Journal of World Economic Research
2018; 7(4): 105-110
http://www.sciencepublishinggroup.com/j/jwer
doi: 10.11648/j.jwer.20180704.11
ISSN: 2328-773X (Print); ISSN: 2328-7748 (Online)

The Economic Impact of the Regional Instability and the Syrian Civil War on Jordan: An Economic Performance Index Analysis

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To cite this article:
Wa'ed Alshoubaki, Michael Harris. The Economic Impact of the Regional Instability and the Syrian Civil War on Jordan: An Economic Performance Index Analysis. *Journal of World Economic Research*. Vol. 7, No. 4, 2018, pp. 105-110. doi: 10.11648/j.jwer.20180704.11

Received: November 21, 2018; **Accepted**: December 10, 2018; **Published**: January 2, 2019

Abstract: The Middle East and North Africa (MENA) region has had a long history of civil wars with significant political, social, and economic consequences. The Syrian civil war that began at the time of the Arab Spring in 2011 has affected neighboring countries, and the greater region in many ways. Although some attention has been given to the human catastrophe that the war has inflicted, especially with respect to refugees, little attention has been given to its economic impact on neighboring countries. This research will analyze how the Syrian civil war has affected the economy of the Hashemite Kingdom of Jordan. As Syria's southern neighbor, Jordan's economy was challenged in significant ways: the country received a substantial number of Syrian refugees, its main trade route was largely eliminated, and it engaged in significant military activity to protect itself from several direct Syrian-related military threats. The research focus was to better understand the burden the neighboring war posed to the Jordanian economy. To address this, the study employed the economic performance index (EPI) to examine Jordan's overall economic performance before and after war. It assessed the impact of regional instability on Jordan's trade flow by calculating the annual percentage change in importation and exportation. This study found that the civil war has negatively affected the overall performance of the Jordanian economy and trade. The results indicated that the Jordanian economy performed better before the Syrian civil war. The analysis revealed that the Jordanian economy experienced an increase in the rates of inflation and unemployment, as well as surging governmental deficits and declining investments and gross domestic product (GDP) growth as a result of the civil war in Syria. The macroeconomics analysis reveals the level to which the Jordanian economy has been affected by the civil war and raises valuable lessons for economic policy.

Keywords: Civil War, EPI, Jordan, Macroeconomics, GDP, Deficit, MENA, Syria

1. Introduction

The regional instability of the Middle East and North Africa (MENA) region is an ongoing phenomenon. MENA has witnessed political turbulence and wars both during and after the era of European colonization. Since decolonization, the region has suffered waves of civil wars, such as in Lebanon (1975–1990), Jordan (1970), Western Sahara (1975–1991), Libya (2011, 2014-present), Yemen (2015-present), and, most ferociously of all, Syria (2011-present). The ongoing instability in Yemen, Syria, and Libya and the diffusion of ISIS throughout Iraq has produced political and economic fragility in other countries. Murdoch and Sandler [1] have affirmed that civil war in a turmoil state will cause political and security unrest and will obstruct economic growth in other countries; in addition, receiving refugees imposes negative externalities due to their economic and social costs and the strain on public services.

After more than seven years of regional instability in MENA and the persistent civil war in Syria, it is imperative to study the impact of the Syrian civil war on Jordan as a contiguous state. In fact, the Syrian civil war has exposed great challenges as Jordan has been compelled to host 1,200,000 Syrian refugees, has suffered diminishing international support, and has experienced increasing pressure on social services and infrastructure [2].

Looking at some economic indicators, the study found a 42% increase in taxes after the start of the Syrian civil war, a percentage change in Jordan's public debt of 86.2% from 2011 to 2016, and an unemployment rate of 15.7% in 2016. More important, it also discovered that closing the transit trade route in 2012 negatively impacted Jordanian export and import activity with Syria, Turkey, and Europe which was combined with an import increases associated with hosting Syrian refugees [3]. Ultimately, it was assumed that the potential negative impact of the Syrian conflict on the financial markets is relatively small because those in Syria and Jordan are feebly connected and because bank transactions, including loan exposures, are small [4].

Mainly, the focus of this study was on the impact of civil war on the economy of neighboring states because there are considerable studies about the economic impact of hosting refugees on such select economic variables as the unemployment rate, real estate, and public services costs. Therefore, it was important to consider the political instability of a state and the economic consequences on contiguous states. This study sought to answer the following questions: Can the Syrian civil war explain the overall economic slowdown on Jordan as a neighboring state? How has the Syrian civil war affected interstate trade with Jordan? To answer these questions, the study constructed two analytical trajectories to assess Jordan's economic performance on a macroeconomics perspective; first, it used the economic performance index (EPI) to determine the negative impact of the overall regional instability on Jordan's economy in the last five years. Then, it attempted to evaluate the changes in trade flows due to the closing of the Jordanian–Syrian trade route as an indicator of the effect of Syria's civil war on the neighboring state.

2. Literature Review

The political, social, and economic fragility of a failed, failing, or conflict-ridden state has spillover effects and weakens contiguous states to the degree that neighboring countries require regional resilience plans to alleviate the repercussions of such sociopolitical and economic turmoil of countries [5, 6]. Murdoch and Sandler [1] have assessed the economic impact of civil wars on the economic growth of neighboring states. They built their evaluation of the civil war spillover effect on neighboring states' economic conditions based on the contingency, the length of the contiguous state, and the distance of the closest approach. They found that civil wars negatively impact the economic growth of contiguous states.

Sab [7] conducted a narrative-based case study on the economic impact of selected conflicts in the Middle East and the economies of neighboring states in Jordan, Syria, and Lebanon. The paper showed that conflict increases inflation and fiscal deficits, diminishes financial reserves, and slows down economic growth. More specifically, the net income impact on neighboring states varies according to the initial economic conditions, number of received refugees, international assistance, and economic integration. With respect to Jordan, the study revealed that the spillover effect of the Gulf War and the invasion of Iraq in 2003 was economically positive as the kingdom benefitted from refugees in the 1990s and from international aid to Iraqi refugees in 2003. Yet, Ades and Chua [8] examined the effect of regional instability on neighboring states' economic conditions by assessing trade flows and the amount of spending on national defense. They illustrated how the Gulf crisis (August 1990–February 1991) affected neighboring countries that were not parties to the conflict. For example, Jordan lost export markets in Saudi Arabia, Iraq, and Kuwait and experienced a fiscal deficit, a decline in tourism, transport revenues, and consequently in gross domestic product (GDP).

Dunne and Tian [9], Johnson and Thyre [10], and Murdoch and Sandler [11] recognized the critical spillover effects that civil wars had on neighboring countries. These studies insisted that these effects increase the risk of social conflict in neighboring countries and require international intervention to prevent greater regional conflagration. Finally, Rother et al. [12] have shown that the impact of the Syrian civil war and worsening conflict in Iraq have placed extra burdens on the Jordanian economy by reducing trade with Syria, Turkey, and Europe, in addition to causing a massive influx of Syrian refugees into the kingdom.

3. Research Methodology

This study assessed the impact of civil war in Syria and the repercussions for regional instability on Jordan as a contiguous state. This assessment was conducted through two paths: (a) assessing Jordan's macroeconomic performance using the EPI, and (b) tracking the change of exports and imports in the Syrian–Jordanian trade route.

3.1. The EPI

The EPI is an indicator that assesses the macroeconomic performance of a country and the degree of deviation from the desired level of economic performance through a simple and informative metric [13]. This index measures the economy of households, firms, and the government by using GDP as a measure of aggregate national economic performance the inflation rate, which represents a state economy's monetary position, unemployment rate, which expresses the economy's workforce standing, and the budget deficit as a percentage of the total GDP as an indicator of a state's fiscal stance [13]. A number of researchers have recently used the EPI to measure both economic performance and divergences from desired performance levels. For instance, Quaranta and Martini [14] studied the factors that influence people's definition of democracy in European countries, and he employed EPI to measure their economic performance. Quaranta and Martini [14] also considered this indicator as a reflection of the countries' economic performance which enabled him to avoid collinearity issues. Moreover, Garry and Villarreal. [15] evaluated the economic performance of Latin America by building a special index based on the EPI. They asserted that their index was uncomplicated and lucid because they included Latin America's current account balances in their considerations of Latin American economic conditions.

The EPI standardizes the optimal EPI score to 100% and describes any score below 100% as a decrease in economic performance [13]. EPI is built based on the calculation of raw EPI according to the following equation:

$$Raw\ EPI = 100\% - |Inf| - Unem(100\%) - Def/GDP(100) + \Delta GDP\ (\%). \quad (1)$$

To overcome issues of consistency in high economic volatility in order to make a state's economic score comparable with other countries, the EPI computes the weights of each of the index's sub indicators [13]. Thenceforth, the model takes the following form:

$$Weighted\ EPI = 100\% - W_{inf}\,|Inf(\%) - I*| - W_{Unem}\,(unem(\%) - U*) - W_{Def}\left(\frac{Def}{gdp}\%\right) + W_{GDP}(\Delta GDP(\%) - \Delta GDP*) \quad (2)$$

Here, the weight of each subcomponent is the following:

$$W_i = \frac{1}{STD_I} * stDEV_{AV} \quad (3)$$

Using this index enabled us to compare Jordan's economic performance both before and during the civil war with the overall regional instability. This analysis incorporated major variables that indicated that Jordan's general economic condition was parallel to the second path to assess the impact of closing the Jordanian–Syrian trade route.

3.2. Score Change of Exportation and Importation

Separately, we assessed the effect of civil war on interstate trade by calculating the score change of exportation and importation from 2007 to 2017. This year-to-year change demonstrated that the Syrian civil war had a spillover effect on Jordan's trade balance because it revealed the decline in interstate trade after the war began.

4. Results and Remarks

This research examined Jordan's economic performance before and during the Syrian war, and the consequent regional instability, using EPI. The comparison of Jordan's economic performance for ten years, as can be seen in Table 1, it was observed that the economy performed at a good level on average (2007–2011):

However, Jordan's economic performance fell after the civil war in Syria between 2012 and 2017. The degree of deviation from the desired level of economic performance rose dramatically to 20 divergent points indicating only fair economic performance on average. In essence, there was a good deal of evidence that the Syrian civil war produced significant economic effected

By looking at looked at Jordan's economic situation and according to the World Bank classification of national economies Jordan's status has shifted downward from an upper-middle income of \$4,680 GDP per capita in 2015 to a lower-middle income of \$3,920 per capita by 2018; this shift was attributed to population growth, low inflation, and a decline in GDP growth [16]. Even before the Syrian civil war, Jordan experienced many years of externally-derived economic weakness. The global financial crisis in 2008 hindered national economic performance and increased the deviation points from the standard eight points compared to 2007. This means the total deviation from the standard [1] was 17 points as it shown in table 1. Moreover, in 2009, Jordan's economy suffered from depression with a deflation rate of -0.47%, meaning that the kingdom witnessed a decline in demand, leading to reduced production and higher unemployment rates, this case can be addressed through Philips curve [17]. In the aftermath of the global financial crisis, Jordan's government launched a national development agenda (2009–2015) as a recovery plan; yet, this was hampered by the simultaneous regional instability produced by the conflict in Syria.

Jordan's open borders policy has resulted in an influx 1,200,000 Syrians, 84% of which are settled in outside camps [18-19]. This massive surge of refugees has increased Jordan's fiscal costs through the pressure on public services, which justified the increase in deficit spending at the peak of the crisis. The unemployment rate was already high before the Syrian crisis courtesy of the post-2008 economic crisis; however, it increased from 13% in 2015 to 18.3% in 2017 after Syrian refugees were given work permits following a surge of entrants in 2016. These percentages did not consider the indirect impact of Syrian refuges on Jordan's labor market through the latter's informal presence in the market. One of the most informative indicators of change in a state's economy is GDP growth: in Jordan, the average GDP growth rate was 5.1 before regional instability and then dropped to 2.4 after regional instability. Evidently, the GDP growth rate declined to reach 1.9, which is lower than what the kingdom experienced during the global financial crisis.

Regional instability forced Jordan's military intervention into Syria to stop Syrian–Russian expansion and to protect its border from militias and ISIS, worsening Jordan's economic growth during the period from 2011-2017. Moreover, the lack of border security, deteriorating diplomatic relations with Syria, and closed border crossings has hindered interstate trade [18, 20].

1 Appendix 2 shows the EPI score

Table 1. *Jordan EPI pre-Syrian Conflict.*

Year	Inflation rate	Unemployment rate	Deficit as % change GDP	GDP growth rate	Weighted EPI score (%)	Weighted EPI score performance
2007	4.74	13.1	-5.1	8.176	92.31	B
2008	13.97	12.65	-2.2	7.232	83.52	C-
2009	-0.74	12.938	-8.9	5.477	98.04	A+
2010	4.84	12.5	-5.6	2.311	91.47	B-
2011	4.17	12.9	-6.8	2.587	91.12	B
Ave.	5.396	12.81	-5.72	5.15	91.29	B
Min	-0.74	12.5	-8.9	2.311	83.52	
Max	13.97	13.1	-2.2	8.176	98.04	

Table 2. *Jordan EPI post Syrian Conflict.*

Year	Inflation rate	Unemployment rate	Deficit as % change GDP	GDP growth rate	Weighted EPI score (%)	Weighted EPI score performance
2012	4.52	12.2	-8.3	2.651	94.78	B
2013	4.82	12.6	-5.5	2.829	91	B
2014	2.9	11.875	-2.3	3.096	89.87	C+
2015	-0.88	13.075	-3.5	2.392	90.43	C+
2016	-0.78	15.275	-3.2	2.004	86.9	C
2017	3.32	18.3	-2.6	1.97	80.28	C-
Ave.	2.31	13.88	-4.23	2.49	88.87	C+
Min	-0.88	11.875	-8.3	1.97	80.28	
Max	4.82	18.3	-2.3	3.096	94.78	

For this reason, in the second trajectory, this study estimated the impact of regional instability on Jordan's interstate trade. The annual percentage change in exportation and importation with Syria demonstrated that both declined to a noticeable degree. Figure 1 shows the percentage change in trade flow with Syria from 2007 to 2017; for example, the reduction in importation since 2015, 2016, and 2017 was -33%, -12%, and -24%, respectively, in addition, exportation wherein the exports have steadily decreased since the Syrian conflict. Generally speaking, Jordanian interstate trade was negatively affected by the Syrian crisis, and external trade with Europe and Turkey was broken due to the closure of the main trade routes, which increased transport costs and necessitated alternative trade routes [2].

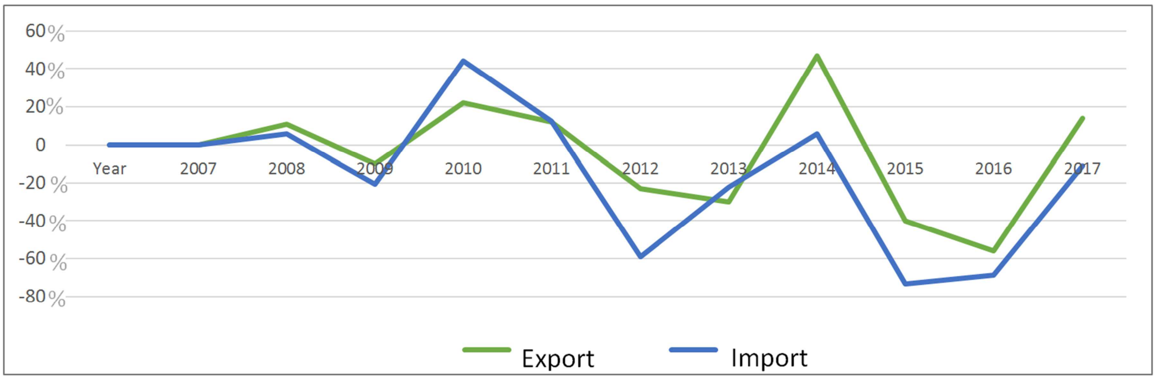

Figure 1. *Import and Export change % (2007-2017).*

5. Conclusion

This study proposed that the latest regional instability produced by the conflict in Syria has affected the economic conditions in Jordan. It provided evidence about the overall change in economic performance that corresponded with regional instability, and then it narrowed the assessment to the impact of the Syrian conflict on interstate trade. Jordan as a neighboring state was negatively affected during the Syrian conflict. This study used EPI to capture the consequences of regional instability on Jordan's economic performance. In essence, the average economic performance score shifted from good to fair. The steady decline of GDP growth and the volatile inflation rate verified the economic fragility produced by the Syrian civil war on Jordan. In the same vein, the Syrian conflict effectively destroyed Jordan's trade balances, as the kingdom's importation and exportation were disrupted due to the closing of the Jaber and Nassib crossing borders [20].

These results correspond with the study by Marano et al [21] regarding the impact of conflict types and locations on trade. They found that the negative spillover effect of conflict onto a contiguous state directly affected the trade flow between the two countries. Finally, this study conforms with a policy implication that the impact of civil conflict on neighboring states requires allocation of foreign assistance to counter the repercussions of political fragility and that a regionally resilient plan should be directed to overall economic recovery, and not only to states in turmoil.

Appendix

Appendix (1)

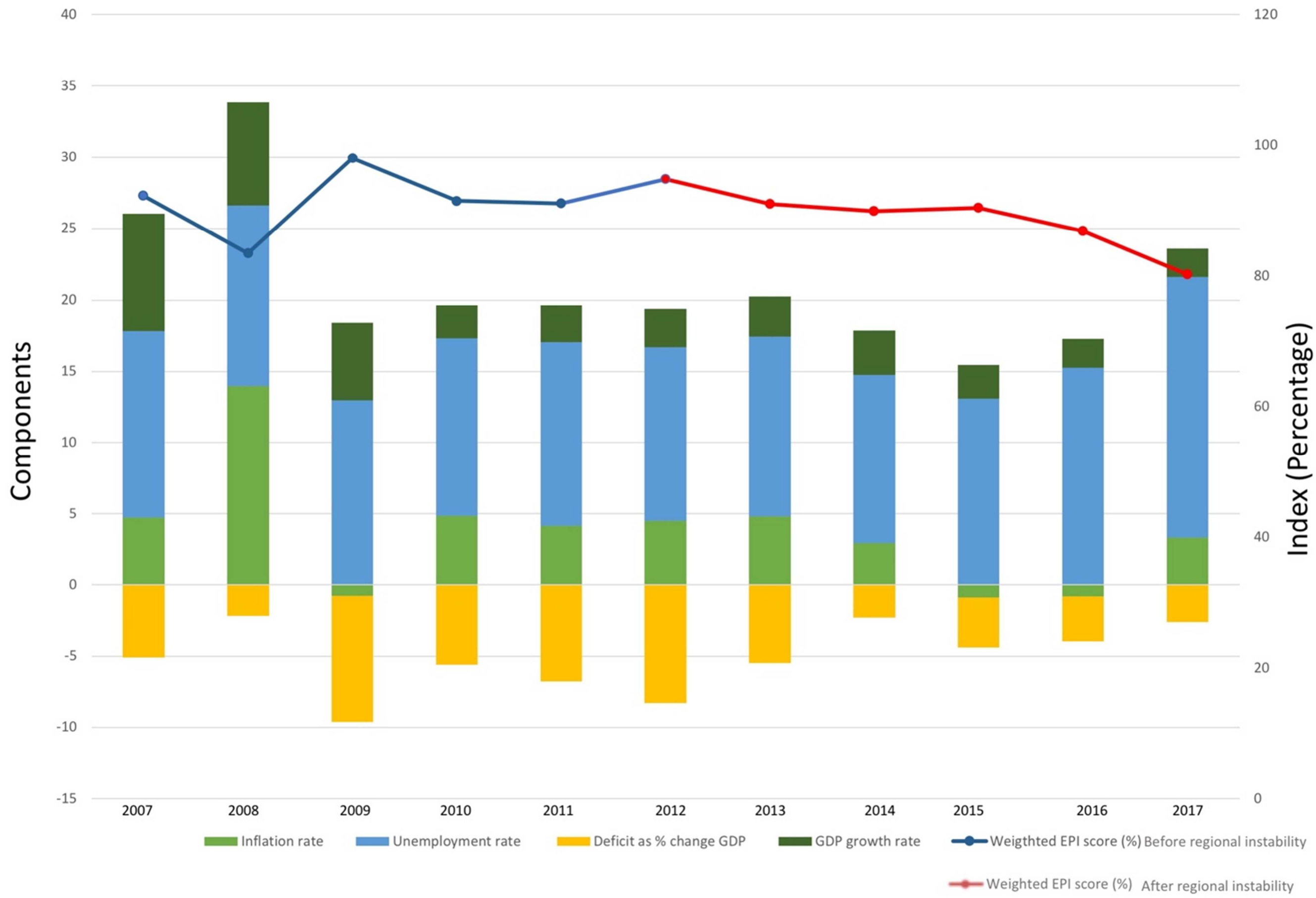

Figure 1. *The economic performance index of Jordan.*

Ref: Prepared by the authors

Appendix (2)

Table 3. *The EPI Score.*

Score range	Score	Grade	Economic Performance
	>99	A+	
95-100	96-99	A	Excellent
	95-96	A-	
	94-95		
90-95	91-94	B	Good
	90-91	B-	
	87-90	C+	
80-90	83-87	C	Fair
	80-83	`C-	
		D+	
	74-80		
60-80	66-74	D	Poor
	60-66	D-	
Less than 60	<60	F Fail	

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