Thailand.

Table 4. Statistical data for regression analysis of the world tourist market, 2021

Country	Number of tourists, mln people y	GDP, mln US dollars x_1	Population, bln people x_2	Inflation rate, % x_3
China	415	17,82	1,412	0,98
Germany	96,8	4,279	0,83	3,07
Italy	48	2,155	0,59	1,87
Mexico	31,9	1,313	0,126	5,69
Spain	80,75	1,446	0,047	3,09
Thailand	0,43	0,505	0,071	1,23
Turkey	29,9	0,819	0,084	19,6
United Kingdom of Great Britain and Northern Ireland	6,38	3,142	0,067	2,52
United States of America	22,1	23,32	0,332	3,3
France	48,4	2,959	0,067	1,64

Source: made by the author on the basis on [1;2]

In 2021, the largest number of tourists was observed in China, Germany and Spain, and the smallest – in Thailand. China and the United States of America were the leaders in terms of GDP in 2021. According to the population indicator, the situation is unchanged – the leaders in 2021 were also China and the United States of America. The highest level of inflation was observed in Turkey, and the lowest in China.

Table 5. Statistical data for regression analysis of the world tourist market, 2022

Country	Number of tourists, mln people y	GDP, mln US dollars x_1	Population, bln people x_2	Inflation rate, % x_3
China	3,7	17,96	1,412	1,98
Germany	244,43	4,082	0,083	7,9
Italy	50	2,05	0,058	8,2
Mexico	38,3	1,466	0,127	7,9
Spain	247,3	1,418	0,047	8,3
Thailand	11	0,495	0,071	6,2
Turkey	51,39	0,907	0,084	72,31
United Kingdom of Great Britain and Northern Ireland	31	3,089	0,066	11,1
United States of America	50,87	25,44	0,333	8,3
France	79,4	2,779	0,067	5,9

Source: made by the author on the basis on [1;2]

In 2022, the leaders in the number of tourists were Germany and Spain, and the smallest number of tourists was observed in China. The United States of America and China became the leaders in terms

of GDP and population in 2022. The highest level of inflation was observed in Turkey, and the lowest – in China.

Table 6. Statistical data for regression analysis of the world tourist market, 2023

Country	Number of tourists, mln people y	GDP, mln US dollars x ¹	Population, bln people x ²	Inflation rate, % x ³
China	65,7	17,7	1,409	0,2
Germany	39,6	4,509	0,083	5,9
Italy	64,5	2,635	0,058	5,9
Mexico	45	2,666	0,128	4,42
Spain	83,7	1,97	0,048	3,5
Thailand	39,8	0,512	0,071	1,5
Turkey	51,2	1,114	0,085	64,9
United Kingdom of Great Britain and Northern Ireland	39,4	2,274	0,067	5,2
United States of America	79,3	27,36	0,334	3,4
France	89,4	3,56	0,064	5,63

Source: made by the author on the basis on [1;2]

In 2023, the largest number of tourists was in France, Spain, United States of America, Italy and China, the smallest number was observed in Germany, Thailand and the United Kingdom of Great Britain and Northern Ireland. The highest GDP indicator in 2023 was observed in China and the United States of America, and the lowest – in Thailand. China and the United States of America always had the largest population, and Spain, Italy, France and Thailand had the smallest. The highest level of inflation in 2023 was observed in Turkey, and the lowest – in China.

So, in conclusion, we can see that in both periods pre-quarantine (2017–2019) and post-quarantine (2021–2023), the leaders in terms of GDP and population were two countries – China and the United States of America. However, the number of tourists in different countries varied. So, in the pre-quarantine period, the leading countries in terms of the number of tourists were China, Spain, and the United States of America, and in the post-quarantine period – China, Germany, Spain. The inflation rate also fluctuated. So, in the pre-quarantine period, the highest rate of inflation was observed in Mexico and Turkey, and the lowest – in Thailand, China, and Italy. In the post-quarantine period, the highest rate of inflation was observed in Turkey.

RESULTS

We built regression models of the dependence of the indicator of the number of tourists on the macroeconomic indicators of the activity of various countries of the world. Six models were built covering all six years of the study (pre-quarantine period 2017–2019) and post-quarantine period (2021–2023).

The regression model of the dependence of the number of tourists in different countries of the world on the macroeconomic indicators of these countries in 2017:

$$y=0,656x_1+0,135x_2-0,223x_3+0,326 \quad (1)$$

y – number of tourists, mln people

x₁ – GDP, mln US dollars

x₂ – population, bln people

x₃ – inflation rate, %

In 2017, the indicator of the number of tourists in various countries of the world was most influenced by the indicator of GDP. As the GDP of the countries increased, the number of tourists in these countries also increased in 2017. The indicator of the number of tourists in different countries of the world had the least influence on the indicator of population. As the population increased, the number of tourists increased slightly. When the inflation rate increased, the number of tourists decreased, this rate had a moderate effect.

The regression model of the dependence of the number of tourists in different countries of the world on the macroeconomic indicators of these countries in 2018:

$$y=0,466x_1+0,091x_2-0,229x_3+0,287 \quad (2)$$

y – number of tourists, mln people

x_1 – GDP, mln US dollars

x_2 – population, bln people

x_3 – inflation rate, %

In 2018, the indicator of the number of tourists in various countries of the world was also most influenced by the indicator of GDP. As this indicator increased, the number of tourists also increased. The indicator of the number of tourists had the least effect on the indicator of the population, but when it increased, the number of tourists also increased slightly. When the inflation rate increased in the countries of the world, the number of tourists decreased, this indicator also had a moderate effect in 2018.

The regression model of the dependence of the number of tourists in different countries of the world on the macroeconomic indicators of these countries in 2019:

$$y=0,652x_1+0,331x_2-0,154x_3+0,242 \quad (3)$$

y – number of tourists, mln people

x_1 – GDP, mln US dollars

x_2 – population, bln people

x_3 – inflation rate, %

In 2019, GDP also had the greatest influence on the number of tourists in different countries of the world. As this indicator grew, the number of tourists in the country grew. However, the inflation indicator had the least impact. As the inflation rate increased, the number of tourists decreased slightly. The indicator of the number of the population had a moderate influence, so as the population grew, the number of tourists also grew.

It is worth noting that, in our opinion, the connection between the GDP indicator and the number of tourists is obvious, and it is even more logical to consider not the impact of GDP on the number of tourists, but their mutual influence, taking into account the fact that the number of tourists to a certain extent formed the volume of the country's GDP.

The regression model of the dependence of the number of tourists in different countries of the world on the macroeconomic indicators of these countries in 2021:

$$y=0,029x_1+0,756x_2+0,031x_3-0,00023 \quad (4)$$

y – number of tourists, mln people

x_1 – GDP, mln US dollars

x_2 – population, bln people

x_3 – inflation rate, %

In 2021, the indicator of the number of tourists was most influenced by the population indicator, and the least by the GDP indicator. Thus, with an increase in the population, the number of tourists increased, and with an increase in the GDP, the number of tourists increased slightly. The inflation rate had a moderate effect – when inflation increased, the number of tourists also increased.

The regression model of the dependence of the number of tourists in different countries of the world on the macroeconomic indicators of these countries in 2022:

$$y = -0,052x_1 - 0,409x_2 - 0,213x_3 + 0,419 \quad (5)$$

y – number of tourists, mln people

x_1 – GDP, mln US dollars

x_2 – population, bln people

x_3 – inflation rate, %

In 2022, the indicator of the number of tourists was also most influenced by the indicator of the population. However, as the population increased, the number of tourists decreased. The GDP indicator had the least effect on the number of tourists, but as it increased, the number of tourists decreased. The inflation rate had a moderate effect, when it increased, the number of tourists decreased.

The regression model of the dependence of the number of tourists in different countries of the world on the macroeconomic indicators of these countries in 2023:

$$y = 0,547x_1 - 0,182x_2 - 0,089x_3 + 0,325 \quad (6)$$

y – number of tourists, mln people

x_1 – GDP, mln US dollars

x_2 – population, bln people

x_3 – inflation rate, %

In 2023, the indicator of the number of tourists was most influenced by the indicator of GDP, with its growth, the number of tourists also increased significantly. The indicator of the number of tourists had the least influence on the indicator of inflation, when it increased, the number of tourists decreased. The population rate had a moderate effect, but as it grew, the number of tourists decreased.

So, we can see that after the introduction of quarantine restrictions, there were significant changes in the relationship between the indicators, however, in 2023, the relationship between the indicators returned almost to the level of the pre-quarantine period.

Table 7. The impact of macroeconomic indicators on the number of tourists in different countries of the world in the pre-quarantine and post-quarantine periods, 2017–2019, 2021–2023

Regression models 2017-2019, 2021-2023	GDP, mln US dollars x_1	Population, bln people x_2	Inflation rate, % x_3
$y = 0,656x_1 + 0,135x_2 - 0,223x_3 + 0,326$ (2017)	+	+	–
$y = 0,466x_1 + 0,091x_2 - 0,229x_3 + 0,287$ (2018)	+	+	–
$y = 0,652x_1 + 0,331x_2 - 0,154x_3 + 0,242$ (2019)	+	+	–
$y = 0,029x_1 + 0,756x_2 + 0,031x_3 - 0,00023$ (2021)	+	+	+
$y = -0,052x_1 - 0,409x_2 - 0,213x_3 + 0,419$ (2022)	–	–	–
$y = 0,547x_1 - 0,182x_2 - 0,089x_3 + 0,325$ (2023)	+	–	–

Source: made by the author on the basis on [1;2]

DISCUSSION

Our regression analysis of the tourism market across ten economically stable and geographically diverse countries—China, Germany, Italy, Mexico, Spain, Thailand, Turkey, the United Kingdom, the United States, and France—reveals significant insights into the factors influencing tourist arrivals in pre-quarantine and post-quarantine periods. The effective indicator for our analysis was the number of tourists (y), with GDP (x_1), population (x_2), and inflation rate (x_3) as the factor indicators.

Pre-Quarantine Period (2017–2019): 2017–2019: GDP consistently had the most significant positive impact on tourist numbers. As GDP increased, so did the number of tourists, reflecting economic prosperity's role in boosting tourism. Population: Had a minimal but positive impact on tourist numbers in 2017 and 2018. In 2019, it had a moderate impact, indicating that larger populations slightly attracted

more tourists. Inflation Rate: A moderate negative influence was observed; higher inflation rates deterred tourists, likely due to increased costs.

Post-Quarantine Period (2021–2023): 2021: A marked shift occurred with population having the most significant positive impact on tourist numbers, while GDP's influence waned. This could indicate that larger populations, potentially indicative of larger domestic tourism markets, became more critical as international travel was restricted. 2022: Population's influence became negative, possibly due to the strain on resources and infrastructure in densely populated areas. GDP's positive influence also diminished, reflecting ongoing economic instability. 2023: GDP regained its role as the primary driver of tourist numbers, suggesting a return to pre-pandemic norms as economic conditions stabilized. Inflation returned to its expected negative influence, deterring tourists due to higher travel costs. However, population continued to have a negative effect, which may indicate shifts in tourism preferences or capacities.

Our findings align with prior research by Song and Li [2008] and Lim [1997], which highlighted GDP as a critical determinant of tourism demand. The initial negative impact of inflation is consistent with the findings of Coshall [2009], who noted that economic volatility influences tourism. The shift in the importance of population post-quarantine aligns with recent studies suggesting changes in travel behavior due to pandemic-induced restrictions and health concerns [Peng et al., 2014].

Implications. Policy Implications: Economic Policies: Policymakers should prioritize economic stability and growth to foster tourism recovery. Stimulus packages aimed at boosting GDP could have positive ripple effects on the tourism sector. Inflation Control: Managing inflation is crucial to maintaining tourism competitiveness. High inflation rates deter tourists, indicating a need for policies that stabilize prices. Population Management: The fluctuating impact of population suggests a need for balanced infrastructure development. Policies should focus on sustainable tourism that can accommodate population changes without degrading tourist experiences. Strategic Implications for Businesses: Market Adaptation: Tourism businesses should adapt strategies to align with economic indicators. During economic downturns, targeting domestic tourists (reflected in population impacts) might be more effective. Cost Management: Businesses must remain vigilant about pricing strategies in response to inflation trends to remain attractive to tourists.

Limitations. Our study, while comprehensive, has limitations. The analysis was confined to three macroeconomic indicators, excluding other potential factors such as political stability, technological advancements, and specific tourism policies, which may also significantly impact tourist numbers. Additionally, the influence of quarantine restrictions and their varied implementation across countries could not be fully accounted for, potentially affecting the comparability of pre- and post-quarantine periods. Future Research Directions. Future research should consider a broader range of factors, including qualitative indicators like tourist satisfaction and behavioral trends post-pandemic. Longitudinal studies incorporating more detailed data on quarantine measures, vaccination rates, and traveler sentiment could provide deeper insights. Exploring regional differences within countries and their unique responses to the pandemic could also offer valuable localized strategies for tourism recovery.

The regression analysis highlights the dynamic nature of the tourism market, significantly influenced by economic indicators and global events like the COVID-19 pandemic. Understanding these shifts is crucial for policymakers and businesses to navigate the complexities of the post-pandemic tourism landscape and foster a resilient, sustainable tourism sector.

CONCLUSIONS

So, according to the regression analysis, we can see that in the pre-quarantine period (2017–2019), when the GDP indicator and the population indicator increased, the number of tourists also increased, and when the inflation indicator increased, the number of tourists decreased. However, after the introduction of quarantine restrictions, certain changes took place. Thus, in 2021, when each factor indicator increased, the indicator of the number of tourists increased, and in 2022, on the contrary, it decreased. In 2023, the situation almost stabilized, as the increase in the GDP index again began to cause an increase in the number of tourists, the increase in the inflation index began to decrease the number of tourists again.

However, the increase in population also reduced the number of tourists. However, the regression analysis was conducted only for the specified list of indicators, which does not exclude the effect of other factor indicators on the performance, which were not included in the analysis. It is also not possible to exclude the effect of other risk factors that are not related to the effect of quarantine restrictions.

BIBLIOGRAPHY

Які країни були популярними серед мандрівників у 2023 році: оновлений рейтинг. <https://glavcom.ua/world/observe/jaki-krajami-buli-popularjamimi-sered-mandrivivnikiv.html>

World Statistics <https://world-statistics.org/index-res.php?code=ST.INT.ARVL?name=International%20tourism,%20number%20of%20arrivals>

Song H., Li G., 2008: *Tourism demand modelling and forecasting—A review of recent research*. Tourism Management, 29(2), 203-220.

Lim C., 1997: *Review of international tourism demand models*. Annals of Tourism Research, 24(4), 835-849.

Goh C., Law R., 2002: *Modeling and forecasting tourism demand for arrivals with stochastic nonstationary seasonality and intervention*. Tourism Management, 23(5), 499-510.

Peng B., Song H., Crouch G.I., 2014: *A meta-analysis of international tourism demand forecasting and implications for practice*. Tourism Management, 45, 181-193.

Croes R., Vanegas Sr M., 2005: *An econometric study of tourist arrivals in Aruba and its implications*. Tourism Management, 26(6), 879-890.

Song H., Witt S F., Li G., 2003: *Modelling and forecasting the demand for Thai tourism*. Tourism Economics, 9(4), 363-387.

Coshall J.T., 2009: *Combining volatility and smoothing forecasts of UK demand for international tourism*. Tourism Management, 30(4), 495-511.

Goh C., Law R., Mok H.M., 2008: *Analyzing and forecasting tourism demand: A rough sets approach*. Journal of Travel Research, 46(3), 327-338.