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Tourism Sector in Times of High Uncertainty

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Recovering from the Impact of the COVID-19 Pandemic on the Tourism Industry in Selected Central Asia Regional Economic Cooperation (CAREC) Countries

by

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1. Introduction

- Central Asia (CA) has been a bridge between Europe and East Asia – the Ancient Silk Road.
- The region attracted approximately 11 million international arrivals in 2014 (The World Bank, 2017).
- The tourism and hospitality industry has been one of the worst-hit sectors.
- The health crisis has caused approximately 700,000 travel and tourism jobs are at risk (Sobie, 2020).
- CA governments have made substantial interventions and adopted appropriate economic policy measure to support the service industry.

2. Genesis

- Investigates the impact of the COVID-19 pandemic on the tourism industry in the CA region.
- Assesses how the pandemic may change society, the economy, and tourism in CA member states.
- Outlines key research requirements and recommends useful government recovery plans.

3. Research Questions

- How significantly does the pandemic affect the tourism industry?
- Should the CA governments do better to implement the recovery policy? How?

4. Synopsis (1)

- The tourism industry has become one of the symbolic features for CAREC member states since the post-Cold war.
- The CAREC countries enrich of their natural and cultural heritage as well as their historical and build assets.
- Fig. 1 illustrates the international tourist arrivals in the CA region.

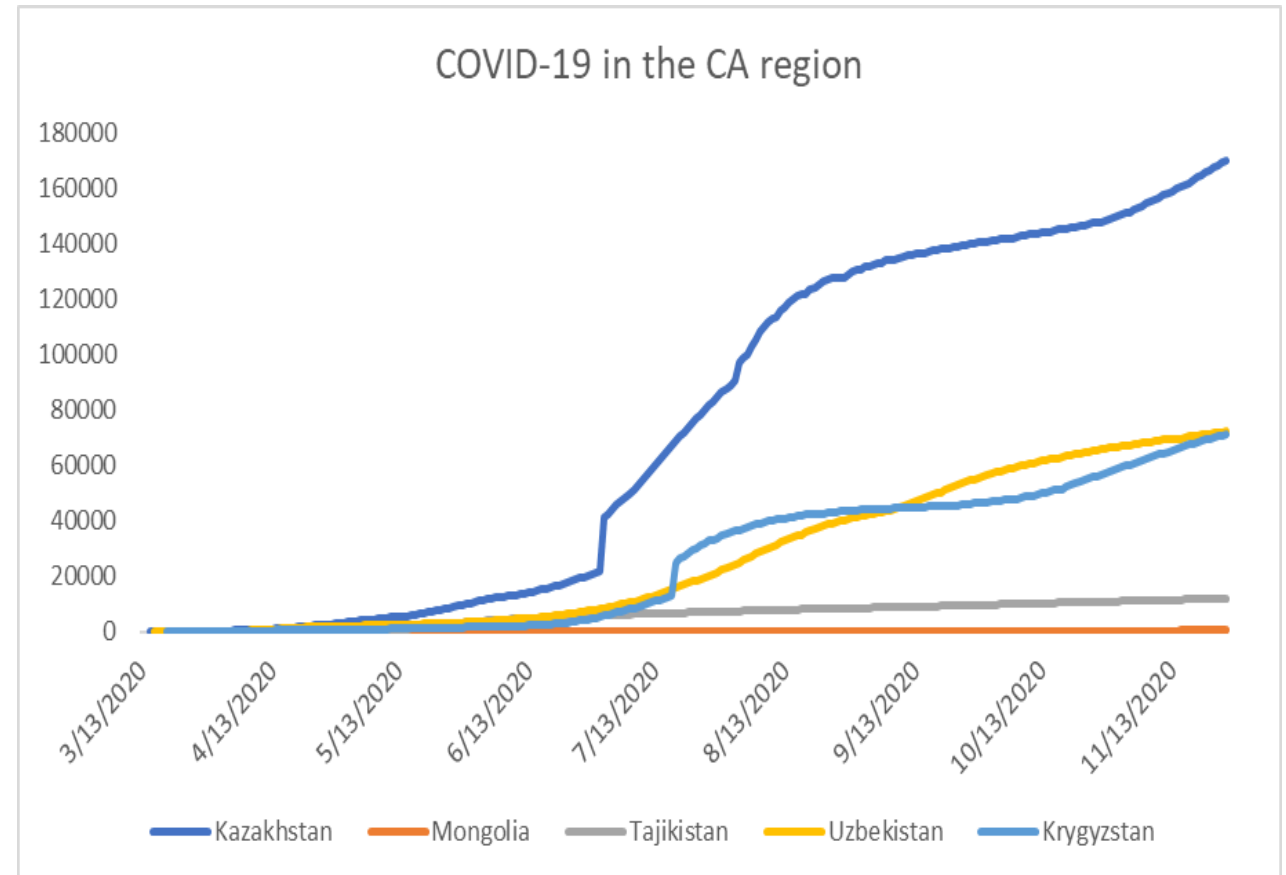
Figure 1: Total number of international tourist arrivals in the CA region



4. Synopsis (2)

- The outbreak of the COVID-19 has brought uncertainty, and a spillover impact on all sectors.
- The international travel service providers in this region are in a dire position.
- Fig. 2 explains the COVID-19 cumulative cases in CA countries.
- Limited research in the COVID-19 and tourism and hospitality related studies (Aburumman, 2020; Davahli et al., 2020; and Jamal and Budke, 2020).

Figure 2: The development of COVID-19 in CA (as of 11/26/2020)



5. Data and Methodology (1)

- A quarterly panel regression model from 200q1-2020q4 was applied.
- Following the study by Tran et al., (2020), the model is written as the following:

$$Y_{it} = \alpha + \beta'X_{it} + \mu_{it} \quad (1)$$

- where i and t represent indexes of the individual country and the time.
- Y is international arrivals
- X is a set of independent variables, for example, the number of confirmed cases (*conf*), the number of total deaths (*cond*), as well as other control variables, including population density (*popden*), GDP per capita (*GDP*), cost of health—out-of-pocket health expenditure—(*health*), the total number of hospital beds per 1,000 people (*capacity*), and the total number of health workers—nurses and midwives—per 1,000 people (*nandMW*)
- μ_{it} is the error term

5. Data and Methodology (2)

- In the panel regression, the empirical model was given in a natural logarithm, written as the following:

$$\ln Arrivals_{it} = \alpha_0 + \beta_1 \ln COVID_case_{it} + \beta_2 \ln Control_{it} + \mu_{it} \quad (2)$$

- The number of COVID-19 confirmed cases (*COVID_case*) and deaths are considered to be major pandemic-related variables. This variable *COVID_case* is the main explanatory variable.
- The sample data was collected from January 1 to December 6, 2020
- Our World in DATA, The World Bank, WHO, UNWTO's Tourism Statistics and Worldometers

6. The analyses (1)

- The study applies two estimation models. (1) pooled ordinary least square (OLS) and fixed effects (FE). See Table 1.
- The empirical study finds a promising outcome of COVID-19 and tourism flows in the CA region.
- The study finds all the variables of COVID-19 are significantly related to international tourist arrivals.
- The arrival of international tourists can impact the country's COVID-19 confirmed and death cases.
- The study finds that the health variable has a significant p-value.
- The result indicates that low income and least developed nations' citizens more likely to suffer a high number of deaths from the pandemic.

Table 1: Estimation results of panel regression models

Dependent variable: arr	OLS		FE	
GDP	1,357.55** (93.360)	14.54** (0.000)	470.876** (77.253)	6.100** (0.000)
popden	27,0371.9** (10,873.770)	24.86** (0.000)	276,198.600** (55,423.670)	4.980** (0.000)
health	-62,789.49** (5,322.280)	-11.80** (0.000)	15,458.540** (4,445.883)	3.480** (0.001)
capacity	-925,251.60** (327,179.200)	-2.83** (0.005)	2,374,427.000** (224,397.800)	10.580** (0.000)
nandMW	-2140,549.00** (159,382.200)	-13.43** (0.000)	957,983.000** (277,214.300)	3.460** (0.001)
conf	-4.732** (47.460)	-0.10** (0.921)	171.877** (21.997)	7.810** (0.000)
cond	-3,636.72** (1,901.960)	-1.91** (0.056)	-16,180.650** (907.128)	-17.840** (0.000)
_cons	8,846,949** (23,616,500)	3.75** (0.000)	-3.28e+07** (3,581,034.000)	-9.170** (0.000)
Number of obs	672		672	
R-sq	0.762		0.263	
F test			373.140	

Note: () robust standard error and p-value in parentheses. ** $p < 0.05$

6. The analyses (2)

- A robustness check is conducted using the random effect (RE) method. See Table 2.
- The robustness check finds similar and consistent results in OLS and FE.
- The results reflect the validity of how significant the impact of COVID-19 is related to the tourism industry in the CAREC region

Table 2: Estimation results in RE panel regression method

Dependent variable: arr	RE	
GDP	1,357.551** (93.358)	14.540** (0.000)
popden	270,371.900** (10,873.7700)	24.860** (0.000)
health	-62,789.490** (5,322.275)	-11.800** (0.000)
capacity	-925,251.600** (327,179.200)	-2.830** (0.005)
nandMW	-2,140,549.000** (159,382.200)	-13.430** (0.000)
conf	-4.732** (47.456)	-0.100** (0.000)
cond	-3,636.718** (1,901.957)	-1.910** (0.0560)
_cons	8,846,949.000** (2,361,650.000)	3.750** (0.000)
Number of obs	672	
R-sq	0.762	

Note: () robust standard error and p -value in parentheses. ** $p < 0.05$

7. Conclusions and Recommendations

- In general, the findings shows the impact of COVID-19 could significantly devastate international tourism for CAREC member states.
- Adapting the trends in the use of technologies as a business response.
- Applications aimed at minimize human-to-human contact is another platform to benefit the tourism industry.
- CA governments must make a strong commitment and accelerate plan to adapt to the new digital future.
- Encourage travel bubble within the region.
- Encourage travel locally.