

How Mass Immigration Affects Countries with Weak Economic Institutions: A Natural Experiment in Jordan

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Abstract: To what extent does immigration affect the economic institutions in destination countries? While there is much evidence that economic institutions in developed nations are either unaffected or improve after immigration, there is little evidence of how immigration affects the economic institutions of developing countries that typically have weaker institutions. Using the Synthetic Control Method, we estimate a significant and long-lasting positive effect on Jordanian economic institutions from the surge of refugees from the First Gulf War. The surge of refugees to Jordan in 1990-1991 was truly massive as they were equal to 10 percent of Jordan's population in 1990. Importantly, these refugees were able to have a large and direct impact on Jordanian economic institutions because they could work, live, and vote immediately upon entry due to a quirk in Jordanian law. The refugee surge was the main mechanism by which Jordan's economic institutions improved in the decades that followed.

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1. Introduction

The economic benefits of immigration are large. Persistent global wages differences for observably identical workers indicate that economic efficiency losses from immigration barriers are gargantuan and one or two orders of magnitude larger than barriers on trade and capital flows (Clemens, 2011, p. 84).

However, immigrants could alter destination countries' economic institutions that are vital causes of economic development and the source of the vast observed differences in worker productivity between nations (Acemoglu and J. A. Robinson, 2012; Dell, 2010; Rodrik, Subramanian, and Trebbi, 2004). Economist George Borjas argued that the "the entry/exit of perhaps hundreds of millions of people" would likely have a negative impact on the institutions of developed countries perhaps even to the point of wiping out all of the expected efficiency gains from immigration (Borjas, 2015, pp. 961,969,972). Thus, the efficiency gains from liberalized immigration to the developed world hold only if the immigrants do not import negative social capital to the extent that it overwhelms and degrades the destination-country institutions (Clemens and Pritchett, 2016).

Much research has subsequently examined how immigration affects economic institutions in destination countries. Clark et al. (2015) find a positive and statistically significant relationship between both initial stocks and flows of immigrants with improvement in the economic freedom score from 1990 to 2011. Clemens and Pritchett built a novel epidemiological model that assumes immigrants bring stagnation factors with them, finding no real world impact (Clemens and Pritchett, 2016). Powell, Clark, and Nowrasteh (2017) examine a natural experiment whereby Israel absorbed a massive exogenous shock of Jewish refugees from the Soviet Union that substantially improved its economic institutions.

The existing research is primarily focused on the impact of immigrants on the economic institutions of developed nations. This paper expands the literature by examining immigration's impact on a country with much weaker economic institutions: Jordan.

In 1990 and 1991, about 300,000 Palestinians were expelled from Kuwait by Saddam Hussein's invasion and could not return after the war (van Hear, 1992; Colton, 2002, p. 5). These Kuwaiti-Palestinian refugees were forced to Jordan where, due to a quirk of Jordanian law, they arrived as citizens who could vote, work, own property, and otherwise influence the political and economic system of Jordan even though most of them had never lived in Jordan before. The surge of 300,000 Kuwaiti-Palestinians was equal to about 10 percent of Jordan's pre-surge population. To make it more challenging, the Kuwaiti-Palestinians arrived during a severe recession in a country with far weaker economic institutions.

Natural experiments like these are valuable because they remove concerns about endogeneity. Economists have successfully used natural experiments to study how exogenous immigration shocks affect labor markets (Borjas, 2015). This paper uses the Synthetic Control Method (SCM) to measure how the immigrants affected Jordan's economic institutions (Abadie and Gardeazabal, 2003; Abadie, Diamond, and Hainmueller, 2010; Abadie, Diamond, and Hainmueller, 2015; Peri and Yasenov, 2017). SCM allows us to weight pre-surge economic institutional quality scores in various countries to create a counterfactual Synthetic Jordan. The Synthetic Jordan's economic institutional quality score is charted after 1990 as if no refugee surge occurred and provides a comparison to Real Jordan. The refugee surge can thus plausibly explain the difference between Real Jordan and Synthetic Jordan after the intervention date.

The next section provides a brief history of institutions in Jordan and the 1990-1991 exogenous surge of Kuwait-Palestinian refugees. Section 3 focuses on the upsides and down-

sides of using Jordan as a natural experiment. Section 4 describes our data. Section 5 explains our methodology. Section 6 includes our results and robustness tests. Section 7 discusses how the SCM results are consistent with Jordan's history of institutional change. Section 8 concludes.

2. Jordan's Institutional History and the Refugee Surge

Jordan is a small Middle Eastern country that became fully independent in 1946. It is bordered by Israel, the West Bank, Iraq, and Saudi Arabia. The original inhabitants of Jordan are called Transjordanians.

The Jordanian Government and Economic Institutions Prior to the Refugee Surge

The Jordanian government is an authoritarian monarchy advised by a strong cabinet with a parliament that swings between extremes of total acquiescence to the monarchy and partial openness (Alan Richards, 1993). In practice, the Jordanian monarch shares power with parliament, a cabinet, and the Legislative Council that included religious and ethnic minorities in a wide governing coalition (Alon, 2007; Piro, 1998, p. 21). Over Jordan's history, Jordanian Kings incorporated growing minority and interest groups into the government coalition (Lucas, 2003; Alan Richards, 1993, p. iii). For instance, Palestinians who arrived as refugees in 1949 earned citizenship but the government denied them access to many state benefits, employment in state owned enterprises (SOE), and employment by the state itself (Brynen, 1992, p. 81).

The government held elections in 1989 during an economic crisis, the Palestinian Intifada in neighboring Israel, and domestic unrest in opposition to loan conditions from the International Monetary Fund and World Bank (Lucas, 2003). The Jordanian government

published a National Charter in July 1991 to gradually introduce democratic reforms, include Palestinians in the governing coalition, support free-market economic reforms, and protect private property (Knowles, 2005, p. 80; Maktabo, 1998; Alan Richards, 1993, p. 9; Brynen, 1992, p. 92; Süitalan, 2006, pp. 92-93; G. E. Robinson, 1998, pp. 393-394).

Economically, Jordan adopted an Import Substitution Industrialization (ISI) development policy after 1950 whereby Transjordanians were offered employment in large SOEs, employment in state agencies and the military, and government subsidies for consumer goods (Piro, 1998, p. 53). Palestinians paid high taxes, were heavily regulated, and could not access credit due to government financial favoritism for large SOEs. Few Palestinians were part of the governing coalition in the 1980s and never in proportion to their numbers (Süitalan, 2006, p. 45). The distinction between the governing Transjordanians who received government benefits and the Palestinians who worked in the private economy produced a politically tense situation by 1990.

Foreign loans, foreign aid, monopoly rents, high taxes on the small Palestinian-dominated private sector, and worker remittances propped up the under performing Jordanian economy until the late 1980s (Knowles, 2005, p. 72; Françoise de Bel-Air, 2007; Gelos, 1995, pp. 9-10; Brynen, 1992, p. 80; Piro, 1998, p. 65). In 1989, chronic inflation produced a 60 percent devaluation of the Jordanian currency as the government was perilously close to defaulting on several international loans (Kanaan and Kardoosh, 2002, p. 3; El-Sakka, 2007, p. 2; Amerah, 1993, p. 6). Jordan called in the International Monetary Fund (IMF) and the World Bank for assistance.

The first IMF agreement sought to reduce Jordan's budget deficit, reform taxes, reduce inflation, institute more prudent debt management, and reduce protectionism to stimulate export-based development in exchange for debt rescheduling (Alan Richards, 1993; U.S.

Department of State, 1995, p. 8). Shortly thereafter, the First Gulf War deepened the recession, so the IMF delayed the first agreement due to the political strain it placed on Jordan's government (Swaidan and Nica, 2002, pp. 4-7; Piro, 1998, p. 43). In 1991, a second IMF agreement placed a temporary moratorium on debt payments in exchange for fewer economic reforms (Alan Richards, 1993, pp. 8-9). The World Bank also suspended repayments until 1992 (World Bank, 1995, p. 13).

From 1975 to 1990, Jordan fell from the 49th freest economy in the world to the 54th according to the economic freedom of the world (EFW) score (Gwartney, Lawson, and Hall, 2017). During the same time Jordan's chain-linked EFW score rose from a low of 5.37 in 1975 to 5.65 in 1990. The shrinking economy, regional political instability, war, and a precarious situation with foreign lenders made it a terrible time to absorb a massive surge of refugees or reform economic institutions (Gelos, 1995, p. 10; Troquer and al-Oudat, 1999, p. 40; Mruwat, Adwan, and Cunningham, 2001, p. 651; Marcus Manuel, 1991, p. 2).

Refugees in Jordan

Jordan has absorbed many waves of refugees, especially Palestinians who arrived after the Arab-Israeli War ended in 1949 and the Six Day War in 1967. The United Nations Relief and Works Agency for Palestinians counts the Palestinian refugees and their descendants born afterward as refugees so it is difficult to estimate the total number of Palestinians who entered Jordan in surges after 1949. According to one estimate, there were a total of 100,000 Palestinian refugees on the East Bank of the Jordan River in 1949, roughly equal to a quarter of Jordan's population at the time (Piro, 1998, p. 29). Jordan also temporarily extended its sovereignty over the West Bank which brought Jordan's total Palestinian population to over 500,000 (Migration Policy Center, 2013, p. 4).

Jordan integrated the Palestinians by granting citizenship to those in its territory in 1954 and to all Palestinians living in the West Bank and their descendants – an action with important ramifications when the Kuwaiti-Palestinians began to arrive in 1990 (Maktabo, 1998). In 1988, Jordan relinquished territorial claims on the West Bank and adjusted citizenship laws to exclude Palestinians from the West Bank who had 2-year Jordanian passports from Jordanian citizenship, thus limiting citizenship to Palestinians living in Jordan and Palestinians with 5-year Jordanian passports (Council, 1994, p. 2). Palestinians who lived in Kuwait held the 5-year Jordanian passport.

Saddam Hussein's unexpected invasion of Kuwait on August 2, 1990 created two waves of refugees to Jordan. The first lasted from August 3 to November of that year during which nearly 1.2 million refugees from Iraq, Kuwait, and other states travelled to Jordan (van Hear, 1992; Mruwat, Adwan, and Cunningham, 2001, p. 16; UNDRO, 1990, p. 653;). About 800,000 refugees were repatriated within two weeks of arrival but about 230,000 were Kuwaiti-Palestinians with 5-year Jordanian passports (UNDRO, 1990, p. 7; Mruwat, Adwan, and Cunningham, 2001, p. 654). A second wave of about 65,000 Kuwaiti-Palestinians arrived in Jordan from March to August 1991 (van Hear, 1992, p. 10; Troquer and al-Oudat, 1999, p. 37). The first wave of Kuwaiti-Palestinians fled Saddam Hussein's invasion and the second wave were expelled by the Kuwaiti government in what the King of Kuwait called a "cleansing" (van Hear, 1992, p. 5; Haddad, 2010, pp. 288-289; Kuttub, 2005; Ibrahim, 1991, p. 77; Rosen, 2012).

Many of the Kuwaiti-Palestinian refugees had been working and living in Kuwait for decades and the majority had never lived in Jordan. They moved to Kuwait from the West Bank in two waves from the 1940s to the 1970s and over 90 percent had been out of the West Bank for more than 10 years, 43 percent for more than 20 years, and nearly a quarter had em-

igrated prior to 1960 (Troquer and al-Oudat, 1999, pp. 37-38). Jordan's grant of citizenship did not require residence so the refugees could immediately work, live, vote, lobby the government, and affect Jordan's economic institutions even though they "were unfamiliar with Jordanian culture and were economically maladapted to a country in which most had never lived" (van Hear, 1995, pp. 353-364; Troquer and al-Oudat, 1999, p. 37).

Kuwaiti-Palestinians, faced with circumstances as bad as anything Palestinians had experienced in the past, fled to a new country with unfamiliar culture and institutions. Anti-Palestinian sentiment in Jordan was strong. "They have their own country; let them go and live there" was a common Transjordanian sentiment (Mruwat, Adwan, and Cunningham, 2001, p. 651). Many Palestinians considered their own displacement from Kuwait as equivalent to the personal and socio-economic impacts of the Arab-Israeli War and the Six Day War (van Hear, 1992, p. 17). Yasser Arafat, head of the Palestinian Liberation Organization, said, "What Kuwait did to the Palestinian people is worse than what has been done by Israel to Palestinians in the occupied territories" (Rosen, 2012, p. 76).

3. Jordan as a Natural Experiment

The movement of Kuwaiti-Palestinians into Jordan was an exogenous shock caused by outside actions and not by changes in Jordan's economy, policy, or institutions, and thus an excellent example of a natural experiment.

First, Saddam Hussein's invasion of Kuwait was unexpected by Jordan, Kuwait, the Kuwaiti-Palestinians, and the rest of the world. The surge of refugees was so sudden that they began to leave Kuwait for Jordan the day after the invasion (UNDRO, 1990, p. 5). In September 1990, the Jordanian government did not even realize that many of the refugees were Jordanian citizens and didn't know how many would arrive (UNDRO, 1990, pp. 6,18).

Second, there was no change in Jordanian policy that attracted the Kuwaiti-Palestinians. The 1988 reform to citizenship laws did not affect the Kuwaiti-Palestinians who already held 5-year Jordanian passports. Jordan was poorer than Kuwait, suffering through a serious economic contraction that worsened during the Gulf War, and Kuwaiti-Palestinian salaries in Jordan were approximately 30 percent of the average monthly pay in Kuwait (Colton, 2002, p. 75; Gelos, 1995).

Third, the number of Kuwaiti-Palestinian refugees was about 10 percent of Jordan's pre-Gulf War population. By contrast, the surge of *Marielitos* to Miami in 1980, a famous natural experiment in the immigration literature, was just 7 percent of Miami's pre-Mariel population. The Kuwaiti-Palestinians were confined to Jordan unlike the *Marielitos*, many of whom eventually left Miami (Peri and Yassenov, 2017, p. 5).

Fourth, Kuwaiti economic institutions were of lower quality than Jordan's in 1990, so the Kuwaiti-Palestinians were not going to bring experience of superior economic institutions with them (Gwartney, Lawson, and Hall, 2017). Kuwait had the 70th freest economy in the world in 1990 compared to Jordan's rank of 54.

The substantial population of Palestinians already living in Jordan was another positive feature. The Kuwaiti-Palestinian refugees faced lower transactions costs to enter established political and economic networks occupied by their co-ethnics. Instead of spending time learning about local politics, the Kuwaiti-Palestinians had an immediate impact on Jordan's economic institutions facilitated by networks of their longer-settled co-ethnics (van Hear, 1998, p. 158). This is like how the large population of Cubans living in Florida in 1980 helped facilitate the rapid labor market integration of *Marielitos*. Refugee surges tend to upset ethnic balances and produce governing tensions and sometimes civil war, especially when the refugees possess ethnic ties with large groups in the host country (Buhaug and Gleditsch,

2008, p. 215; Salehyan and Gleditsch, 2006, p. 343). The surge's upsetting of ethnic balances and the governing coalition explain Jordan's subsequent economic reforms.

The last and best feature of this sudden natural experiment is that the Kuwaiti-Palestinians had full legal, political, and economic rights immediately upon entering Jordan, a situation unique in the Arab world (Zureik, 1994).

Three features of this exogenous shock make it less useful as a natural experiment. The first is that the Kuwaiti-Palestinians were overwhelmingly Sunni Muslims, just like Jordan's population. The second is that Jordan did not have a democracy like other nations that accepted large numbers of immigrants. Jordanians voted in the 1989 elections and expected future elections but their impact on policy through voting was limited. Third, Jordan did not have a welfare state as large as those in the developed world (Brynen, 1992, p. 81).

4. Data

We use Gwartney, Lawson, and Hall (2017) Economic Freedom of the World Annual Report (EFW) to measure changes in Jordan's economic institutions. The EFW index is a reasonable proxy for economic institutions, incorporating 42 variables collected from numerous sources (including the World Bank and IMF) across five categories including the size of government, legal structure and property rights, access to sound money, freedom to trade internationally, and regulation of credit, labor, and business (Powell, Clark, and Nowrasteh, 2017; Feldmann, 2017). We use PolityIV as a measure of democratic political institutions (for Systemic Peace, 2018).

Political liberalization in Jordan in 1989 was not a permanent transition toward democracy and it occurred before the refugees arrived (Süitalan, 2006). In contrast, the economic institutions did change permanently and rapidly after the surge of Kuwaiti-Palestinians. We

rely on the EFW index as our outcome of interest as it represents economic reforms (Sütalan, 2006). EFW scores were originally calculated in five-year intervals with most countries series of scores beginning in 1975, and on an annual basis following 2000. The uneven spacing of EFW time-series and relatively short time-series of observed EFW scores prior the Jordanian refugee surge in 1990 are two potential problems. We therefore conduct multiple specification checks that probe the sensitivity of our results to void overstating the precision of our findings.

We supplement data on the EFW with additional measures of institutional characteristics from Freedom House, the Polity IV Project, the Database of Political Institutions, JuriGlobe, legal systems, and parliamentary or presidential political systems as predictor variables in our SCM (Freedom House, 2018; for Systemic Peace, 2018; Scartascini, Cruz, and Keefer, 2018; Freedom House, 2018; Wislon & Lafleur, 2008). Data on Structural Adjustment Loan (SAL) recipients come from the World Bank and International Monetary Fund (IMF).

Jordan and Kuwait have very different EFW scores prior to the surge of Kuwaiti-Palestinian refugees and nearly-identical Polity IV scores. After Jordan reinstated elections in 1989, Jordan's Polity IV score improved from a near completely autocratic score of -9 to -4. This political liberalization occurred in the 5-year period where Jordan's EFW score fell from 5.5 to 5.4. After the surge of Kuwaiti-Palestinians, Jordan's EFW score increased from 5.43 in 1990 to 6.14 in 1995, 7 in 2000, 7.3 in 2005, 7.45 in 2010, and 7.47 in 2015 (Gwartney, Lawson, and Hall, 2017). Jordan went having an EFW score similar to other Organisation of Islamic Cooperation (OIC) countries to having a score similar to OECD countries.

5. Methodology

Our goal is to estimate the difference between the observed EFW score in Jordan after 1990 compared to what the score would have been without the surge of Kuwaiti-Palestinian refugees. We employ the Synthetic Control Method (SCM) of Abadie and Gardeazabal (2003) and Abadie, Diamond, and Hainmueller (2010) (henceforth ADH). This method estimates a counterfactual EFW score for Jordan in the absence of the 1990/91 refugee shock as a weighted average of similar countries to construct a synthetic control. These weights are determined by matching countries that share similar observable characteristics with Jordan. Given a set of weights, we can estimate the impact of the refugee surge as the difference, or gap, between Real Jordan's EFW and Synthetic Jordan's EFW.

To outline this procedure, let Y_j be the sample mean of an outcome of interest for country j . The estimated treatment effect τ for Jordan ($j = 1$) is constructed as a weighted average of $N+1$ donor countries of them form:

$$(1) \quad \tau = Y_1 - \sum_{j=2}^{N+1} w_j Y_j.$$

This procedure considers the weighting vector $W = [w_2, \dots, w_{N+1}]'$ which assigns a weight w_j to control countries subject to non-negativity ($w_j \geq 0; j = 2, \dots, N + 1$) and additive ($w_2 + \dots + w_{N+1} = 1$) constraints (ADH).¹ A Synthetic Jordan must be constructed from a donor pool of comparable countries to avoid interpolation bias from comparing countries with vastly different characteristics (ADH). Since our outcome of interest considers Jordan's economic liberalization following the refugee surge, we select a donor pool of countries with

¹ See ADH for a more technical description of this procedure.

similar economic, political, and legal institutions as Jordan. We therefore begin with countries that belong to the present day Organisation of Islamic Cooperation (OIC). We further narrow down this list to countries that report only complete pre-treatment data for the EFW index, leaving 15 countries including Jordan, for our Full OIC donor pool (see Supplementary Appendix Table S1, available with this article at *The World Bank Economic Review* website.). We then compare Real Jordan to Synthetic Jordans constructed using slightly different donor pools of countries in the OIC.

6. Empirical Results

Figure 1 shows that Real Jordan's EFW score changed trend after the 1990 Kuwaiti-Palestinian refugee surge relative to the Synthetic Jordan constructed based on the Full OIC donor pool, the OIC countries minus Pakistan, and the OIC countries that received a SAL prior to 1990. We created a Synthetic Jordan using the OIC minus Pakistan donor pool of countries because Pakistani economic institutions are very intertwined with the Pakistani military which differs greatly with those of other OIC countries (Staniland, Naseemullah, and Butt, 2018). We constructed a third Synthetic Jordan from the OIC countries that received SALs prior to 1990 to address the potential that the SALs prompted the change in the EFW score. Both of those alternative pools of countries that constructed different Synthetic Jordans are necessary because the relatively short time series of observed EFW scores prior to 1990 may imply that Jordan lies on the convex hull of multiple combinations of donor countries.

Table 1 presents the numerical estimates for Figure 1. Columns 1, 3, and 5 in Table 1 show the positive differences between the EFW scores between the Real and Synthetic Jordans for each of the three donor pools. To test the significance of the gaps between the Real and Synthetic Jordans in Table 1, we present p -values from permutation tests next to point

estimates in Table 1. This p -value test corresponds to the in-place placebo test suggested in ADH that creates a synthetic control unit for each other OIC country and estimates the gap τ for each control unit. The p -values measure the fraction of gaps in the in-place placebo test that is larger than the gap between Real Jordan and Synthetic Jordan. Pooling these placebo effects together therefore estimates the distribution of observed treatment effects in our sample. The p -value denotes the probability that the estimated treatment effect for Jordan is larger than all other placebo effects for the other countries.

Table 2 presented goodness of fit indicators for the Synthetic Jordans. The first row indicates the specification's Root Mean Square Predicted Error (RMSPE), which measures the distance between the synthetic control unit and the predictors used to construct it during the pre-treatment period. The predictor variables and their weighted values are listed in Table 3 and the country weights for each specification are listed in Table 4.

Table 1 column 1 is our preferred model as it constructs Synthetic Jordan from the Full OIC list of countries with an EFW score and has the best pre-treatment fit with an RMSPE of 0.097. Table 2 and Figure 2 show that Real Jordan had a gap of 0.204 in the Full OIC's first post-treatment year of 1995 but a p -value of 0.692, meaning that Real Jordan's EFW score was 0.204 points above Synthetic Jordan and the difference is insignificant. Although the gap is insignificant, the trend changed beginning in 1990 and Real Jordan's EFW score is significantly higher in 2000, 2005, and 2010 with a p -value of 0.0 in each year. In those statistically significant years, the gap between Synthetic Jordan's projected EFW score and its actual score was 1.15 points in 2000, 1.06 points in 2005, and nearly 0.80 points in 2010. These sizable gaps in Real and Synthetic Jordan's EFW score in 2000 and 2005 correspond to a difference in EFW score of more than one standard deviation (see Table S2). This result suggests that the improvements in economic institutions resulting from the refugee

shock led to long-term improvements in Jordanian economic institutions.

Table 1 columns 3 and 5 are the gaps between the Real Jordan and Synthetic Jordans constructed from the OIC minus Pakistan and OIC-SAL pools of countries. These fits are poorer as the pre-treatment RMSPE for OIC minus Pakistan and OIC-SAL were 0.104 and 0.119, respectively. However, the increase in Real Jordan's EFW relative to the Synthetic Jordans in these two-additional donor pools are similarly large to our preferred Full OIC specification and statistically significant in the same years of 2000, 2005, and 2010.

The RMSPEs in Table 2 rows 2, 3, and 4 show the degree to which Synthetic Jordan fits Real Jordan relative to placebo synthetic control in pre-treatment and post-treatment periods. Relatively high p -values show that a large proportion of the placebo synthetic control units have a worse fit than Synthetic Jordan, which provides evidence in favor of the Full OIC "donor pool."

Economic v. Political Liberalization

Lastly, we consider whether the refugee surge impacted political institutions. We construct a Synthetic Jordan based on our donor pool of 14 OIC countries with the Polity IV index as the outcome variable. The results in Figure 3 and Table S3 show a discrete jump in Jordan's Polity IV score from 1988 to 1989 but that the OIC countries are a poor pre-treatment fit with RMSPEs of 1.382 to 1.822.²³ Similarly, placebo tests in Table S3 show that the gap between Real Jordan's and Synthetic Jordan's Polity IV score is small following the refugee surge in 1990. There is no evidence of a statistically significant divergence in Polity IV scores caused by the 1990 refugee surge.

² Tables S4 and S5 contain the PolityIV specification predictor balance and country weights, respectively.

³ We omit the OIC minus Pakistan specification since Pakistan receives no weight in the baseline specification and is therefore equivalent to the baseline.

7. Discussion

Successive Jordanian governments wanted to liberalize and privatize much of the state dominated economy prior to the surge of Kuwaiti-Palestinian refugees in 1990 but the poor economy and a strong Transjordanian-dominated political coalition halted their efforts. The surge of Kuwait-Palestinians upset the ethnic balance enough to prompt a change in the ethnic composition of the governing coalition by including Palestinians who favored liberalization and privatization. The widening of membership in the governing coalition to include a group that supported liberalization and privatization was responsible for the committed and sustained economic reforms that followed. Furthermore, the Kuwaiti-Palestinians caused a surge in Jordanian economic activity that produced enough growth to make the pro-market reforms politically sustainable.

Economic Reform Prior to the Kuwaiti-Palestinians

Several proposed economic liberalizations in Jordan failed in 1985, 1986, and 1989 (Knowles, 2005, p. 178; Brynen, 1992, p. 89). In 1989, Jordan's worsening economy and growing debt prompted it to seek an emergency aid and debt-relief loan package from the IMF. According to Prime Minister Mudar Badran in February 1990, that "economic reform program is principally based on improving the efficiency of the public sector and reducing it as far as possible; and on increasing, broadening, and diversifying the private sector's investment opportunities" (Knowles, 2005, p. 165). The loans were supposed to incentivize Jordan to liberalize its economy, but the IMF cancelled the conditions after the refugees arrived (Troquer and al-Oudat, 1999, p. 40).

The IMF loans diminished political support for the Jordanian government prior to the

Kuwaiti-Palestinian refugee surge. The IMF reforms were so unpopular that they sparked riots in the town of Ma'an, a political base of Bedouin support for the monarchy (Kanaan and Kardoosh, 2002; Ryan, 2003; Amerah, 1993, p. 28). The anti-IMF riots spread to other Transjordanian-populated cities in the south that were supposedly the bedrock of the monarchy's popular support (Sütalan, 2006, p. 75).

Transjordanians opposed liberalization because they were the beneficiaries of the state dominated economic system (World Bank, 1995, p. 7). Reducing government expenditures, privatizing industries, and liberalizing the economy would have diminished the incomes of Transjordanians while benefiting the private sector Palestinians (Sütalan, 2006, p. 81). The economic and debt crises, diminishment of Transjordanian political support, and a large Palestinian population created a fragile political situation on the eve of the surge of Kuwaiti-Palestinian refugees in 1990.

Refugees Jump Started and Sustained the Economic Reforms

The regime's desire to survive is why the surge of Kuwaiti-Palestinians led to economic liberalization instead of political repression. The Jordanian monarchy has survived by mostly incorporating political, ethnic, religious, regional, tribal, and economic groups into its governing coalition rather than attempting to destroy them (Mufti, 1999, p. 101).

The economy was in dire straits when the Kuwaiti-Palestinians arrived in 1990. The following year, the refugees expanded the size of the labor force by 12 percent and accounted for 27 percent of the unemployed (Amerah, 1993, p. 8; van Hear, 1998, p. 166). The Jordanian government erroneously estimated that GDP declined by 30 percent in the last five months of 1990 (Piro, 1998, p. 101). As the Jordanian government saw it, their most important task was to get the refugees working without expanding the public sector (al Khouri,

2007, p. 4; Troquer and al-Oudat, 1999, p. 42).

In January 1991, Prime Minister Mudar Badran favored liberalization and privatization with the goal of guaranteeing the survival of the state (Mufti, 1999, p. 113; Knowles, 2005, pp. 182-189). Prime Minister Taher al-Masri succeeded Badran in mid-1991 and continued his policies by saying that it is “no longer reasonable that the public sector should assume the responsibility of running commercial and industrial companies and institutions, or interfere ... in pricing policies, and confiscate the freedom of the private sector” (Knowles, 2005, p. 165). The immediate beneficiaries were the long-settled Palestinians who already dominated the private sector and the newly arrived Kuwaiti-Palestinians eager to enter the workforce and start firms (Alan Richards, 1993, p. 6; Brynen, 1992, p. 81; Piro, 1998, p. 70; Sütalan, 2006, p. 81).

The refugees upset the ethnic balance between Transjordanians and Palestinians and created an opportunity for the monarchy to gain Palestinian support to help compensate for the diminishment of Transjordanian support (Alan Richards, 1993, p. 11). The Transjordanians attempted to forestall such an expansion of the governing coalition by adopting anti-Palestinian policies by severing political ties with the West Bank in 1988, limiting Palestinian immigration, decreasing Palestinian representation in Parliament, and considering a peace treaty with Israel (Mufti, 1999, p. 104; Brynen, 1992, pp. 88-89; Sütalan, 2006, pp. 38-39).

Previous aborted reform efforts in 1985, 1986, and 1989 were followed by increased government spending on Transjordanian public sector managers, rent-seekers, and bureaucrats who dominated the governing coalition (Piro, 1998, pp. 88-89; Sütalan, 2006, pp. 74-75). The addition of pro-liberalization Palestinians to the governing coalition because of the refugee surge broke the anti-reform cycle (Piro, 1998, p. 88; Brynen, 1992, p. 78). In June 1991, the King included a record seven Palestinian ministers in his pro-reform government (Kimmer-

ling and Migdal, 2003, p. 263).

Unlike previous reforms, the early-1990s economic reforms were intended to improve the business climate for the Palestinian-dominated private sector (Alan Richards, 1993, p. 6). King Hussein's National Charter in June 1991 distinguished the latest round of reforms from earlier failed attempts, affirmed protection for private-property rights and free markets, and was a conciliatory message to Palestinians (G. E. Robinson, 1998, pp. 389-394).

The Palestinian coalition made the economic reforms more radical. Initially the government proposed cutting taxes on income and capital and replacing the revenue with a national sales tax. The Palestinian-dominated small business sector supported the tax cuts on capital and income but successfully delayed the sales tax's implementation by years, convinced the government to exempt many goods altogether, and to reduce the proposed maximum rate (Knowles, 2005, p. 198). They also lobbied against licensing, regulatory barriers to entry, and trade restrictions that prevented them from importing their property from Kuwait (van Hear, 1995, pp. 363-364; Gelos, 1995, p. 12; Troquer and al-Oudat, 1999, p. 45; Zaghal and Freij-Dergarabedian, 2004, p. 10; UNDRO, 1990, p. 17).

One reason the government was able to sustain the reforms is that the refugees caused an unexpected economic and employment boom (van Hear, 1995, pp. 364, 368). Jordanian GDP shrank by 10.7 percent in 1989 and a further 0.3 percent in 1990 but grew by 1.6 percent in 1991 and 14.4 percent in 1992 (World Bank, 2017). In 1992, Jordan ran a balanced budget for the first time in the country's history (van Hear, 1995, p. 368; Sab, 2014, p. 24). Total factor productivity growth accelerated in the early 1990s and macroeconomic indicators like inflation, investment as a percent of GDP, and real GDP growth improved markedly immediately after the refugee surge (Sab, 2014, p. 24; Kanaan and Kardoosh, 2002, p. 18). The refugees boosted the supply side by starting firms in the construction, retail, financial, com-

mercial, and industrial sectors (Troquer and al-Oudat, 1999, p. 43). They also invested capital in Jordan, compensating for the decline in remittances from oil workers expelled during the Gulf War (Troquer and al-Oudat, 1999, p. 41; Athamneh, 2012, pp. 8-10; El-Sakka, 2007, p. 6; Migration Policy Center, 2013, p. 4). Total investment as a percentage of GDP peaked at over 35 percent in 1993 as the refugees repatriated billions in investment from their accounts in Kuwait (Sab, 2014, p. 24; Troquer and al-Oudat, 1999, p. 42; Council, 1994, Jordan section). The annual trade on Amman's stock market more than doubled from 1990 to 1992 and foreign exchange reserves increased tenfold while the net foreign assets of the central bank and monetary system more than doubled (van Hear, 1995, p. 366; Gelos, 1995, pp. 10-11; Ebrahimi, 1996, p. 2).

The refugees also boosted the demand side of the economy. Figure S1 shows that the largely Transjordanian-owned real-estate sector boomed, housing starts doubled, and construction employment expanded (Troquer and al-Oudat, 1999, p. 43; van Hear, 1998, p. 174; van Hear, 1995, p. 367; Françoise de Bel-Air, 2007, p. 10).

In terms of Jordan's EFW scores, improvements in Jordanian monetary policy translated into substantial gains in Jordan's sound money EFW subscore – rising 15.3 percent from 1990 to 1995 and by 35.2 percent from 1995 to 2000. Reforms to tariffs and the removal of trade barriers also saw a rise in Jordan's trade liberalization sub score by nearly 38 percent over 1990 to 1995, increasing from 4.8 to over 6.6 (Table 5).

Acemoglu and J. Robinson (2008) note that often it is necessary for a shock to the distribution of power to overcome institutional persistence. Accordingly, these changes are mirrored by significant changes in Jordan's legal system sub score within the EFW index, rising from 3.1 in 1990 to 4.63 in 1995 – a change of nearly 49 percent. This was a substantial improvement in Jordanian legal institutions, the most rigid economic institutions (Acemoglu

and J. Robinson, 2008).

Jordan liberalized its economy to settle the Kuwaiti-Palestinians and they, in turn, were a pro-market cohort that tipped the political balance in favor of further free market reforms after being included in the governing coalition (Brynen, 1992, p. 91). The resulting economic boom caused by the refugees and continued by the reforms reduced opposition to liberalization and the risk of policy backtracking as had happened often before.

8. Conclusion

The Kuwaiti-Palestinian refugee surge to Jordan in 1990 and 1991 is a natural experiment to see how one government changed its economic policy after experiencing mass immigration. The quality of Jordan's economic institutions improved significantly after 1990 relative to several combinations of OIC countries – essentially rising from that of a poor Muslim country to that of an OECD country without significant changes in political or civil freedoms. Jordan's success is especially striking as it has relatively weak economic institutions compared to developed nations that are concerned over comparatively smaller flows of immigrants. In at least one country, massive immigration from the developing world improved economic institutions in a country with weak institutions.

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Figure 1. Economic Freedom Score, Real v. Synthetic Jordan

Source: Authors' analyses of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index. Additional data come from the *PolityIV* dataset, Freedom House, the Database of Political Institutions (DPI), and the JuriGlobe database. Dashed line indicates the timing of the 1990 refugee shock. Solid black line=Real Jordan's EFW score; solid grey line=Synthetic Jordan using full *Organisation of Islamic Cooperation* (OIC) countries; long dashed line=Synthetic Jordan using OIC donor pool minus Pakistan (PAK); short dashed line=Synthetic Jordan using OIC donor pool with only Structural Adjustment Loan (SAL) recipient countries.

Figure 2. Economic Freedom Score, Placebo Tests

Source: Authors' analyses of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index. Additional data come from the *PolityIV* dataset, Freedom House, the Database of Political Institutions (DPI), and the JuriGlobe database. Vertical dashed line indicates the timing of the 1990 refugee shock and horizontal dashed line indicates zero treatment effect. Solid black line=Real Jordan's EFW score; solid grey lines=in-place placebo synthetic control units.

Figure 3. PolityIV Score, Real v. Synthetic Jordan

(a) Synthetic Control Specifications

(b) In-Place Placebo Tests

Source: Authors' analyses of the *PolityIV* dataset. Additional data come from the Database of Political Institutions (DPI), and the JuriGlobe database. (a) Dashed line indicates the timing of the 1990 refugee shock. Solid black line=Real Jordan's EFW score; solid grey line=Synthetic Jordan using full *Organisation of Islamic Cooperation* (OIC) countries; dashed grey line=Synthetic Jordan constructed using only OIC countries receiving Structural Adjust-

ment Loans (SAL). (b) Vertical dashed line indicates the timing of the 1990 refugee shock and horizontal dashed line indicates zero treatment effect. Solid black line=Real Jordan's EFW score; solid grey lines=in-place placebo synthetic control units.

Table 1. Effects of the Jordanian Refugee Surge, EFW Index

Source: Authors' analyses of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index. Additional data come from the *PolityIV* dataset, Freedom House, the Database of Political Institutions (DPI), and the JuriGlobe database.

Notes: Table presents estimated treatment effects on Jordan's EFW score and corresponding permutation test p -values that indicate the fraction of estimated treatment effects that are larger than the estimated effect on Jordan's EFW score following the 1990 refugee surge. OIC denotes the full *Organisation of Islamic Cooperation* donor pool; OIC minus PAK denotes the OIC donor without Pakistan; and OIC SAL denotes the donor pool limited to OIC countries that received Structural Adjustment Loans (SALs) from either the World Bank or International Monetary Fund (IMF).

Table 2. Goodness of Fit Estimates for Synthetic Jordan, EFW Index

Source: Authors' analyses of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index. Additional data come from the *PolityIV* dataset, Freedom House, the Database of Political Institutions (DPI), and the JuriGlobe database.

Notes: Table presents goodness of fit metrics for Synthetic Jordan with the EFW index as the outcome of interest. Goodness of fit for Synthetic Jordan is denoted by its Root Mean Squared Prediction Error (RMSPE). Placebo tests reassign the 1990 refugee surge to each control country and report the fraction of countries with a post-treatment RMSPE greater than Jordan's RMSPE, normalized ratio of pre- to post-treatment RMSPE greater than Jordan's RMSPE, and pre-treatment RMSPE greater than Jordan's. OIC denotes the full *Organisation of Islamic Cooperation* donor pool; OIC minus PAK denotes the OIC donor without Pakistan; and OIC SAL denotes the donor pool limited to OIC countries that received Structural Adjustment Loans (SALs) from either the World Bank or International Monetary Fund (IMF).

Table 3. Predictor Balance for Synthetic Jordan

Source: Authors' analyses of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index. Additional data come from the *PolityIV* dataset, Freedom House, the Database of Political Institutions (DPI), and the JuriGlobe database.

Notes: Table presents pre-treatment predictor variables for Jordan, their corresponding pre-treatment sample means, and the weighted averages used to construct Synthetic Jordan. OIC denotes the full *Organisation of Islamic Cooperation* donor pool; OIC minus PAK denotes the OIC donor without Pakistan; and OIC SAL denotes the donor pool limited to OIC countries that received Structural Adjustment Loans (SALs) from either the World Bank or International Monetary Fund (IMF).

Table 4. Synthetic Jordan Country Weights

Source: Authors' analyses of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index. Additional data come from the *PolityIV* dataset, Freedom House, the Database of Political Institutions (DPI), and the JuriGlobe database.

Notes: Table presents estimated country weights to construct Synthetic Jordan based on the EFW index as the outcome. OIC denotes the full *Organisation of Islamic Cooperation* donor pool; OIC minus PAK denotes the OIC donor without Pakistan; and OIC SAL denotes the donor pool limited to OIC countries that received Structural Adjustment Loans (SALs) from either the World Bank or International Monetary Fund (IMF).

Table 5. Synthetic Jordan Country Weights

Source: Authors' tabulation of the Gwartney, Lawson, and Hall (2017) *Economic Freedom of the World* (EFW) index.

Notes: Table presents the EFW Index and its components over 1975-2015 for Jordan in Panel A and Kuwait in Panel B.