

# On the Influence of Population Income and Foreign Exchange Rate on the Development of a Tourism-Recreational Country’s and Region’s Facilities

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**Abstract**—The article considers the interdependence of the level and real content of the population’s income, the exchange rate and the demand for services of the tourist and recreational complex, as well as the influence of the above factors on the level of demand for external or internal tourism. We determine the conditions under which the vulnerability of domestic tourism increases. An assessment of changes in the income structure of the population was carried out and its correlation with the consumption of services of the tourist and recreation complex (TRC) has been determined. The most important trends in the tourism sector have been identified: a reduction in the duration of trips, the search for cheaper tours, a decrease in the number of visiting periods, the development of social tourism within the territory of residence, and the independent development of a tour. The promising areas for the development of the shopping and entertainment complex are identified: regionalism, an increase in the number of tourists of the “silver” age; tourists with disabilities, the development of new tourist destinations.

**Keywords:** *tourist demand, tourist flow, exchange rate, nominal and real incomes of the population, tourism and recreation complex, correlation, regression*

## I. INTRODUCTION

The globalization of economic relations over the past decades has led to the intensification of tourist flows. According to the World Tourism Organization (UNWTO), the tourism industry is not only one of the most profitable and rapidly developing sectors of the world economy, which directly or indirectly forms about 9.5% of the global gross

domestic product, but also is the foundation of the national economies of several countries. However, tourism has special characteristics that distinguish it from ordinary types of economic activity [1]. For the first time, Guthrie H.W. applied an economic approach to tourism research. [2], Gerakis A.S. [3] and Gray H.P. [4]. And over the next fifty-year period, the rapid development of the tourism and hospitality industry led to an increase in interest from scientists from different countries in this economic activity.

One of the most important factors influencing the demand for tourism and the development of the tourism and recreation complex (TRC) of the country is the level and quality of life of the population (which primarily depends on the level of nominal and real incomes of the population), seasonality, economic and geopolitical stability in the country and its regions, the geographical position of the region, the legislatively fixed actual growth of holidays, the exchange rate, the share of unit travel costs in the structure of population expenses, as well as a number of other factors. In this regard, it seems necessary to conduct an analysis to identify the relationship between tourist flows, changes in nominal and real incomes of the population, and currency fluctuations.

## II. REVIEW OF LITERATURE AND RESEARCH METHODS

The demand for tourism is mainly estimated on the basis of empirical data on the number of arriving guests and the level of tourist expenses (income), as well as their variations per capita [5].

According to the demand theory the main factors that form the budget line of a tourist are consumer income and the price of a tourist product. In particular, in empirical studies of the demand for tourism, the most often determining factors are the income of the country (or region) of origin (GDP), the own price of the destination, replacement prices for alternative destinations and exchange rates (Tang C.F. [6] and others). In the late 1990s, in the modeling of demand, a transition was made from the use of the statistical regression model to the model of complex dynamic specifications. In particular, the integration of the time-varying parameter method (TVP) and the causal-time series model [7], the development of approaches based on a system of equations, such as the vector autoregressive model (VAR) [8] and the demand system (AIDS). However, the conclusion made on the basis of empirical data is that no model can fully take into account all the factors of influence. Therefore, it is proposed to combine conclusions from various models in order to increase the accuracy of forecasting [9].

In view of the growing importance of the tourism industry for the economies of many countries, the link between tourism and economic growth has become one of the main research topics. Proponents of the tourism-based economic growth hypothesis emphasize that international tourism contributes to the influx of foreign currency, creates jobs, stimulates domestic investment and spreads innovation [10, 11, 12 13, 14].

The globalization of economic relations and its impact on tourism has become a new direction in demand research [15]. The demand for tourism at one destination, as a rule, depends on the demand for alternative destinations, not only because of geographical proximity and cultural similarities, but also because of the similarity of economic factors that determine the destination. These studies often analyze the movement of tourist flows (demand) using the method of joint integration, then the model (VAP) for checking cause-effect relationships using the Granger test [16, 17], including the environmental impact of tourism [18, 19, 20].

Recently, Russian scientific literature has also begun to pay attention to the demand for tourism services and its impact on economic growth (Lukin E.V., Leonidova E.G., Sidorov M.A. [21] and others), and the impact of the exchange rate on inbound and outbound tourism [22]. However, such works are still few, and most of them affect one of the factors influencing tourist flows.

### III. ANALYSIS OF THE RUSSIAN SITUATION

#### A. *Dynamics of Russian population incomes and demand for travel services*

The changes in the Russian economy over the past quarter century have been accompanied by changes in the level and quality of life of the population. However, since 2014, after the introduction of politically motivated economic restrictions on the Russian Federation, there has been a decrease in the growth in the level of real incomes of the population. According to the Federal State Statistics Service, due to food counter sanctions, prices for some food products in Russia in

2014–2018. increased by more than a third (up to 42.1%). The decline in revenues in real terms persists from year to year: in 2014 they decreased by 0.7%, in 2015 - by 3.2%, in 2016 - by 5.8%, in 2017 - by 1.2%, in 2018 - by 0.2%.

Changes in the structure of incomes of the population, their real content, influenced consumer behavior, which was reflected in changes in the structure of consumption. Over the observed period, there was an increase in the share of household expenditures on the purchase of goods and payment for services, as well as mandatory payments and contributions. At the same time, according to the results of a sample survey of households conducted by Rosstat, their growth was affected by an increase in the cost of purchasing food and non-alcoholic beverages (up to 31.2% of the total cost structure in 2017), housing and communal (up to 10.9 %) and transportation services (up to 16,0%), health services (up to 3,8%) while reducing the cost of purchasing clothing and shoes (up to 8.8%). And, as a result, savings and expenses on the purchase of real estate and currency decreased.

Nevertheless, the share of expenses for organizing leisure and cultural events in consumer spending in 2018 amounted to 7.7% (in 2011 – 6.8%), and for tourism and leisure - up to 2.7%. On average, expenses per member of a household for tourism and recreation amounted to 5483.3 rubles in 2017.

The dynamics of tourism services consumption is one of the indicators of the material well-being of the middle class. Over a five-year period, Russians have reduced not only the cost of purchasing durable goods, but also expensive trips. In some families, a drop in real incomes provoked a reduction in the number of trips, while in others it led to a reorientation of demand from international tourism to domestic tourism.

A decrease in the demand of the Russian population for tourism services has led to a decrease in the number of tour packages sold. After the crisis of 2008–2009 Demand for tourism services grew and reached its peak in 2013, when almost 5.4 million vacation packages were sold in the Russian Federation. After the introduction of the sanctions and counter-sanctions regime, the demand for tourism services began to decline, which reached its minimum in 2016 (3.35 million vacation packages), mainly due to a sharp drop in the number of tours sold to foreign countries.

Against the background of a decrease in demand for foreign travel, there was an increase in demand for domestic Russian tourism, which led to a rise in the cost of services in this area (in 2015 by 12%, in 2016 - by 8%). As a result, the average cost of one tour package increased to 33.7 thousand rubles in 2017, with the relatively low (compared with foreign countries) quality of services of the tourist industry, transport, housing and other related infrastructure (roads, cheap hotels, cafes).

The very structure of the domestic tourism market has changed. If previously the main directions in the development of tourist flows were specialists in Crimea, Sochi, the cities of the Golden Ring, Moscow and St. Petersburg, today (especially after the World Cup) many tour operators resume and expand their work with distant regions - Karelia, Kamchatka, Primorye and other

Among the important trends in the tourism sector, one can also note a decrease in the duration of trips and the search for cheaper tours, a decrease in the number of visiting periods. If earlier Russians tried to relax not only in the summer months, but also on public holidays, now the number of such trips is reduced. And the growth of regional differentiation in incomes led to the spread of popularity among residents of most regions (especially among people of "silver age" and low-income citizens) social tourism within the territory of residence, supported mainly by budgetary funds. Significant developments in supporting social tourism are available in the Republic of Bashkortostan, Krasnodar, Stavropol Territories, Astrakhan, Vladimir, Moscow, Rostov Regions, in Moscow, St. Petersburg, etc. But such social tours and excursion programs are usually one-day when trips are combined with master classes, educational meetings, visits to museums and nature reserves.

**B. Exchange rate and development of TRC**

The tourism business is very sensitive to fluctuations in environmental factors, economic cycles, and also dependent on the exchange rate, since under the influence of the value of the currency the demand for services of the tourist and recreation complex changes. Sharp fluctuations in exchange rates negatively affect the export and import indicators in the national economy, including the tourism industry.

After the jump in 1998, the exchange rate for several years remained at the level of 23–25 rubles for the US dollar. However, after the global financial crisis, in 2009 it rose to 30 rubles. for the US dollar, breaking another psychological mark. Subsequently, the rate continued to fluctuate around 30–35 rubles per US dollar until mid-2014.

However, the 2014 crisis provoked significant fluctuations in the foreign exchange market, which affected the exchange rate (in particular, the US dollar and the euro). The foreign exchange rate for the analyzed period increased significantly, and the maximum growth index was almost 2.5 times, reaching 83.59 rubles in January 2016. for the US dollar. It is safe to say that in Russia there was a significant depreciation of the national currency, which significantly affected the level of household income in Russia. In consumer behavior, the savings model of consumption begins to prevail.

In most cases, the population does not monitor exchange rate fluctuations. For a citizen, it becomes relevant only in cases of foreign travel, payment of imported goods or foreign money transfers, when it is necessary to change the Russian rouble to foreign currency.

It should be noted that exchange rate fluctuations affect not only outbound tourism, but also on domestic tourism. Indeed, the rise in price of holidays abroad in 2015–2016 led to an increase in demand for travel in Russia, and the construction of a bridge to the Crimea increased the attractiveness of the peninsula. However, trips to the Russian south also increased significantly in price. The reason for this is the pricing policy of domestic business (especially among hoteliers), which does not correspond to economic principles, but pursues the goal of obtaining higher profits in the face of reduced competition in the market. The tariff policy for passenger transportation,

especially for air transport (when the price of an air ticket abroad (optimized by the air carrier for charter flights) is lower than in Simferopol or Sochi) does not contribute to the development of domestic tourism either.

The development of the tourist and recreational complex is influenced by only domestic and outbound tourism, but the number of inbound flows. The latter contributes to the growth of foreign exchange earnings in the country.

Despite the fact that, since 2016, inbound tourism has decreased, 24.55 million foreign citizens visited our country in 2018 (table 1). The most popular among foreign tourists are St. Petersburg (3.75 million tourists), Moscow (4.8 million people). The top 10 regions of Russia among foreign tourists in 2017 were: Krasnodar, Stavropol and PrimorskyKrai, Crimea, Tatarstan, Moscow, Irkutsk, Vladimir, Yaroslavl and Kaliningrad regions. Chinese tourists became the leaders of entry into our country in 2017-2018 among citizens of distant foreign countries. The following are Germany, Italy, France and the USA.

**IV. RESULTS**

In order to clarify the dependence of the tourist flow intensity on changes in real incomes of the population (nominal per capita cash income adjusted for the consumer price index - CPI) and exchange rate fluctuations, we performed a correlation analysis (Table I).

TABLE I.

Year s	\$ / rub median annual	CPI, % to the previous year	Per capita nominal cash income, rubles.	The number of citizens of the Russia placed by the CAF, thousand people	Outbound tourism, thousand people	Inbound tourism, thousand people
2012	30.37	100	23 221	31 798	47 813	28 176
2013	32.73	106.5	25 928	32 560	54 069	30 792
2014	39.35	111.4	27 412	33 798	42 921	32 421
2015	61.57	112.9	30 254	35 473	34 390	26 852
2016	60.66	105.4	30 865	48 214	31 659	24 571
2017	57.60	102.5	31 745	53 594	39 629	24 390
2018	62.69	104.3	33 010	60 591	41 964	24 551

<sup>a</sup> Federal State Statistic Service. URL: <https://gks.ru>

The data presented in Table I, clearly show a weak level of inverse relationship between the fluctuation of the exchange rate and the entry flow to the Russian Federation. The calculated correlation coefficient was 0.079 (on the Cheddock scale, weak coupling strength), the determination coefficient was 0.062.

The inbound tourism regression equation has the form:

$$Y_x = 18692.9 + 176.55X_1 \quad (1)$$

From the resulting equation it follows that with an increase in the dollar against the ruble, inbound tourism will increase by an average of 176.55 thousand people.

The analysis of the correlation between the exchange rate and the outbound tourist flow revealed a high dependence. The obtained correlation coefficient was 0.827 (on the Cheddock scale 0.7-0.9 – high bond strength), the determination coefficient was 0.684. At the same time, the correlation coefficient between real disposable income and outbound tourism – 0.525 – shows a noticeable dependence (on the Cheddock scale 0.5-0.7), the determination coefficient is 0.062.

The equation of the regression of outbound tourism has the form:

$$Y_x = 20286.36 - 436.11X_1 - 1.21X_2 + \varepsilon \quad (2)$$

where are  $X_1$  - the US dollar exchange rate,  $X_2$  - the average per capita real income of the population

This equation shows that outbound tourism with the growth of the dollar by 1 rub. reduced by 436.1 thousand people, and with a decrease in real incomes of the population by 1 thousand rubles. another 1.21 thousand people.

As for domestic tourism, the correlation analysis shows a high dependence of the domestic flow on real incomes of the population ( $r_{x,y} = 0.967$ ) and exchange rate fluctuations ( $r_{x,y} = 0.787$ ), determination coefficients, respectively, 0.935 and 0.619.

The regression equation of domestic tourism is:

$$Y_x = -38678.82 + 608.6X_1 + 3.41X_2 + \varepsilon \quad (3)$$

where are  $X_1$  – the US dollar exchange rate,  $X_2$  – the average per capita real income of the population

This equation shows that domestic tourism with the growth of the dollar by 1 ruble. will increase by 436.16 thousand people, and with the growth of real incomes of the population by 1 thousand rubles. for another 3.41 thousand people.

The average approximation error was  $\bar{A} = 5.7\%$ , which indicates good quality of the constructed regression equations (does not exceed 10%).

Based on the calculations made, we can conclude that inbound tourist flow is almost independent of the foreign exchange rate, while outbound and domestic flows have a significant dependence on the exchange rate and real incomes of the population.

Nevertheless, the volumes of outbound tourism continue to dominate over the volumes of domestic and inbound tourism, which leads not only to the outflow of foreign currency from the country, but also leads to a decrease in aggregate demand in the national market, and, consequently, production volumes not only in tourism and recreation complex, but also in the economy as a whole.

## V. CONCLUSION

Based on the foregoing, we can conclude that the development of the tourist and recreational complex depends on the financial processes and relations that arise in households and the state. Being one of the fundamental economic structures, the tourist and recreational complex creates new jobs, interacts with almost all sectors of the national economy and human activities, is characterized by a high level of efficiency and quick payback, is a multiplier of the growth of national income, employment and the development of local infrastructure and level growth life of the local population, as well as an effective means of protecting nature and the environment.

The dynamics of domestic and outbound tourism directly depends on real incomes and exchange rates. Inlet flow is weakly dependent on foreign exchange rates.

Since the number of domestic trips decreases with increasing incomes, it is important to reorient the flow of international outbound Russian tourism to the domestic market, thereby bringing the subjects of the tourist and recreation complex to the need to be prepared to meet the needs of foreign and domestic tourists in the host region. But the development of the tourism industry and its infrastructure requires investment and time, but for now, in terms of price-quality ratio, Russian resorts and other tourism and leisure facilities are losing to foreign analogues even taking into account the devaluation of the ruble. Therefore, for the development of the tourist and recreational complex of Russia, it is necessary to take a number of economic measures, consisting in the formation of an effective system of financial support; stimulation of entrepreneurial activity in the field of tourism and attracting investment in the development of the tourism and hospitality industry; development of a system for assessing the quality of tourist services offered (including through a classification system for mandatory certification). The promising areas of state support for the development of tourist and recreational complexes include: regionalism, which characterizes the production of tourist services at the lowest cost in the place of their consumption; an increase in the number of tourists of “silver” age (60 years and older) and the number of services they consume; the development of new tourist destinations; polarization of tourist preferences - the development of mass and individual types of tourism; the interaction of the local population and small businesses with tourists; expansion of the introduction of information technology, which will contribute to the tourist's most convenient consumption of tourist services (the use of visualization technologies of upcoming routes); full informational support of the tourist route, including transport.

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**REFERENCES**

- [1] M. J. Stabler, A. Papatheodorou, and M. T. Sinclair, "The Economics of Tourism (2nd ed.)", Abingdon: Routledge, 2010.
- [2] H. W. Guthrie, "Demand for tourists' goods and services in a world market", *Papers and Proceedings of the Regional Science Association*, 1961, no. 7, pp. 159–175.
- [3] A. S. Gerakis, "Effects of exchange-rate devaluations and revaluations on receipts from tourism", *International Monetary Fund Staff Papers*, 1964, no. 12, pp. 365–384.
- [4] H. P. Gray, "The demand for international travel by United States and Canada", *International Economic Review*, 1966, vol. 7, pp. 83–92.
- [5] H. Song, G. Li, S. F. Witt, and B. Fei, "Tourism demand modelling and forecasting: How should demand be measured?", *Tourism Economics*, 2010, no. 16 (1), pp. 63–81.
- [6] C. F. Tang, "Temporal Granger causality and the dynamics relationship between real tourism receipts, real income and real exchange rates in Malaysia", *International Journal of Tourism Research*, 2013, no. 15 (3), pp. 272–284.
- [7] A. Mérida and A. A. Golpe, "Tourism – led growth revisited for Spain: Causality, business cycles and structural breaks", *International Journal of Tourism Research*, 2016, no. 18 (1), pp. 39–51.
- [8] Z. Cao, G. Li, and H. Song, "Modelling the interdependence of tourism demand: The global vector autoregressive approach", *Annals of Tourism Research*, 2017, no. 67, pp. 1–13.
- [9] S. Shen, G. Li, and H. Song, "Combination forecasts of international tourism demand", *Annals of Tourism Research*, 2011, vol. 38 (1), pp. 72–89.
- [10] Y.-B. Chiu and L.-T. Yeh, "The Threshold Effects of the Tourism-Led Growth Hypothesis: Evidence from a Cross-sectional Model", *Journal of Travel Research*, 2017, no. 56, pp. 625–637.
- [11] C. C. Lee and C. P. Chang, "Tourism development and economic growth: A closer look at panels", *Tourism management*, 2008, no. 29 (1), pp. 180–192.
- [12] C. C. Lee and M. S. Chien, "Structural breaks, tourism development, and economic growth: Evidence from Taiwan", *Mathematics and Computers in Simulation*, 2008, no. 77 (4), pp. 358–368.
- [13] C. Massidda, "The role of tourism for economic growth and development; an overview", *Oikonomos: Journal of Social Market Economy*, 2018, no. 3 (12), pp. 6–14.
- [14] R. Y. Tse, "Estimating the impact of economic factors on tourism: evidence from Hong Kong", *Tourism Economics*, 2001, no. 7(3), pp. 277–293.
- [15] L. F. Martins, Y. Gan, and A. Ferreira-Lopes, "An empirical analysis of the influence of macroeconomic determinants on World tourism demand", *Tourism Management*, 2017, no. 61, pp. 248–260.
- [16] J. H. Seo, S. Y. Park, and S. Boo, "Interrelationships among Korean outbound tourism demand: Granger causality analysis", *Tourism Economics*, 2010, no. 16 (3), pp. 597–610.
- [17] F. G. Torralaja, A. M. Vazquez, and M. J. B. Franco, "Flows into tourist areas: An econometric approach", *International Journal of Tourism Research*, 2009, no. 11, pp.1–15.
- [18] M. T. I. Khan, M. R. Yaseen, and Q. Ali, "Nexus between financial development, tourism, renewable energy, and greenhouse gas emission in high-income countries: A continent-wise analysis", *Energy Economics*, 2019, no. 83, pp.293–310.
- [19] Akadiri S. Saint, A. A. Alola, and A. C. Akadiri, "The role of globalization, real income, tourism in environmental sustainability target", *Evidence from Turkey*, *Science of the total environment*, 2019, no. 687, pp. 423–432.
- [20] S. F. Schubert, J. G. Brida, and W. A. Risso, "The impacts of international tourism demand on economic growth of small economies dependent on tourism", *Tourism Management*, 2011, no. 32, pp. 377–385.
- [21] E. V. Lukin, E. G. Leonidova, and M. A. Sidorov, "Boosting domestic demand as a driving force of economic growth (on the example of domestic tourism sphere)", *Economic and Social Changes: Facts, Trends, Forecast*, 2018, vol. 11, no. 4, pp. 125–143. DOI: 10.15838/esc.2018.4.58.8.
- [22] T. A. Khudyakova and I. E. Glinsky, "Influence of variants of currency market for the state of the Russian touristic industry", *Bulletin NGIEI*, 2018, no. 5 (84), pp. 76–86.