

УДК: 339.544

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DOI:10.26726/1812-7096-2023-10-99-109

### **РОЛЬ ТУРИЗМА КАК ФАКТОРА, ОБЕСПЕЧИВАЮЩЕГО ЭКОНОМИЧЕСКИЙ РОСТ В РЕСПУБЛИКЕ АРМЕНИЯ: ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ**

**Аннотация.** С 2012 по 2019 год число туристовросло, и в 2019 году Армению посетили 1,8 миллиона человек. В последующие годы эта цифра не была превзойдена, и расходы международных посетителей в 2022 году составили около 2,44 миллиарда долларов США (что составляет 12,5% ВВП). В статье предпринята попытка определить роль расходов иностранных туристов, прибывающих в Армению, в объяснении статистически значимых изменений в реальном валовом внутреннем продукте (ВВП); и роль притока туристов и обменного курса в объяснении статистически значимых изменений в поступлениях от туризма в краткосрочной перспективе на основе методов оценки наименьших квадратов и использования квартальных данных (2012кв1-2023кв2); насколько уязвима экономика Армении к внешним шокам, чтобы предложить соответствующие рекомендации по приоритетам для решения стоящих перед ней проблем на основе разработанными нами различных сценарий. Нами доказано наличие «мультипликативного эффекта» в отношении туристических поступлений и приходим к выводу, что экономика Армении уязвима к изменениям в притоке туристов (особенно приезжих из России). Небольшое сокращение числа туристов, прибывающих из России, или если их количество останется неизменным, то это может сопровождаться снижением расходов российских туристов в Армении в период 2024-2026 годов. Мы приходим к выводу, что завышенный курс армянского драма по отношению к доллару США в краткосрочной и среднесрочной перспективе негативно повлияет на ценовую конкурентоспособность Армении как привлекательного туристического направления для иностранных туристов, если только Армении не удастся предложить конкретные туристические продукты с учетом соотношения цены и качества для привлечения иностранцев. Мы подчеркиваем важность наличия 2-звездочных отелей или недорогого жилья в среднесрочной перспективе, чтобы предотвратить сокращение числа туристов, если курс армянского драма останется завышенным.

**Ключевые слова:** туризм, туристические поступления, турпоток, экономический рост, уязвимость экономики, Армения

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## THE ROLE OF TOURISM AS THE FACTOR ENSURING ECONOMIC GROWTH IN THE REPUBLIC OF ARMENIA: CHALLENGES AND PROSPECTS

**Abstract.** *The tourist arrivals were growing from 2012 to 2019, and 1.8 million people visited Armenia in 2019. That number was not surpassed in subsequent years, and the expenditures by international inbound visitors amounted to about 2.44 billion US dollars in 2022 (accounting for 12.5% of GDP). The article attempts to identify the role of expenditures by international inbound visitors in Armenia in explaining the statistically significant changes in the real gross domestic product (GDP), and the role of tourist arrivals and exchange rate in explaining statistically significant changes in tourism receipts in the short run utilizing the least squares estimation techniques and using quarterly data (2012q1-2023q2); and how vulnerable the Armenian economy is to external shocks to propose respective recommendations on priorities to address the challenges faced under various scenarios we built. We find evidence of the «multiplier effect» with respect to tourism receipts and conclude that the Armenian economy is vulnerable to changes in tourist arrivals (especially visitors from Russia). The slight reduction in tourist arrivals from Russia or if their number remains unchanged could be accompanied by a decrease in expenditures by Russian visitors in Armenia in the period 2024-2026. We conclude that the overvalued Armenian dram against the US dollar in the short run and medium term would negatively affect the price competitiveness of Armenia as an attractive travel destination for foreign visitors unless Armenia succeeds in offering specific tourism products by taking into account the price-perceived quality ratio to attract foreigners. We emphasize the importance of the availability of 2-star hotels or affordable accommodation in the medium term to prevent a drop in tourist arrivals if the Armenian dram remains overvalued.*

**Keywords:** *tourism, tourism receipts, tourist arrivals, economic growth, vulnerability of the economy, Armenia*

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### Introduction

Upon overcoming the aftermath of the Global Financial Crisis of 2008, Armenia reported an increase in tourist arrivals (calculated according to the methodology of the World Tourism Organization (WTO)) from 2012 to 2019, reaching 1,894,377 international inbound visitors in 2019 and this number of tourist arrivals was not surpassed in the period 2012-2022 (see table 1). The tourist arrivals rebounded in 2021 (upon the severe decline in tourist arrivals in 2020 (y./y.) explained by imposed restrictions on tourism and travel activities owing to the pandemic) and in 2022, tourist arrivals surpassed the number of arrivals in 2018, amounting to 1,665,658 international inbound visitors, the second largest amount in ten years (see Table 1). In the case of expenditures by the international inbound visitors in Armenia, in 2022, the amount reached about 2.44 billion US dollars (see Table 1), accounting for 12.5% of the GDP, which is the highest amount during the last ten years (see Table 2).

This could support the evidence that tourism could become a vital factor for Armenia in ensuring economic growth in the medium term if tourist arrivals report steady growth. However, it emphasizes the importance of identifying the role of tourism (namely, expenditures by the international inbound visitors to Armenia) in ensuring economic growth in Armenia, mainly in the short run, to figure out how vulnerable the economy of Armenia is to changes in expenditures by visitors when a sharp decline in tourist arrivals could be reported owing to the global pandemic or financial and economic crisis.

Table 1

**Expenditures by International Inbound Visitors and Tourist Arrivals  
in Armenia Classified according to the WTO Methodology**

Period	The visitors that are tourists on the WTO methodology	Expenditures by the visitors that are tourists on the WTO methodology					
		Million USD	Billion AMD (nominal)	Billion AMD (real)	Expenditures per tourist (USD)	Expenditures per tourist (AMD, nominal)	Expenditures per tourist (AMD, real)
2012	963,035	817.5	328.42	328.42	848.83	341,026	341,026
2013	1,081,984	880.4	360.63	340.86	813.68	333,309	315,037
2014	1,203,745	965.8	401.71	368.63	802.37	333,720	306,238
2015	1,192,119	935.8	447.25	395.77	785.01	375,170	331,991
2016	1,259,657	1,016.5	488.42	438.34	806.97	387,741	347,988
2017	1,494,779	1,203.7	581.05	516.32	805.27	388,722	345,413
2018	1,651,782	1,329.0	641.91	556.48	804.61	388,619	336,899
2019	1,894,377	1,528.0	734.10	627.62	806.58	387,518	331,306
2020	360,338	287.3	140.50	118.69	797.35	389,909	329,398
2021	875,772	784.2	395.06	311.33	895.44	451,096	355,493
2022	1,665,658	2,439.1	1,062.64	771.12	1,464.34	637,970	462,949
Jan-Jun 2022	588,731	718.3	333.50*	245.74*	1,220.07	566,469*	417,403*
Jan-Jun 2023	1,002,878	1,383.5	539.10*	383.01*	1,379.53	537,553*	381,910*

**Sources:** [15]; [16]; [19, pp. 6-7]; [20, pp. 6-7]; [18, pp. 6-7]; [21, p. 23]; [11];

\* Notes: Calculated on the basis of quarterly data, taking into account the appreciation of the Armenian dram against the US dollar. 2012=100. Authors' own calculations.

These estimates could help the Government of Armenia to craft a short- and medium-term tourism development strategy to make the country more competitive and attractive to appeal to and draw tourists, to identify the vulnerability of the economy to expenditures by international inbound visitors and design crisis response measures in the short term, namely while designing industry growth scenarios.

The growth in real expenditures by international inbound visitors in Armenia in 2022 (y./y.) was namely explained by the appreciation of the Armenian dram against the US dollar, and purchase of more goods and services, since the real expenditures per tourist (AMD, 2012=100) reported an increase (see Table 1). The growing tourist arrivals in the period 2021-2022 were accompanied by an increase in real expenditures per visitor (see Table 1). Compared to the composition of geographical distribution of tourists in 2019, the share of Russian tourists visiting Armenia significantly increased accounting for 40.2% and 47.5% respectively in the period 2021-2022, whereas in 2019, the share comprised only 22.7%, and it reached 38.2% in 2020 [24, p. 144]; [23, p. 163]; [25, p. 114]. Already in the first half of 2023, tourist arrivals reported a 70.3% increase compared to the same period of 2022, amounting to 1,002,878 tourists [26, p. 158]. In the composition of the geographical distribution of tourists who visited Armenia in the first half of 2023, the share of tourists from Russia accounted for 51.7%, and tourist arrival from Russia increased 2.1 times compared to the same period of previous year [26, p. 161]. This also means that the dependence of the Armenian tourism industry from one travel market, namely Russia, increased substantially at the end of the first half of 2023.

Table 2

**Tourism receipts-to-GDP (Expenditures by International Inbound Visitors-to-GDP) ratio (%)**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Tourism receipts-to-GDP ratio	7.70	7.92	8.32	8.87	9.64	10.44	10.67	11.22	2.27	5.65	12.50

**Sources:** [14]; [15]. Authors' own calculations.

Upon the first quarter of 2020, the closure of borders during the pandemic caused a sharp decline in the tourism industry of Armenia owing to the aftermath of the global pandemic; however, the vulnerability to a single and/or major travel market was not as high as it was in the first half of 2023.

International visitors from all over the world could not visit Armenia owing to the lockdown, thus resulting in zero tourist arrivals in the second quarter of 2020, with the gradual lifting up of restrictions tourist arrivals comprised 36,277 in the fourth quarter (and 16,471 arrivals in the third quarter), while during the first quarter of 2020, 307,590 tourists visited Armenia [16]. In 2020, hotels and similar accommodation industry reported a sharp decline of 68.7% (y./y.) (the decline could have been even sharper if the people infected with COVID-19 (or that had been cured) and/or under quarantine had not lived in such amenities at the expense of the state), while the decline of the travel agency, tour operator reservation service and related activities industry was even more severe comprising 85.7% (y./y.) [24, p. 56, 58]. In 2021, both industries bounced back reporting growth of 2.3 times and 77.7% (y./y.), respectively [23, p. 56, 58], that continued in 2022 as well and reporting double-digit growth of 16.1% and 42.1% (y./y.), respectively [22, p. 57, 59]. The strong performance of hotels and similar accommodation industry was explained by the increase in the number of hotels, thus translating into higher sales turnover and or proceeds (both nominal and real) (see Table 3).

Table 3

**Number of Hotels and Sales Turnover (Proceeds) thereof in Armenia from 2012 to 2022**

			2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
Hotels	Armenia	Number	343	379	409	474	549	556	652	769	847	980	1029
	Yerevan	Number	207	226	229	274	302	320	390	410	480	567	594
	Marzes (Regions)	Number	136	153	180	200	247	236	262	359	367	413	435
Sales turnover (billion AMD)	Armenia	Nominal	15.48	17.89	18.94	22.13	22.96	28.43	34.50	41.79	16.49	35.80	51.83
		Real	15.48	16.91	17.38	19.58	20.61	25.26	29.91	35.73	13.93	28.21	37.61
	Yerevan	Nominal	13.58	15.40	15.59	18.56	18.58	22.83	27.88	33.77	11.84	26.79	40.66
		Real	13.58	14.55	14.30	16.42	16.67	20.28	24.17	28.87	10.00	21.11	29.50
	Marzes (Regions)	Nominal	1.90	2.49	3.35	3.57	4.38	5.60	6.62	8.02	4.65	9.02	11.17
		Real	1.90	2.36	3.07	3.16	3.93	4.98	5.74	6.86	3.93	7.10	8.11

**Sources:** [19, p. 6]; [20, p. 6]; [17]. **Notes:** \* Does not include value added and other similar indirect taxes. 2012=100. Authors' own calculation

From the point of view of the Government of Armenia, at the beginning of the second quarter of 2020, it could have been of urgent importance to figure out how much the expected reduction in real expenditures per tourist could have been (estimated using data from the previous periods) to identify the expected loss of tourism receipts if, for example, a million international inbound visitors had not visited Armenia owing to travel restrictions regardless the fact of country of origin of visitors (travel market); and to have an insight on the amounts required to be allocated for funding crisis-response measures to mitigate the situation.

In the second quarter of 2022, when the Russian-Ukrainian conflict began, two scenarios could have been expected:

1. Regardless the fact, whether the economic situation in Russia would have worsened or not, an increase in the number of visitors from Russia could have been expected, taking into account the restrictions on visa issuance by several countries (especially the Western ones), etc.;

2. The expected deterioration of the economic situation in Russia could have negatively affected the tourist arrivals from Russia, thus resulting in a drop in thereof.

Therefore, in the second quarter of 2022, it could have been important for the Government of Armenia to have the expected impact of changes in the real expenditures by international inbound visitors in Armenia (classified as tourists according to the methodology of the WTO) on the real GDP (estimated using data of the previous periods) to craft respective crisis-response measures (if necessary) or to support the companies representing tourism industry to attract more tourists.

In the second quarter of 2023, when an increase in Russian tourist arrivals was reported compared to the same period of the previous year [26, p. 161]; in the third quarter of 2023, it would have been specifically important for the Armenian government to have an insight on the expected impact of changes in real expenditures by international inbound visitors in Armenia on the real GDP, by taking into consideration the following two scenarios:

1. In the short run, after the end of the Russian-Ukrainian conflict, the economic situation in Russia could worsen and a significant decrease in the number of tourist arrivals from Russia would be

reported and/or after the end of the conflict, regardless of the economic situation in Russia, restrictions on visa issuance by the Western countries could be lifted and a significant decrease in the tourist arrivals from Russia to Armenia would be reported;

2. After the end of the Russian-Ukrainian conflict, in the period 2024-2026, the economic situation in Russia could worsen and a certain but slight decrease in tourist arrivals from Russia would be reported or the arrivals would remain unchanged accompanied by a decrease in expenditures by visitors from Russia in Armenia.

Therefore, in the third quarter of 2023, the Government of Armenia might have been interested in knowing about the expected impact of changes in the real expenditures by international inbound visitors in Armenia on the real GDP (estimated using data from the previous periods) to design respective crisis-response measures (if necessary) or to support the travel & tourism industry companies to attract more tourists from the Western and upper-middle-income countries.

Therefore, our purpose is to identify the role of expenditures by international inbound visitors in explaining statistically significant changes in the real GDP, and the role of tourist arrivals and exchange rate (Armenian dram against the US dollar) in explaining statistically significant changes in tourism receipts in the short run utilizing the least squares estimation techniques and using quarterly data spanning from the first quarter of 2012 to the second quarter of 2023; to find out how vulnerable the economy is to external shocks and highlight the respective priorities to address the challenges under various scenarios we built.

### Brief Literature Review

According to the tourism-led-growth hypothesis (TLGH), derived from the export-led growth hypothesis (ELGH), not only the increase in the amount of labor and capital can ensure economic growth, but also growth in exports [1, p. 2]. Based on the literature review, Brida and Pulina (2010) presented how international tourism has a positive impact on long run economic growth via various channels [1, pp. 4-6]. By reviewing numerous publications published up to 2010 (including), they conclude that except for a few countries, the TLGH is valid for both developing and developed countries [1, p. 12].

The impact of expenditures by international inbound visitors (tourism receipts) on the real GDP has been addressed and discussed by various authors. In particular, Fayissa et al. (2011), based on the estimation results using panel data from 1990 to 2005, find that a 10% increase in expenditures by international inbound visitors could cause 0.4% increase in the GDP per capita of a typical Latin American country, and conclude that the countries with comparably lower income level could ensure higher economic growth in the short run by making investments strategically in the tourism industry [6, p. 1366, 1369, 1372]. Cannonier and Burke (2018), based on the panel data from 1980 to 2015 of 15 Caribbean countries, by investigating the relationship between tourism and economic growth find that, depending on specifications, a 1% increase in tourism results could cause to an increase in the economic growth varying from 0.03% to 0.1%, and tourism multiplier is around 0.25 [2, p. 90, 103-104]. Xia et al. (2021) attempt to find evidence of the TLGH with respect to 34 countries in Europe (including Armenia) using annual data spanning from 1995 to 2015 and utilizing 8 main indicators describing tourism industry performance, indicating the degree of development of the tourism sector of the given country, and confirm the tourism-led-growth hypothesis for these countries [10, p. 239, 242, 244, 247, 255].

Many scholars attempted to confirm the tourism-led-growth hypothesis for various countries, namely, De Vita and Kyaw (2017) for 129 low-, middle-, and high-income countries [4]; Chiu and Yeh (2017) for 84 developing and developed countries [3]; Fahimi et al. (2018) for 10 micro states (Barbados, Cuba, Cyprus, the Dominican Republic, Fiji, Haiti, Iceland, Malta, Mauritania, and Trinidad and Tobago) [5]; Tang and Tan (2018) for 167 countries [9]; Sokhanvar et al. (2019) for 16 emerging-market economies (Brazil, China, Chile, Colombia, Hungary, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, Russia, South Africa, Thailand, and Turkey) [7]; Škrinjarić (2019) for 8 countries from the Central, Eastern and Southern Europe (Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Slovakia, and Slovenia) [8]; etc.

Therefore, tourism and, in particular, expenditures by international inbound visitors have a positive impact on the economic growth of countries, in general.

### Methodology and Data Description

We have defined our models as the followings to identify:

– the role of expenditures by the international inbound visitors in Armenia in explaining the statistically significant changes in the real GDP;

– and the role of tourist arrivals and the exchange rate (Armenian dram against the US dollar) in explaining the statistically significant changes in the expenditures made by tourists in the territory of the Republic of Armenia:

*Real GDP = f (real expenditures by the international inbound visitors in Armenia) (1),*

*Real expenditures by the international inbound visitors in Armenia = f (tourist arrivals, exchange rate (Armenian dram against the US dollar)) (2).*

Taking into account the fact that the Statistical Committee of Armenia switched to the System of National Accounts 2008, the respective data have been published starting from 2012, the data of the previous years are not compatible with the data published since 2012, especially with respect to the GDP, value added by various industries, and main expenditure components as well. Therefore, with respect to the first model, the estimation of the equation was done using quarterly data covering the period from the first quarter of 2012 to the second quarter of 2023 (i.e. 46 quarters). 2012 was considered as the base year (2012=100) for respective calculations. Seasonally adjusted quarterly data of the real GDP data were calculated by using chained indices of GDP real volume [12] and value of the GDP of 2012 [13]. To convert quarterly data (spanning from the first quarter of 2012 to the second quarter of 2023) of the nominal expenditures by the international inbound visitors (tourism receipts) [15], expressed in US dollars into the real values expressed in AMD, the nominal values were multiplied by the average exchange rates (calculated based on the monthly data) of the Armenian dram against the US of the respective period [11] and then these values were adjusted by the Consumer Price Indices [19, p. 7]; [20, p. 7]; [18, p. 7]; [21, p. 23] of the respective period (CPI) calculated for each quarter (2012=100).

In the case of the first model, the regression equations were estimated for two separate periods (2012q1-2022q2 and 2012q1-2023q2). The selection of the first period is explained by the fact that when the Russian-Ukrainian conflict started in the first quarter of 2022, from the point of view of the vulnerability of the economy of Armenia, it was important to get an insight into the expected impact of changes in the expenditures by the international inbound visitors classified as tourists on the WTO methodology [16] on the real GDP of Armenia. The choice of the second period is explained by the fact that based on the estimation results, it could be possible to figure out how vulnerable the Armenia economy is to the tourism receipts, and to compare the estimated coefficients with the coefficients of the first period as well. Before estimating the equations, the real expenditures by international inbound visitors expressed in Armenian drams were seasonally adjusted, using the moving average method.

As for the second model, taking into account the fact that during the lockdown owing to the pandemic, tourist arrivals were non-existent and amounted to nil in the second quarter of 2020 the time series thereof could not be seasonally adjusted in the case of the two periods of interest, we have added 0.0000000001 to the values of all the variables for the entire sample period, and this does not affect the estimation results. In the case of this model, the estimation of the regression equations was carried out for three separate periods: 2012q1–2020q1; 2012q1–2022q1; and 2012q1–2023q2. The choice of the first period is conditioned by the fact that when travel restrictions were introduced at the end of the first quarter of 2020, it would have been necessary to find out what the expected impact of the absence of tourists could have been on the decrease in the expenditures of international inbound visitors in Armenia.

Before estimating the regression equations, the stationarity of the variables included in the equations was tested, and finding the evidence that the given time series were not stationary, they were taken in the first difference to ensure the stationarity thereof. We also found that the correlation coefficients between the independent variables included in the equations did not exceed 0.5 (an absolute value) for all periods, which was evidence of no multicollinearity problem. The regression equations were estimated utilizing the least squares techniques for different periods.

We have estimated the following equations:

$$dgdp_t = \alpha_0 + \alpha_1 * dtssa_t + \varepsilon_t \quad (3)$$

Where:

$dgdp_t$  is the first difference of the seasonally adjusted value of the real GDP in period t.

$dtssa_t$  is the first difference of the seasonally adjusted value of the real expenditures by international inbound visitors in Armenia classified as tourists, according to the WTO methodology in period t.

$\alpha_0, \alpha_1$  are model unknown parameters.

$\varepsilon_t$  is the error term in period t.

$$dtssa_t = \beta_0 + \beta_1 * dtmssa_t + \beta_2 * dexr + v_t \quad (4)$$

Where:

$dtssa_t$  is the first difference of the seasonally adjusted value of the real expenditures by international

inbound visitors in Armenia classified as tourists, according to the WTO methodology in period  $t$ .

$dtssa_t$  is the first difference of the seasonally adjusted tourist arrivals according to the WTO methodology in period  $t$ .

$dextr_t$  is the first difference of the exchange rate (3-month average) of the Armenian dram against the US dollar in period  $t$ .

$\beta_0, \beta_1, \beta_2$  are model unknown parameters.

$v_t$  is the error term in period  $t$ .

We tested for the evidence of autocorrelation and found the evidence thereof, therefore, we incorporated respective MA order processes in the equations to deal with the problem

Then, upon incorporating the respective MA order processes into equations we tested for the evidence of autocorrelation, heteroskedasticity, and normal distribution of error term, by performing the following tests: Breusch-Godfrey Serial Correlation LM (lags included: 4); Breusch-Pagan-Godfrey; and Jarque-Bera.

### Results and Discussion

*Real expenditures by international inbound visitors to Armenia – the real GDP nexus.* In general, the variables included in both models explain about 50% of the changes in the real GDP (see Table 4, Estimation #1, 2), which is conditioned by the fact that our purpose was not to include other variables in the regression equations to identify the role of those factors in explaining the statistically significant change in the real GDP.

After the end of the first quarter of 2022 (when the Russian-Ukrainian conflict started), according to estimation results using quarterly data spanning from the first quarter of 2012 to the first quarter of 2022, the Government of Armenia could have expected, on average, that the change in the real expenditures by the international inbound visitors in Armenia classified as tourist according to the methodology of the WTO by 1 dram in period  $t$  (quarter) could have caused an increase in the real GDP by 1.119 Armenian drams in the same period (see Table 4, Estimation #1).

Table 4

Estimation Results-1 (Method: Least Squares)

Dependent variable $dgdpt$	Estimation #1: Sample: 2012q1-2022q1 Adjusted sample: 2012q2-2022q1	Estimation #2: Sample: 2012q1-2023q2 Adjusted sample: 2012q2-2023q2
$dtssa_t$	1.11947429924 (7.347)***	1.15534423675 (9.235)***
Constant	9,375,962,479.17 (4.319)***	10,099,615,458.5 (5.146)***
MA(1)	-0.505 (-3.617)***	-0.541 (-4.275)***
R-squared	0.509	0.518
Adjusted R-squared	0.483	0.495
Included Quarters	40	45

Notes:  $t$  statistics values in parentheses. \*\*\* denotes significant at 1 percent significance level

This indicates the «multiplier effect» of expenditures by the international inbound visitors in Armenia since an increase in real expenditures by one dram causes a greater increase in the real value added in Armenia (exceeding 1 dram), which means that tourism contributes to the development of related sectors of the economy and to ensuring higher economic growth rates. Therefore, the increase in tourist arrivals from other countries especially from Russia would contribute to the economic growth. After the first quarter of 2022, a sharp increase in the number of visitors compared to 2021 (in 9 months) [16] was reported, mainly explained by the first scenario mentioned by us, that regardless of the macroeconomic stance in Russia, an increase in the number of visitors from Russia could have been expected, taking into account restrictions on the visa issuance by several of countries (especially the Western countries), etc.

After the end of the second quarter of 2023 (when the number of visitors from Russia had already sharply increased), according to the results of estimation using the quarterly data from the first quarter of 2012 to the second quarter of 2023, the Government of Armenia could expect, on average, that a change in the real expenditures by international inbound visitors in Armenia by 1 Armenian dram

in period  $t$  (quarter) could cause an increase in the real GDP by 1.155 Armenian drams in the same period (see Table 4, Estimation #2). Based on these results, we could conclude with the deepening «multiplier effect» of expenditures by international inbound visitors in Armenia, which meant that growth in tourist arrivals could increase the impact of expenditures by visitors on the real GDP of Armenia with respect to the real value added generated.

Based on these results, we could also conclude that after the second quarter of 2023, the dependence of the Armenian economy on the tourism industry has increased, which means that the economy would become more vulnerable to the Russian economy, especially in terms of the changes in tourist arrivals from Russia. On the other hand, taking into account the fact that in the first half of 2023, compared to the same period of the previous year, an 11.2% decline was reported by the hotels and similar accommodation industry accompanied by a sharp increase in tourist arrivals (especially from Russia) [26, p. 48, 158, 161] and increase in the number of hotels (see Table 3), we could suppose that especially in the case of visitors from Russia, the latter did not prefer to stay at hotels, but, for example, preferred accommodation and/or apartments for daily rent, or rented apartments of those who had already moved from Russia to Armenia.

That means that after the second quarter of 2023, the second scenario indicated by us for the period 2024-2026 could be expected, under which the economic situation in Russia would worsen, thus resulting in some, but not large, decrease in tourism arrivals from Russia, or the number would remain unchanged to a certain extent and that would be accompanied by a reduction in expenditures by Russian visitors in Armenia. It turns out that an increase in tourist arrivals in the short run and medium term might not result in an increase in the real expenditures by international inbound visitors in Armenia and might even lead to a reduction, which would negatively affect the economic growth in Armenia.

Therefore, the priority of the Government of Armenia should be diversification in the short run and medium term with respect to the export markets, in case if tourist arrivals from Russia at least remain at the same level and/or report a slight reduction, to ensure the increase in tourist arrivals from other countries, and desirably from the high- and upper-middle-income countries.

*Tourist arrivals and the exchange rate-the real tourism receipts nexus in Armenia.* Taking into account the fact that in the case of two periods (2012q1-2022q1 and 2012q1-2023q2), the estimation results cannot be considered reliable, only the results of estimation for the first period (2012q1-2020q1) are presented here (see Table 5, Estimation #3).

Table 5

**Estimation results-2 (method: Least Square)**

Dependent variable` $dtssa_t$	Estimation #3: Sample: 2012q1-2020q1 Adjusted Sample: 2012q2-2020q1
$dtnsa_t$	334544.9 (23.945)***
$dexr_t$	117773790.4 (2.559)**
Constant	-604101566.56 (-0.660)
MA(4)	0.862 (-11.324)***
R-squared	0.960
Adjusted R-squared	0.955
Included quarters	32

Notes:  $t$  statistics values in parentheses. \*\* denotes significant at 5 percent significance level; \*\*\* denotes significant at 1 percent significance level.

In general, the variables included in the model explain about 95% of the changes in real expenditures by international inbound visitors in Armenia (see Table 5, Estimation #3).

At the beginning of the second quarter of 2020, during the lockdown, the Government of Armenia could have expected (based on the data from the first quarter of 2012 to the first quarter of 2020) that the decrease in tourist arrivals by 1 in period  $t$  (quarter) could have caused a reduction in the real tourism receipts in Armenia by 334,545 AMD during that same period (see Table 5, Estimation #3).



Therefore, if, for example, 400,000 tourists had not visited Armenia in the second quarter of 2020, the expected amount of «losses in tourism receipts» i.e. the decrease in expenditures by international inbound visitors in Armenia could have reached 133.82 billion AMD, on average.

As for the depreciation of the Armenian dram against the US dollar, it becomes clear from the results of the estimation that if the Armenian dram depreciates by 1 Armenian dram against the US dollar, that could cause an increase in the real expenditures by international inbound visitors in Armenia by 117,773,790.4 Armenian drams, on average (see Table 5, Estimation #3). On the contrary, based on the estimation results, it becomes clear that the appreciation of the Armenian dram against the US dollar leads to a reduction in the real expenditures of tourists in Armenia. Therefore, the appreciation of the Armenian dram to quite a large extent against the US dollar might lead to a reduction in the real expenditures by tourists in Armenia, and this would negatively affect the economic growth in Armenia.

If we compare the estimation results (see Table 5, Estimation #3) with the real expenditures per tourist in Armenia, especially with the amount of 2022 (see Table 1), it becomes clear that the depreciation of the Armenian dram [11] was not considered as the key factor that could have had a negative impact on the tourism receipts. This also indicates the following:

1. Visa restrictions for Russian citizens reduced the number of acceptable (favorable) countries for Russian tourists (probably also from the point of view of friendly treatment), that they could visit in 2022. It could be supposed that still having some savings, visitors from Russia were able to increase their expenditures in 2022 in order to spend their vacation in Armenia. Based on the performance of hotels and similar accommodation industry in the first half of 2023 (compared to the same period of 2022) [26, p. 48, 161] and the changes in the tourism arrivals [16], we could conclude that the deteriorating economic situation in the Russian Federation (especially from the second quarter of 2022 to the second quarter of 2023) [27] along with the overvalued Armenian dram [11] would lead to the decline in the real expenditure by visitors from Russia in the short run and medium term.

2. The number of visitors with Armenian roots probably comprised a significant share in the composition of tourist arrivals in Armenia in 2022, in which case (regardless of the appreciation of the Armenian drams) a significant reduction in their planned expenditures was not recorded.

3. The overvalued Armenian dram against the US dollar would negatively affect the price competitiveness of Armenia as an attractive destination for foreign tourists (who do not have Armenian roots) in the short run and medium term, if Armenia fails to offer its unique tourist products that will be attractive for foreigners, taking into account the price-perceived quality ratio, etc.

Taking into account the arguments presented above, the availability of 2-star hotels, and cheap accommodation (in the suburbs of Yerevan and nearby settlements, and next to attractive tourist centers as well) is highly stressed for Armenia in the medium term if the Armenian dram remains overvalued, and this would not cause a certain decline in tourist arrivals.

Therefore, in 2012-2023 (as of the first half of 2023), the increase in tourism receipts in Armenia had a «multiplier effect» on the economy, by deepening the dependence of the economy on the increase in expenditures by the international inbound visitors, and making the economy more vulnerable to the fall in tourist arrivals in the short run and medium term (2024-2026). The price competitiveness (if the Armenian dram against the US dollar remains overvalued), would be a challenge for Armenia in terms of both facing competition with other destinations and attracting tourists and positioning Armenia as a more attractive place through the availability of cheap accommodation, and the supply of unique tourism products especially in the Western, high- and upper-middle-income countries as well. At the same time, in the short run and medium term, the increase in tourism arrivals might not result in an increase in the real expenditures by international inbound visitors and could cause a decrease in expenditures, thus negatively affecting the economic growth of Armenia.

In the case of external shocks, especially in the case of the recurrence of the global pandemic in 2024-2026, a larger amount of state support might be required than the support of about 6 billion AMD provided by the government of Armenia to 1,421 business entities representing the sectors of economy directly related to the tourism industry and allocated in the period 2020-2021 within the framework of only crisis-response measure N 23. In the period 2024-2026, in the case of a possible sharp decline in tourist arrivals from Russia, the Government of Armenia can increase the funding (according to the state budget) to be allocated to the Tourism Committee and to co-fund certain marketing campaigns and activities of the companies representing the tourism industry aimed at attracting visitors from other countries.

### Conclusion

Armenia, upon overcoming the aftermath of the Global Financial Crisis of 2008 reported an increase from 2012 to 2019, that the amount of 2019 wasn't surpassed in the period 2012-2022. In 2022,

the highest amount of expenditures by international inbound visitors was recorded, accounting for 12.5% of the GDP. The results indicate that the role of the tourism industry in the Armenian economy increased, and at the same time, the economy became vulnerable to a sharp decrease in tourism receipts. Therefore, we aimed to find out the role of expenditures by international inbound visitors in Armenia in explaining the statistically significant changes in the real GDP, and the role of tourist arrivals and the exchange rate (the Armenian dram against the US dollar) in explaining the statistically significant changes in tourism receipts in the short run by utilizing econometric estimation techniques (method: least squares) and using quarterly data spanning from the first quarter of 2012 to the second quarter of 2023 to highlight the vulnerability of the economy to external shocks and to stress the respective priorities to face the challenges under the scenarios we built.

According to the results of the first estimation (2012q1–2022q1), the increase in the real expenditures by international inbound visitors in Armenia by 1 Armenian dram in period  $t$  (quarter) could lead to an increase in the real GDP by 1.119 drams, on average, in the same period, meanwhile according to the second estimation results (2012q1 – 2023q2) the increase would amount to 1.155 Armenian drams. We conclude with the deepening «multiplier effect» of tourism receipts in terms of generating real value added and increase in the vulnerability of the Armenian economy to tourist arrivals (especially visitors from Russia). We can expect the second scenario we built for the period 2024–2026, under which the economic situation in Russia would worsen, thus resulting in a certain, but not large, decrease in the number of visitors from Russia, or their number would remain unchanged to a certain extent, accompanied by the fall in tourism receipts.

Based on the results of the third estimation (2012q1 – 2020q1), a decrease in the number of international inbound visitors by 1 in period  $t$  (quarter) could lead to a reduction in the real expenditures made by visitors in Armenia by 334,545 Armenian drams, on average, in the same period, and the depreciation of the Armenian dram against the US dollar by one dram could cause an increase in real expenditures by visitors by 117,773,790.4 Armenian drams, in general. We conclude that the overvalued Armenian dram against the US dollar in the short run and medium term could negatively affect the price competitiveness of Armenia as an attractive tourism and travel destination for foreign visitors, if Armenia fails to offer unique tourism products attractive to foreigners, taking into account price-perceived quality ratio, etc. On the other hand, the availability of 2-star hotels and affordable accommodation in the medium term is highly important to prevent a certain decrease in tourism arrivals if the Armenian dram remains overvalued.

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