Impact of Saudi Logistics Performance Index Indicators on Saudi Foreign Trade

Dr. Basim Ibrahim Aljabhan

Assistant Professor in Supply Chain Management and Logistic Faculty of Maritime Studies King‹ Abdul Aziz University

Baljabhan@kau.edu.sa

Dr. Ayman Elnahrawy

Associate Professor in Arab Acadmy for Science, Technology & Maritime Transport

dr.ayman.nahr@gmail.com

Faculty of Commerce Scientific Journal

Faculty of Commerce, Assiut University

Vol. 80, March 2024

APA Citation:

Aljabhan, B. I. & Elnahrawy, A. (2024). Impact of Saudi Logistics Performance Index Indicators on Saudi Foreign Trade. ***Faculty of Commerce Scientific Journal***, Assiut University, 80, 361-383.

Website :https://sjcf.journals.ekb.eg.

Impact of Saudi Logistics Performance Index Indicators on Saudi Foreign Trade

Dr. Basim Ibrahim Aljabhan, Dr. Ayman Elnahrawy

Abstract:

Saudi Arabia, as world's leading oil exporter and the greatest economy in the Middle East, is pursuing Saudi Vision 2030 with the aim of transforming the country into the region's main logistics hub connecting Asia, Europe, and Africa. To achieve this vision, the Saudi Government has enacted widespread developments in all logistics-related fields. The Logistics Performance Index (LPI) is an important assessment and comparison tool created by the World Bank. This research paper examines the relationship between Saudi LPI components and Saudi foreign trade exports and imports for 2007–2018. Statistical Package of Social Sciences used to measure the correlation coefficients, and hypotheses testing followed in order to determine the statistical significance of the coefficients.

Keywords: logistics performance index; foreign trade; competitiveness; shipping; transportation; risk management; customs

تأثير مؤشر الأداء اللوجستي السعودي على التجارة الخارجية السعودية ٢٠٠٧-٢٠٢٢

د. باسم إبراهيم الجبهان **د. أيمن النهراوي**

أستاذ مساعد إدارة سلاسل الإمداد واللوجستيات أستاذ مشارك بالأكاديمية العربية للعلوم والتكنولوجيا

المستخلص العربي:

يعتبر مؤشر الأداء اللوجستي (LPI) الذي أنشأه البنك الدولي على نطاق واسع أداة تقييم ومقارنة مهمة. المملكة العربية السعودية هي دولة رائدة مصدرة للنفط وأكبر اقتصاد في الشرق الأوسط، وتتمتع بموقع استراتيجي. وفقاً لرؤية السعودية ٢٠٣٠، التي تهدف إلي تحويل البلاد إلي المركز اللوجستي المفضل في الشرق الأوسط، الذي يربط آسيا وأوروبا وأفريقيا، فإن تنفيذ هذه الرؤية يتطلب من الحكومة السعودية تحقيق تطورات واسعة في جميع المجالات ذات الصلة بالخدمات اللوجستية. الغرض من هذه الورقة البحثية هو دراسة العلاقة بين المؤشرات السعودية (LPI) والتجارة الخارجية السعودية والصادرات والواردات، ٢٠٠٧-٢٠٢٢. الحزمة الإحصائية للعلوم الاجتماعية (SPSS) تستخدم لقياس معاملات الارتباط، يليها اختبار فرضيات الدلالة الإحصائية لمعاملات الارتباط.

الكلمات المفتاحية: مؤشر الأداء اللوجستي، التجارة الخارجية، القدرة التنافسية.

1. Introduction

Economic globalization and competition have greatly enhanced the role and importance of logistics on both the micro and macro levels. To compete in international markets and gain a better global market share, countries and businesses must produce high-quality export products at lower prices, and they must do so with lower logistics costs. Accordingly, these actors want to assess their logistics system performance, as assessment is key to enhancing the system's capabilities and to optimizing and developing its components. Popular assessment tools include the Agility Emerging Markets Logistics Index, the Global Competitiveness Index, and the Logistics Performance Index (LPI).

2. Purpose of Research Paper

The purpose of this research paper is to examine the relationship between Saudi LPI indicators and Saudi exports and imports during 2007–2018.

3. Research Questions

In line with the purpose of the research paper, the following research questions directed the investigation:

1. What is the relationship of Saudi LPI indicators and the overall LPI score with Saudi Exports 2007–2018?
2. What is the relationship of Saudi LPI indicators and the overall LPI score with Saudi Imports 2007–2018?

4. Research Methodology

4.1. Measuring the Degree of Correlation

Statistical Package of Social Sciences [1] used to measure the degree of correlation between each Saudi LPI indicator and Saudi Exports and Imports 2007–2018. Pearson's correlation coefficient indicates either a negative or a positive relation ranging from +1 to −1. A coefficient of +1 indicates a perfect direct linear correlation while a coefficient of −1 indicates a perfect inverse linear anti-correlation. If the coefficient is 0, the variables are independent. Thus, the closer the coefficient is to 0, the weaker the correlation between the variables, and the closer the coefficient is to either +1 or −1, the stronger the correlation between the variables.

4.2. Hypotheses Test of Statistical Significance for Correlation Values

- To test the relationship between Saudi LPI indicators and Saudi Exports, the following null hypotheses were suggested:

Hypothesis 1. *Saudi LPI indicators had no impact on Saudi Exports 2007–2018.*

Hypothesis 2. *Saudi overall LPI score had no impact on Saudi Exports 2007–2018.*

- To test the relationship between Saudi LPI indicators and Saudi Imports, the following null hypotheses were suggested:

Hypothesis 3. *Saudi LPI indicators had no impact on Saudi Imports 2007–2018.*

Hypothesis 4. *Saudi overall LPI score had no impact on Saudi Imports 2007–2018.*

As $\alpha = 0.05$, a statistical significance of less than 0.05 indicates a statistically significant relationship between the two variables.

5. Literature Review

5.1. Çembercia & others [٢] measured the moderating effect of the Global Competitiveness Index on each dimension of the LPI utilizing the hierarchical regression method. Their results indicated that the moderating effect was statistically significant for three dimensions: International Transportation, tracking and tracing, and timeliness. This research thus showed the linkage between a country's Global Competitiveness Index score and logistics performance. Namely, to increase its Global Competitiveness Index score, a country should strive to improve in the three aforementioned dimensions, which would result in a parallel increase in the country's LPI score.

5.2. Madkour & others [3] aimed to link logistics performance and trade openness for African countries, taking into account that trade openness bolsters cross-border production and, in turn, productivity gains and economic growth. To examine the impact of the LPI on trade openness, a statistical model used. The results showed that the LPI does not affect African countries' economic openness. Researchers argued that: these African countries view logistics industry as an essential component of trade and are therefore advancing development and investment in it.

5.3. Dare & others [٤] studied the weight of the six LPI dimensions using scores based on logistics providers' opinions. The researchers used the "Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)" in a multi-criteria analysis. All the hypotheses tested were true and accepted, this paper illustrates that LPI could be enhanced by distributing weights to sections. These unique weights are exceptional, each element is believed similarly substantial, and this might lead countries to correctly assume where new logistics tasks should to be involved and what is most considerable for to improve governments.

5.4. *Beysenbaev & Dus* [٥] suggested improvements for LPI based on a global survey of logistics providers and specialists. Their survey results indicated that LPI might have biases for or against some countries' logistics systems that could result in potentially skewed ratings. Researchers suggested a modified index that qualitatively and quantitatively represent countries' logistics systems, Researchers suggested that this modified index used as a logistics benchmark for governments and other decision-makers.

6. Logistics Performance Index (LPI)

Within economic globalization, world trade competition has escalated to unprecedented levels. Governments have realized that competition requires countries to not only produce high-quality products at lower prices but also transport these products from their origin to their final destination through a safe and reliable global supply chain. Accordingly, many governments find assessing their logistic system performance to be of great importance. Indeed, assessment is key to developing, modernizing, and optimizing this system and, in turn, to maximizing international trade competitiveness.

The LPI estimates logistics supply chain performance on two levels: internationally and domestically, the International LPI delivers six indicators that are qualitative evaluations of a country:

- Customs efficiency and clearance of border management ("Customs").
- Trade quality and infrastructure of transport ("Infrastructure").
- Competitively priced of arranging shipments ("Ease of arranging shipments").
- The competence and quality of logistics services—trucking, forwarding, and customs brokerage ("Quality of logistics services").

- Ease of track and trace shipments ("Tracking and tracing").
- The frequency of delivery times accuracy ("Timeliness").

The World Bank presents an International LPI ranking every two years by surveying global freight forwarding companies and logistics carriers. LPI has been used regular statistical techniques to accumulate the data into a single indicator used for cross-country comparisons. Specifically, World Bank uses Principal Component Analysis (PCA) to combine the data of the previously mentioned indicators into a single aggregate measure that indicates the overall efficiency of countries' logistics systems.

To normalize the estimates in PCA, mean of the sample is subtracted and divided by standard deviation, then calculating the weighted average of indicators, finally, the normalized scores are multiplied by their component weight, the greater the International LPI value, the logistics system of the country is more developed.[6]

The Domestic LPI delivers qualitative and quantitative evaluations of a country by surveying its internal professionals of logistics. The Domestic LPI uses four major components to evaluate logistics performance: services, infrastructure, border procedures and time and supply chain reliability.[7]

7. Overview of the Saudi Economy

Saudi Arabia's economy is among the leading developing economies in the world and the greatest economy in the Middle East. Saudi Arabia has the second-largest proven world oil reserves, estimated at 260 billion barrels, which is about one-quarter of world oil reserves. The country is also the largest oil exporter in the world. The oil segment accounts for approximately 87% of the budget revenues. Too, 90% of country export incomes, and 42% of the country's GDP. It also has the world's fifth-largest proven natural gas reserves.[٨]

In 2016, Saudi Government launched Saudi Vision 2030, a strategic framework aimed at reducing the country's dependency on oil and diversifying its economic resources. In the first quarter of 2019, Saudi Arabia's budget accomplished a $10.40 billion surplus for the first time since 2014 due to the increase of oil and non-oil revenues.

Table 1. shows the development of Saudi foreign trade by value for the period 2007–2019, Saudi Imports increase is accompanied by Saudi exports increase all over the mentioned period with a surplus in trade balance.

Table 1. Development of Saudi Foreign Trade 2007-2019.

Year	Trade Balance	Trade Volume	Exports	Imports
		Values: in Million Saudi Riyal		
2007	536,315	1,212,491	874,403	338,088
2008	743,729	1,607,235	1,175,482	431,753
2009	362,819	1,079,400	721,109	358,290
2010	541,050	1,342,521	941,785	400,736
2011	874,171	1,861,069	1,367,620	493,449
2012	873,029	2,039,975	1,456,502	583,473
2013	778,941	2,040,106	1,409,523	630,582
2014	632,246	1,935,997	1,284,122	651,876
2015	108,280	1,418,346	763,313	655,033
2016	162,787	1,214,059	688,423	525,636
2017	327,435	1,336,328	831,881	504,447
2018	589,908	1,617,893	1,103,900	513,993
2019	406,651	1,555,374	981,012	574,361

Source: General Authority for Statistics (2020).

In June 2018, the United Nations Conference on Trade and Development released a report on Saudi Arabia's foreign direct investment. The report found that, in the first quarter of 2018, net capital outflows accounted for approximately 5% of the GDP, compared to less than 2% of the GDP in late 2016 [٩]. Foreign direct investment in 2018 had developed remarkably to $8.8 billion compared to $1.4 billion in 2017 [10]

8. Saudi Merchandise Trade

Total merchandise exports of Saudi Arabia amounted to 1 trillion 103 billion 900 million riyals in 2018 compared to 831 billion 881 million riyals in 2017,corresponding to an increase of 272 billion 19 million riyals or 32.7% over the previous year.Oil exports were valued at 868 billion 442 million riyals in 2018 compared to 638 billion 402 million riyals in 2017, corresponding to an increase of 230 billion 40 million riyals or 36.0% over the previous year. The share of oil exports in total merchandise exports also increased from 76.7% in 2017 to 78.7% in 2018.

Non-oil exports amounted to 235 billion 458 million riyals in 2018 compared to 193 billion 479 million riyals in 2017, corresponding to an increase of 41 billion 979 million riyals or 21.7% over the previous year. The share of non-oil exports in total merchandise exports, nevertheless, reduced from 23.3% in 2017 to 21.3% in 2018. Products re-exported by Saudi Arabia amounted to 31 billion 688 million riyals in 2018 compared to 32 billion 346 million riyals in 2017, down by 657 million riyals or 2.0% over the previous year.

Total merchandise imports of Saudi Arabia amounted to 513 billion 993 million riyals in 2018 compared to 504 billion 447 million riyals in 2017, corresponding to an increase of 9 billion 546 million riyals or 1.9% over the previous year.

The merchandise trade volume of Saudi Arabia amounted to 1 trillion 617 billion 893 million riyals in 2018 compared to 1 trillion 336 billion 328 million riyals in 2017, corresponding to an increase of 281 billion 565 million riyals or 21.1% over the previous year. Saudi Arabia recorded a surplus of 589 billion 908 million riyals in its merchandise trade in 2018, up by 262 billion 473 million riyals from the surplus of 327 billion 435 million riyals registered in the previous year [11].

9. Logistics within Saudi Vision 2030

Since 2006, the Saudi government has implemented regulatory changes, multimodal transport networks, and port development projects to improve the country's logistics performance. In 2016, Saudi Arabia signed the World Trade Organization's Trade Facilitation Agreement. The provisions therein aim to achieve improved cooperation between customs officers and other authorities. The provisions therefore require improved appeal rights for traders, reduced fees, faster clearance procedures, and publication of information about border procedures and practices that is clear and well publicized. The Trade Facilitation Agreement would lower world trade costs by 14%, to reduce import time by 36 h, and to reduce export time by 48 h.

In March 2017, Saudi Arabia decided to join the UN Economic Commission for Europe's International Road Transport system, or the Transports Internationaux Routiers (TIR) Convention. Saudi Arabia would accept TIR carnets or its electronic equivalent on any consignment if part of the journey is completed by road. Saudi Arabia will also apply this option to seaports that are processing containers shipped through the country.

One of the major targets of Saudi Vision 2030 is transforming of the country into the preferred logistics hub in the Middle East connecting Asia, Europe, and Africa. Key to achieving this target is review of existing gov-

ernment regulations, restructuring of processes, and creation of opportunities for private sector participation [12]

Initiative	Objective
1. Import/export process streamlining	• Reduce the time, cost and variability of importing/exporting goods, through process reengineering and automation
2. Electronic system adoption	• Enhance the security, transparency and control over import/export, through greater use of electronic systems
3. Integrated transport infrastructure masterplan	• Enhance the quality, safety and efficiency of the transport infrastructure, through coordinated, long-term master planning
4. Air cargo capacity enhancement	• Resolve current infrastructure bottlenecks, by expanding air cargo capacity in major international airports
5. Logistics regulations improvement	• Facilitate increased competition and private sector participation, by updating current regulations to international standards
6. Port sector reform	• Enhance sea mode efficiency and service quality, through increased port specialization and reformed governance and concession frameworks
7. Rail sector transformation	• Enhance rail mode efficiency and service quality, through governance reform and railway restructuring and privatization
8. Air cargo liberalization	• Enhance the efficiency and service quality of air cargo transport, through increased liberalization and private sector participation
9. Special economic zones development	• Increase and facilitate trade by establishing new special economic zones

Figure 1. Saudi Logistics Sector Improvement Programme.

Source: Ministry of Transport and Logistic Services (2020)

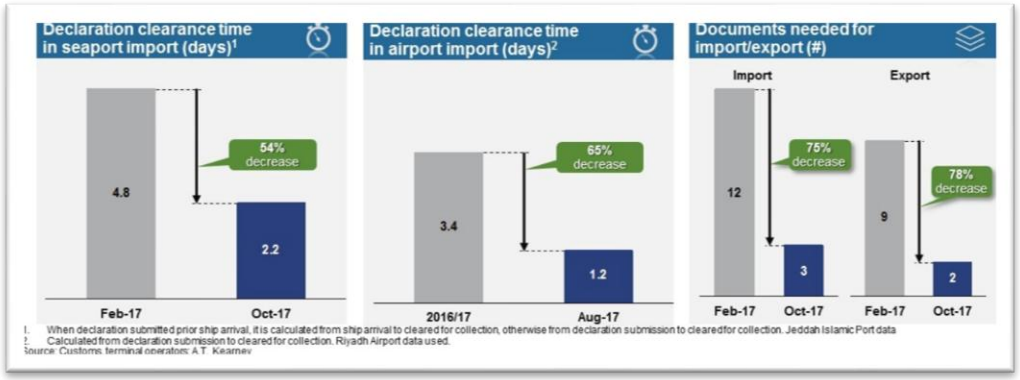

Figure 2. Saudi Economic Gains of Facilitating Customs Operations.

Source: Ministry of Transport and Logistic Services (2020).

Figure 1. ,demonstrates Saudi Logistics Sector Improvement Program, based on initiatives to achieve time and cost reduction, to enhance transparency and control over trade movements, also to enhance efficiency and service quality for Saudi logistics services. One of the tools used to achieve these objectives, was by implementing a system that enabled input of data before shipments arrived and the use of technology in processing the data. So, the use of technology has increased customs work hours to all the time, decreased the manual inspection level by improving the process of risk management, as well as improved the integration and cooperation of the government authorities engaged in the process of export /import.

Figure 2. , shows economic gains resulted from the successful application of the Saudi Logistics Sector Improvement Program, the customs clearance's average time dropped to 2.2 days in seaports level and also dropped to 1.2 days at mode of airports. The documents used that required for import and export dropped by 75%. Likewise, the degree of regularity in the clearance process has enhanced substantially by 40% in customs data released at seaports within 24 h, and 70% within 48 h.

10. Saudi LPI indicators Scores

Table 2. , shows Saudi LPI indicators scores from 2007-2018, the year 2010 witnessed Saudi highest overall LPI score 3.22 with world rank 40, which improved in the following Year to 37 with Saudi overall LPI score 3.18.

Table 3. , shows Saudi LPI indicators scores from 2007-2018 compared to world and

Middle East top Performers, figures show Saudi LPI indicators scores to across the mentioned period far behind world and Middle East top performers, the gap was clear in 2018 as Saudi overall LPI score was 3.01 compared to World LPI score top performer 4.2 and Middle East top performer 3.96.

For statistical analysis, Table 4. shows the initials suggested for each of LPI indicators.

Table 2. Saudi LPI Indicators Scores from 2007–2018.

Year	Overall LPI Score	Overall LPI Saudi World Rank	Customs	Infrastructure	Ease of International Shipments	Logistics Competence & Quality Services	Ease of Tracking & Tracing	Timeliness
			Score	Score	Score	Score	Score	Score
2007	3.02	41	2.72	2.95	2.93	2.88	3.02	3.65
2010	3.22	40	3.03	3.33	3.12	3.11	3.44	3.70
2012	3.18	37	2.79	3.22	3.10	2.99	3.21	3.76
2014	3.15	49	2.86	3.34	2.93	3.11	3.15	3.55
2016	3.16	52	2.69	3.24	3.23	3.00	3.25	3.53
2018	3.01	55	2.66	3.11	2.99	2.86	3.17	3.30

Source: Data collected by the researchers from the World Bank's LPI reports.

Table 3. Saudi LPI Indicators Scores from 2007–2018 Compared to World and Middle East Top Performers.

Year	Saudi Arabia LPI World Rank	Saudi Overall LPI Score	Middle East Top LPI Score	World Top LPI Score
2007	41	3.02	3.15	4.19
2010	40	3.22	3.63	4.11
2012	37	3.18	3.78	4.13
2014	49	3.15	3.54	4.12
2016	52	3.16	3.94	4.23
2018	55	3.01	3.96	4.2

Source: Data collected by the researchers from the World Bank's LPI reports.

Table 4. Initials of LPI Indicators.

EXP	Exports
IMP	Imports
CS	Customs Score
ISS	Infrastructure Score
EISS	Ease of International Shipments Score
LCQSS	Logistics Competence & Quality Service Score
ETTS	Ease of Tracking & Tracing Score
TLS	Timeliness Score
OLPIS	Overall LPI Score

Table 5. , shows the correlation coefficients between each Saudi LPI indicator and Saudi Exports 2007-2018. The correlation coefficient is 0.128 for Customs Score (CS), 0.358 for Infrastructure Score (ISS), 0.269 for Ease of International Shipments Score (EISS), 0.078 for Logistics Competence & Quality Service Score (LCQSS), 0.304 for Ease of Tracking & Tracing

Score (ETTS), and 0.188 for Timeliness Score (TLS). The correlation coefficient with Overall LPI Score (OLPIS) is 0.288.

Thus, all correlation coefficients between Saudi LPI indicators and Saudi Exports show weak direct correlation (from 0 to less than 0.4).

To test the statistical significance of these values, two-tailed test was conducted. A test value of less than 5% indicates that the statistical relationship between the two variables is significant. Table 5. further shows that all the correlation coefficient test values are above 5%, indicating statistical insignificance of the correlation between the Saudi LPI indicators and Saudi Exports 2007–2018.

Table 5. Correlation Coefficients between Saudi LPI Indicators of Saudi Exports 2007–2018.

		EXP	CS	ISS	EISS	LCQSS	ETTS	TLS	OLPIS
EXP	Deg. of Correlation	1	0.128	0.358	0.269	0.078	0.304	0.188	0.288
	Sig. (2-tailed)		0.809	0.487	0.607	0.883	0.558	0.722	0.580
CS	Deg. of Correlation	0.128	1	0.612	0.766	0.878	0.614	0.852	0.723
	Sig. (2-tailed)	0.809		0.197	0.076	0.021	0.195	0.031	0.104
ISS	Deg. of Correlation	0.358	0.612	1	0.224	0.443	0.208	0.172	0.563
	Sig. (2-tailed)	0.487	0.197		0.669	0.378	0.693	0.745	0.245
EISS	Deg. of Correlation	0.269	0.766	0.224	1	0.630	0.670	0.726	0.690
	Sig. (2-tailed)	0.607	0.076	0.669		0.180	0.145	0.102	0.129
LCQSS	Deg. of Correlation	0.078	0.878	0.443	0.630	1	0.260	0.906	0.823
	Sig. (2-tailed)	0.883	0.021	0.378	0.180		0.619	0.013	0.044
ETTS	Deg. of Correlation	0.304	0.614	0.208	0.670	0.260	1	0.405	0.080
	Sig. (2-tailed)	0.558	0.195	0.693	0.145	0.619		0.426	0.880
TLS	Deg. of Correlation	0.188	0.852	0.172	0.726	0.906	0.405	1	0.653
	Sig. (2-tailed)	0.722	0.031	0.745	0.102	0.013	0.426		0.160
OLPIS	Deg. of Correlation	0.288	0.723	0.563	0.690	0.823	0.080	0.653	1
	Sig. (2-tailed)	0.580	0.104	0.245	0.129	0.044	0.880	0.160	

Correlation is significant at the 0.05 level (2-tailed).

Table 6. , shows the correlation coefficients between each Saudi LPI indicator and Saudi Imports 2007–2018.

The correlation coefficient is 0.612 for Customs Score (CS), 0.766 for Infrastructure Score (ISS), 0.878 for Ease of International Shipments Score (EISS), 0.614 for Logistics Competence & Quality Service Score (LCQSS), 0.852 for Ease of Tracking & Tracing Score (ETTS), and 0.723 for Timeliness Score (TLS). The correlation coefficient with Overall LPI Score (OLPIS) is 0.302.

The correlation coefficients show medium direct correlation (from 0.4 to less than 0.7) with Saudi Imports for Customs Score (CS) and Logistics Competence & Quality Service Score (LCQSS). The correlation coefficients show strong direct correlation (from 0.7 to less than +1) with Saudi Imports for Infrastructure Score (ISS), Ease of International Shipments Score (EISS), Ease of Tracking and Tracing Score (ETTS), and Timeliness Score (TS). On the contrary, the Overall LPI Score (OLPIS) shows a weak direct correlation with Saudi Imports.

Table 6. , shows that the correlation coefficient test values for Ease of International Shipments Score (EISS) and Ease of Tracking and Tracing Score (ETTS) are less than 5%, which indicates statistical significance for these indicators' relationship with Saudi Imports. However, Table 6 shows that the correlation coefficient test values for the other LPI indicators and for Overall LPI Score (OLPIS) are above 5%, which indicates statistical insignificance for the relationship of these indicators with Saudi Imports.

Table 6. Correlation Coefficients between Saudi LPI Indicators and Saudi Imports 2007–2018.

		IMP.	CS	ISS	EISS	LCQS	ETTS	TLS	OLPIS
IMP	Deg. of Correlation	1	0.612	0.766	0.878	0.614	0.852	0.723	0.302
	Sig. (2-tailed)		0.197	0.076	0.021	0.195	0.031	0.104	0.560
CS	Deg. of Correlation	0.612	1	0.224	0.443	0.208	0.172	0.563	−0.190
	Sig. (2-tailed)	0.197		0.669	0.378	0.693	0.745	0.245	0.718
ISS	Deg. of Correlation	0.766	0.224	1	0.630	0.670	0.726	0.690	−0.008
	Sig. (2-tailed)	0.076	0.669		0.180	0.145	0.102	0.129	0.987
EISS	Deg. of Correlation	0.878	0.443	0.630	1	0.260	0.906	0.823	0.362
	Sig. (2-tailed)	0.021	0.378	0.180		0.619	0.013	0.044	0.481
LCQS	Deg. of Correlation	0.614	0.208	0.670	0.260	1	0.405	0.080	0.032
	Sig. (2-tailed)	0.195	0.693	0.145	0.619		0.426	0.880	0.952
ETTS	Deg. of Correlation	0.852	0.172	0.726	0.906	0.405	1	0.653	0.589
	Sig. (2-tailed)	0.031	0.745	0.102	0.013	0.426		0.160	0.219
TLS	Deg. of Correlation	0.723	0.563	0.690	0.823	0.080	0.653	1	−0.079
	Sig. (2-tailed)	0.104	0.245	0.129	0.044	0.880	0.160		0.882
OLPIS	Deg. of Correlation	0.302	−0.190	−0.008	0.362	0.032	0.589	−0.079	1
	Sig. (2-tailed)	0.560	0.718	0.987	0.481	0.952	0.219	0.882	

Correlation is significant at the 0.05 level (2-tailed).

10. Conclusions

This research has examined the effects of the Saudi government's efforts since 2007 to achieve a higher logistics performance. Namely, the government has invested in several transport and logistics infrastructure projects and implemented more rigorous governance to create leaner processes and a more efficient customs system. These efforts continue in 2021 despite world economic fluctuations and a drop in world oil prices that has negatively affected the country's revenues, as oil remains Saudi Arabia's main export product.

Specifically, the research has examined the relationship between Saudi LPI indicators and Saudi foreign trade exports and imports for 2007–2018. On the one hand, the results showed no significant relationship between Saudi LPI indicators and Saudi Exports. This lack of relationship may be explained by the fact that Saudi Exports during this period consisted mainly of oil and refined oil products, which have their own export supply chain from Saudi Arabia to the world market. On the other hand, a significant relationship was observed between some Saudi LPI indicators and Saudi Imports. The results showed no significant relationship between Customs Score (CS), Infrastructure Score (ISS), Logistics Competence & Quality Service Score (LCQS), Timeliness Score (TLS), and Overall LPI Score (OLPIS) and Saudi Imports. However, Ease of International Shipments Score (EISS) and Ease of Tracking & Tracing Score (ETTS) were significantly related to Saudi Imports.

Author Contributions: Conceptualization, E.A. and A.B.; methodology, E.A. and A.B.; software, E.A.; validation, E.A. and A.B.; formal analysis, A.B.; investigation, E.A. and A.B.; resources, E.A. and A.B.; data curation, E.A. and A.B.; writing—original draft preparation, E.A. and A.B; writing—

review and editing, E.A. and A.B.; project administration, A.B.; All authors have read and agreed to the published version of the manuscript.

Funding: The authors received no specific funding for this work.

Data Availability Statement: The data used during the present investigation are available upon request to the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

References

Statistical Package of Social Sciences (SPSS), IBM SPSS Statistics for Windows, version 21.0, IBM Corporation, New Orchard Road, Armonk, NY10504, U.S.A.

Çembercia, M.; Civeleka, M.E.; Canbolata, N. The moderator effect of Global Competitiveness Index on dimensions of Lo-gistics Performance Index. Procedia-Soc. Behav. Sci. 2015, 195, 1514–1524.

Madkour, T.; Mohamed, S.K.; Dabees, A. The impact of Logistics Performance Index on Trade Openness in Africa. Int. J. Manag. Appl. Sci. 2020, 6, 70–74.

Dare, T.O.; Aubyn LN, A.; Boumgard, T. Analyzing, Evaluating and Improving the Logistics Performance Index (LPI) of a Country's Economy: Case Study: Nigeria, Ghana, and Morocco. Master's Thesis, World Maritime University, Malmö, Sweden, 2019, https://commons.wmu.se/all_dissertations/1181/ (accessed on 29 April 2021).

Beysenbaev, R.; Dus, Y. Proposals for improving the Logistics Performance Index. Asian J. Shipp. Logist. 2020, 36, 34–42.

The World Bank. International LPI. 2015. Available online: https://lpi.worldbank.org/international (accessed on 20 April 2021).

The World Bank. Domestic LPI. 2015. Available online: https://lpi.worldbank.org/domestic (accessed on 15 April 2021).

King Abdulazizi Petroleum Studies and Research Center, Saudi Arabia Energy Report, https://www.kapsarc.org/research/publications/saudi-arabia-energy-report/

Dudley, D. Saudi Arabia Suffers Shock Collapse in Inward Investment. Forbes, 7 June 2018. Available online: https://www.forbes.com/sites/dominicdudley/2018/06/07/saudi-arabia-shock-collapse-investment/#7c41da966e60 (accessed on 13 April 2021)

Martin, M. Britain, China lead way in new Saudi business licenses. Bloomberg, 28 April 2019. Available online: https://www.bloomberg.com/news/articles/2019-04-28/saudis-issue-70-more-foreign-business-licenses-from-year-ago (accessed on 25 March 2021)

General Authority for Statistics—Kingdom of Saudi Arabia. Merchandise Exports & Imports of the Kingdom of Saudi Arabia.2018,https://www.stats.gov.sa/en/tags/%D8%A7%D9%84%D8%B5%D8%A7%D8%AF%D8%B1%D8%A7%D8%AA

Saudi Ministry of Transport and Logistics Services, https://mot.gov.sa/ar/TransportSystem/Pages/logisticssector.aspx. (accessed on 29 March 2021).