Population, Agricultural, and Economic Consequences of the War in Syria

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Background

This particular war was instigated when Syrian protesters spoke out against President Bashar al-Assad.

The war began on March 15, 2011 and still has outlasting repercussions until today.

Source: Source: The Context, Causes, and Consequences of Syrian Displacement (2022)

Population Demographics

Identifying the Population

```
pop_dataframe(year = '2011', group = 'all', age_lower = 0, age_upper = 80, location ='Syrian Arab Republic')
```

	Country	Year	Age	Female	Male	People
0	Syrian Arab Republic	2011	00-04	1409663.0	1468425.0	2878088.0
1	Syrian Arab Republic	2011	05-09	1229224.0	1281990.0	2511214.0
2	Syrian Arab Republic	2011	10-14	1155916.0	1217287.0	2373203.0
3	Syrian Arab Republic	2011	15-19	1050888.0	1108494.0	2159382.0
4	Syrian Arab Republic	2011	20-24	1037743.0	1077484.0	2115227.0
5	Syrian Arab Republic	2011	25-29	989813.0	998113.0	1987926.0
6	Syrian Arab Republic	2011	30-34	822739.0	810866.0	1633605.0
7	Syrian Arab Republic	2011	35-39	632588.0	617023.0	1249611.0
8	Syrian Arab Republic	2011	40-44	509993.0	497910.0	1007903.0
9	Syrian Arab Republic	2011	45-49	433185.0	424893.0	858078.0
10	Syrian Arab Republic	2011	50-54	341680.0	336301.0	677981.0
11	Syrian Arab Republic	2011	55-59	271244.0	262847.0	534091.0
12	Syrian Arab Republic	2011	60-64	176428.0	179700.0	356128.0
13	Syrian Arab Republic	2011	65-69	138601.0	129554.0	268155.0
14	Syrian Arab Republic	2011	70-74	106220.0	94334.0	200554.0
15	Syrian Arab Republic	2011	75-79	79534.0	69486.0	149020.0
16	Syrian Arab Republic	2011	80-UP	63628.0	58020.0	121648.0

	Country	Year	Age	Female	Male	People
0	Syrian Arab Republic	2016	00-04	935963.0	978003.0	1913966.0
1	Syrian Arab Republic	2016	05-09	968641.0	1006416.0	1975057.0
2	Syrian Arab Republic	2016	10-14	861840.0	901748.0	1763588.0
3	Syrian Arab Republic	2016	15-19	848246.0	894250.0	1742496.0
4	Syrian Arab Republic	2016	20-24	792248.0	840146.0	1632394.0
5	Syrian Arab Republic	2016	25-29	800179.0	843093.0	1643272.0
6	Syrian Arab Republic	2016	30-34	763503.0	769201.0	1532704.0
7	Syrian Arab Republic	2016	35-39	627092.0	606879.0	1233971.0
8	Syrian Arab Republic	2016	40-44	479610.0	459305.0	938915.0
9	Syrian Arab Republic	2016	45-49	389610.0	374465.0	764075.0
10	Syrian Arab Republic	2016	50-54	337401.0	321998.0	659399.0
11	Syrian Arab Republic	2016	55-59	269170.0	255864.0	525034.0
12	Syrian Arab Republic	2016	60-64	216304.0	200325.0	416629.0
13	Syrian Arab Republic	2016	65-69	136415.0	130759.0	267174.0
14	Syrian Arab Republic	2016	70-74	103431.0	88605.0	192036.0
15	Syrian Arab Republic	2016	75-79	72964.0	59762.0	132726.0
16	Syrian Arab Republic	2016	80-UP	73347.0	58784.0	132131.0

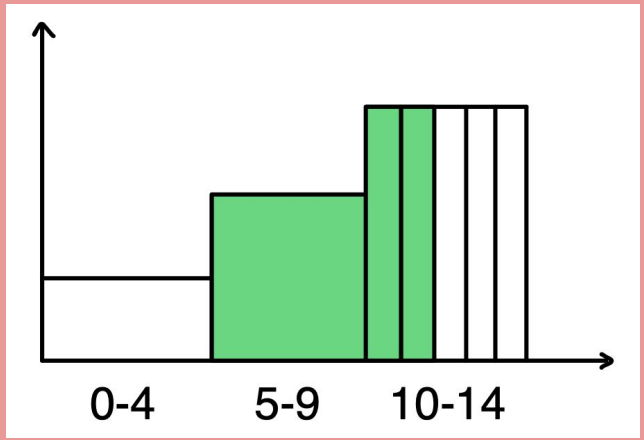
Deriving Population Statistics

Round the inputted age range so that the upper and lower bounds are to the nearest five-year interval

Use this new range to extract a new population df like the one above for the rounded age range

Now we have a population data frame that *almost* matches our desired range. To calculate the values we're interested in, we assume the split between ages within a subgroup is equivalent

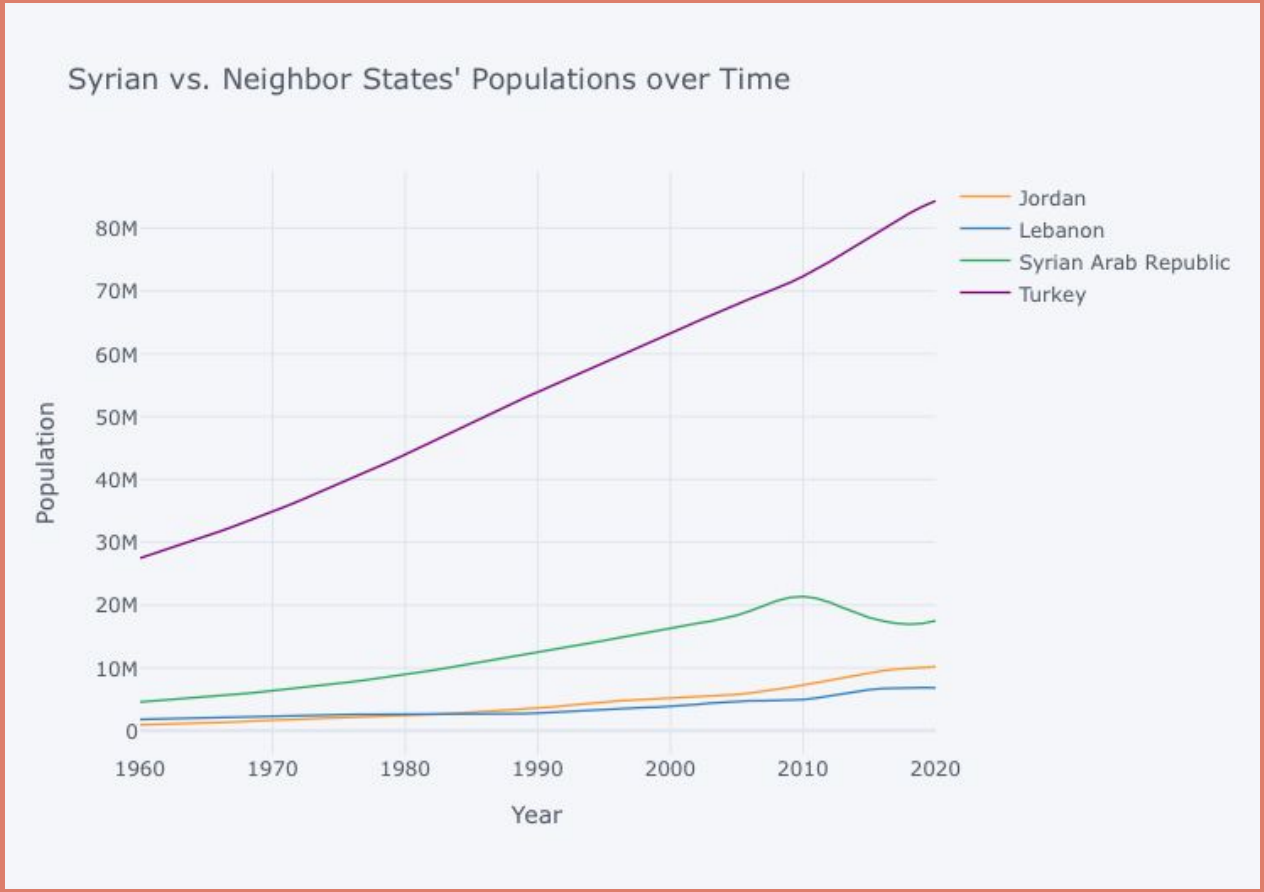
Then we found the difference caused by the actual and rounded population values using this formula: excess_pop = df.loc[:,0]["People"] / 5 * (abs(roundage - actualage)



Ex: age range = 5-11

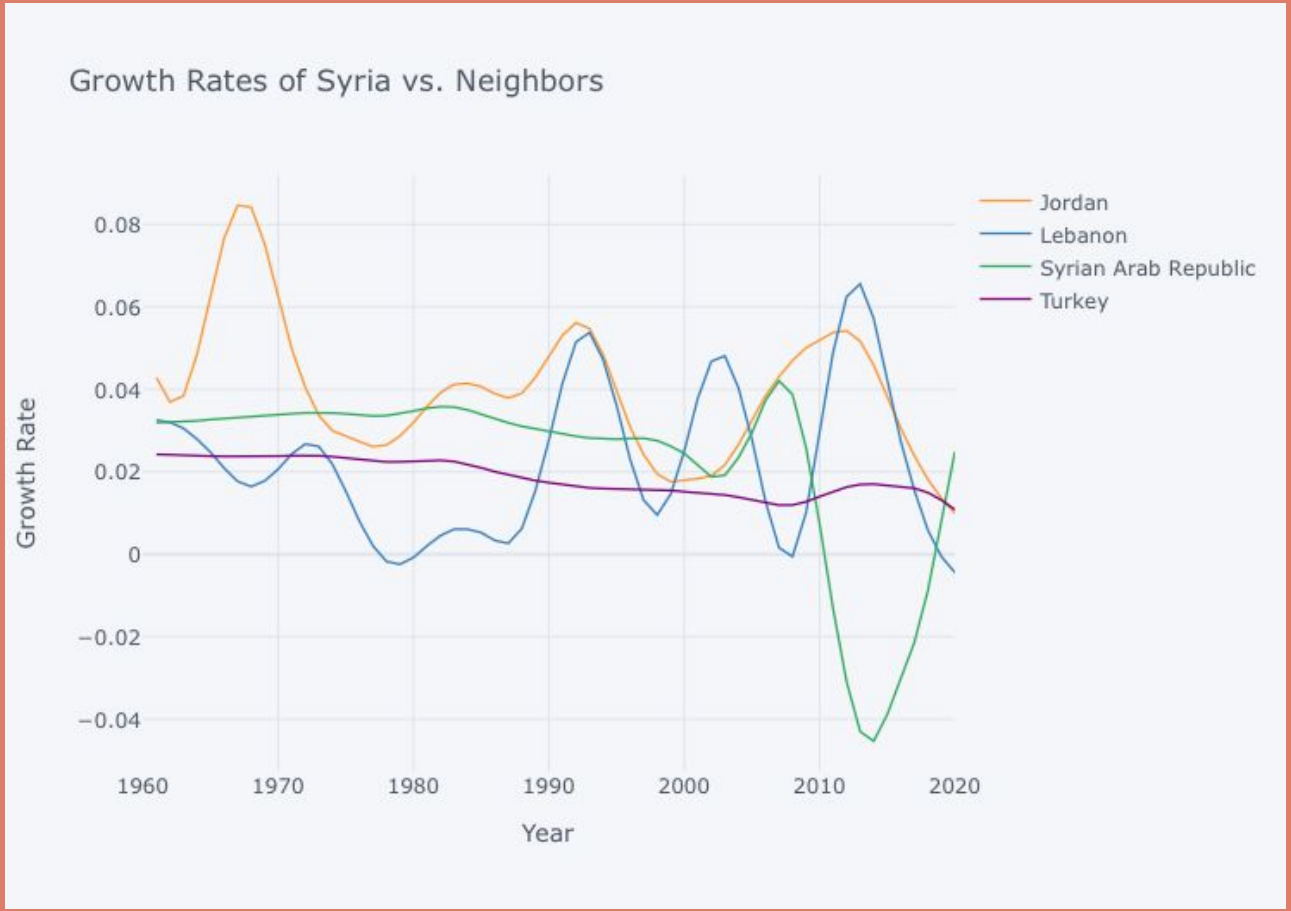
To get the total population we were looking for, we then summed the people column and subtracted the excess_pop value found above for both the lower and upper bound

To the right, is a graph of the total population of Syria, Turkey, Jordan, and Lebanon between the years 1960 and 2020.



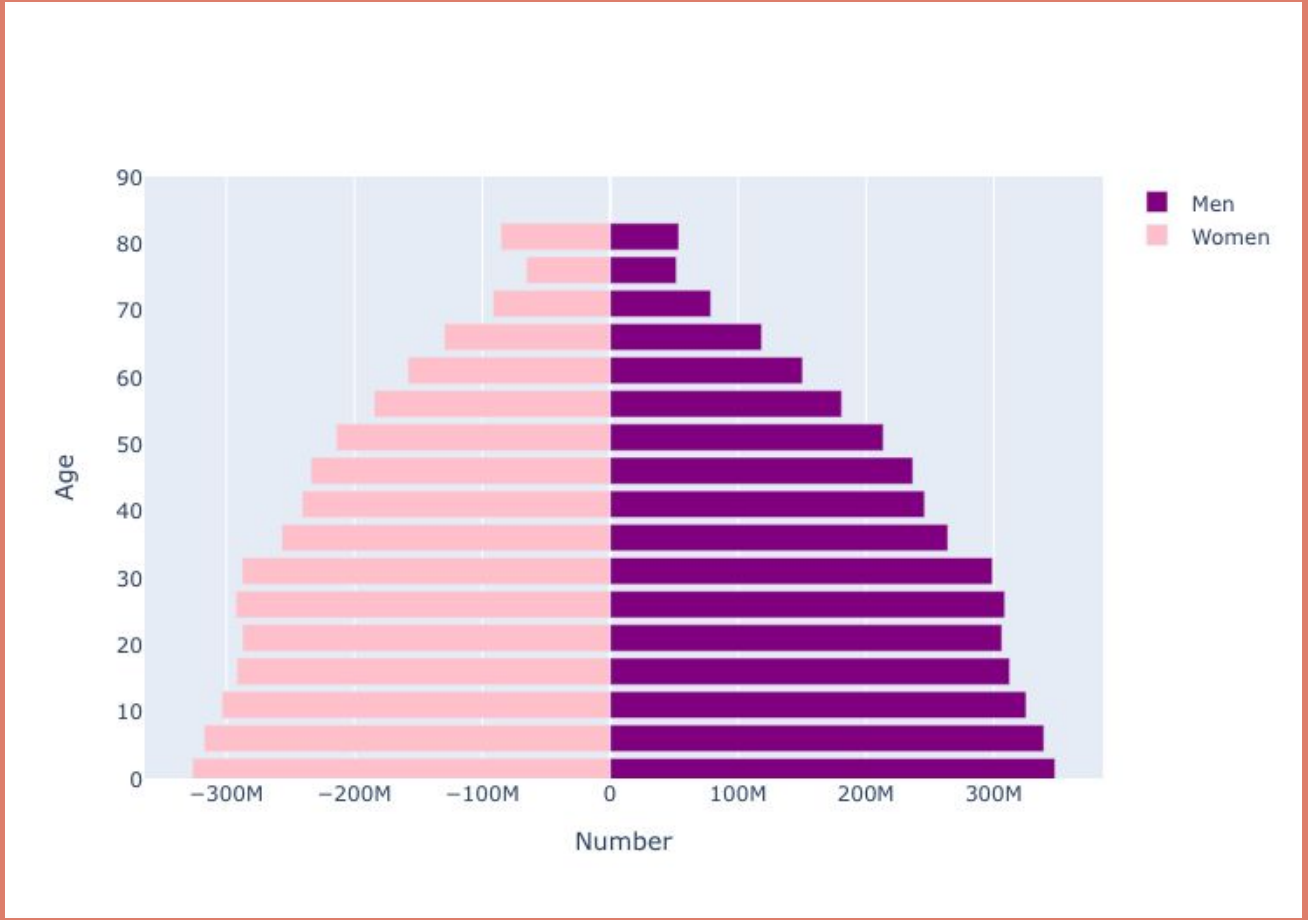
The graph depicts the growth rates (log function of total population growth) of Syria, Turkey, Lebanon, and Jordon between the years 1960 and 2020.

Deliverable [#C]: Other Visualization Tools



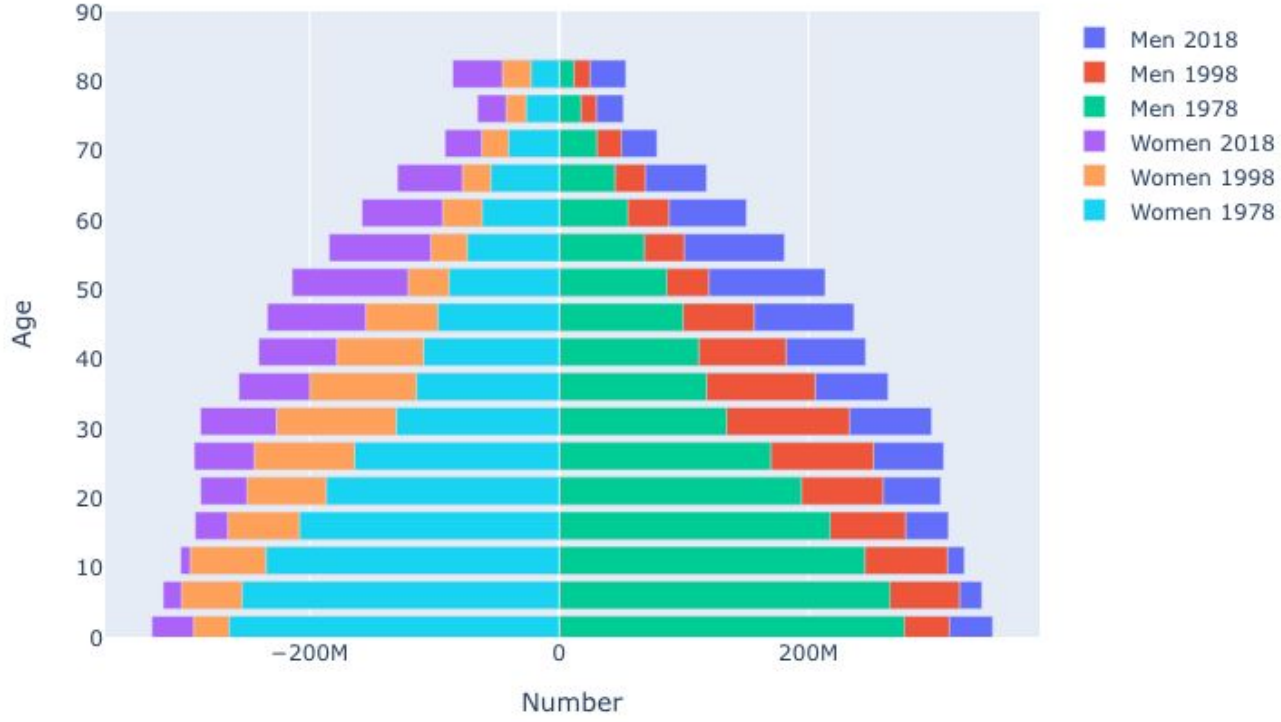
This population pyramid graphs the population of Syria and is divided by gender and age (in 10 year increments). Women are on the left, men are on the right.

[#B]: Population Pyramids

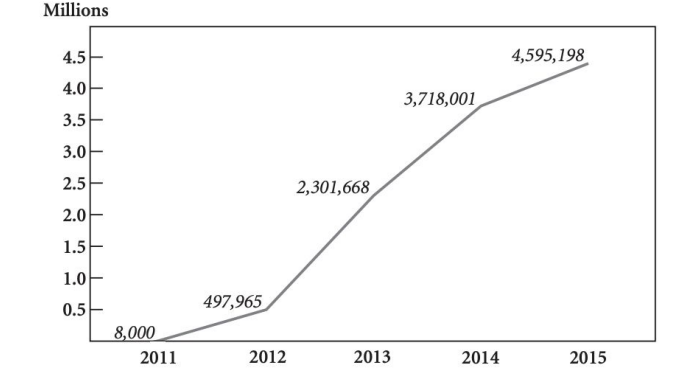


This animated population pyramid illustrates the changes in population structure of Syria by age range and gender, over the years 1978 to 2018.

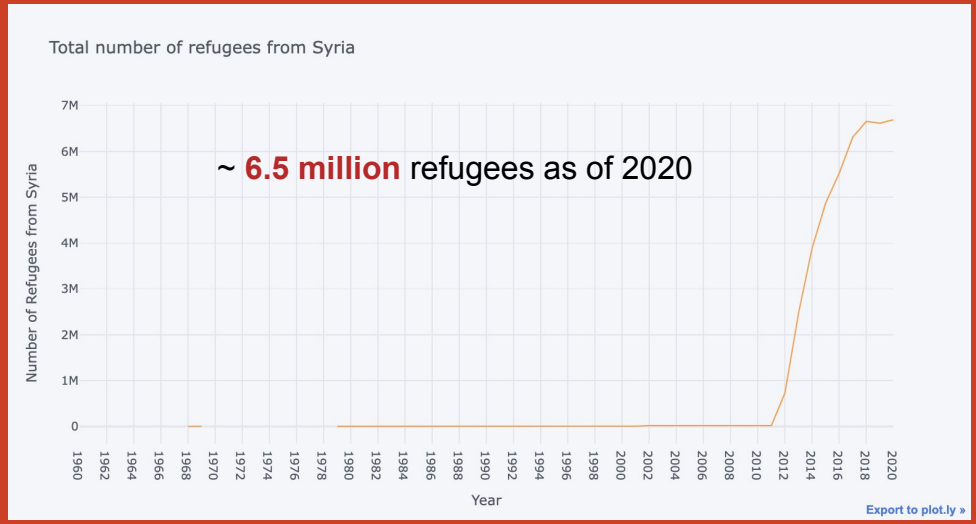
[#C]: Animated Population Pyramids



Refugees



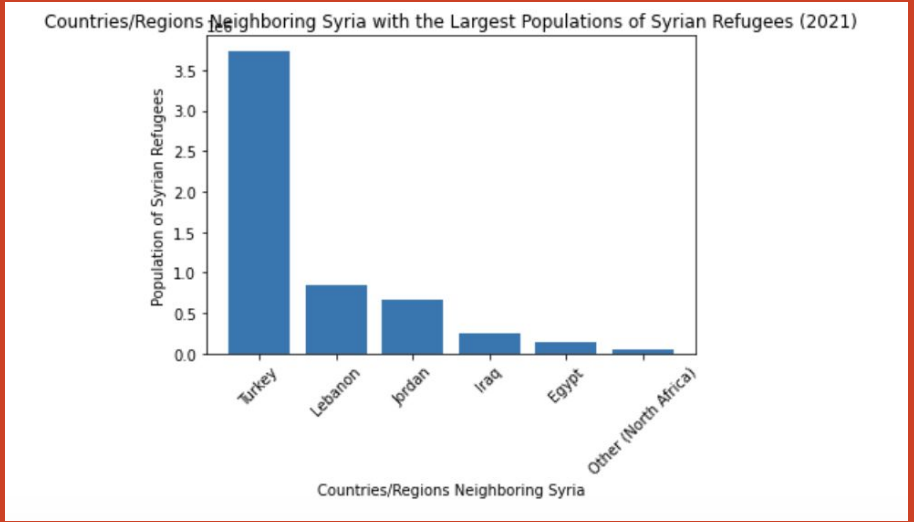
- *Countries that took in the most amount of refugees were by far Jordan, Lebanon, and Turkey.*
- *UN Commission of Inquiry found that fear of sexual violence has been a trigger for displacement, stating that* ***"fear of rape is a driving motivation for families fleeing the violence."***
- *On top of civil rest, key factors in the active displacement of Syrians include ISIS rule, fear of airstrikes by the US/Russia and Syrian government.*



Source: The Context, Causes, and Consequences of Syrian Displacement (2022)

Population Demographics in Neighboring Countries

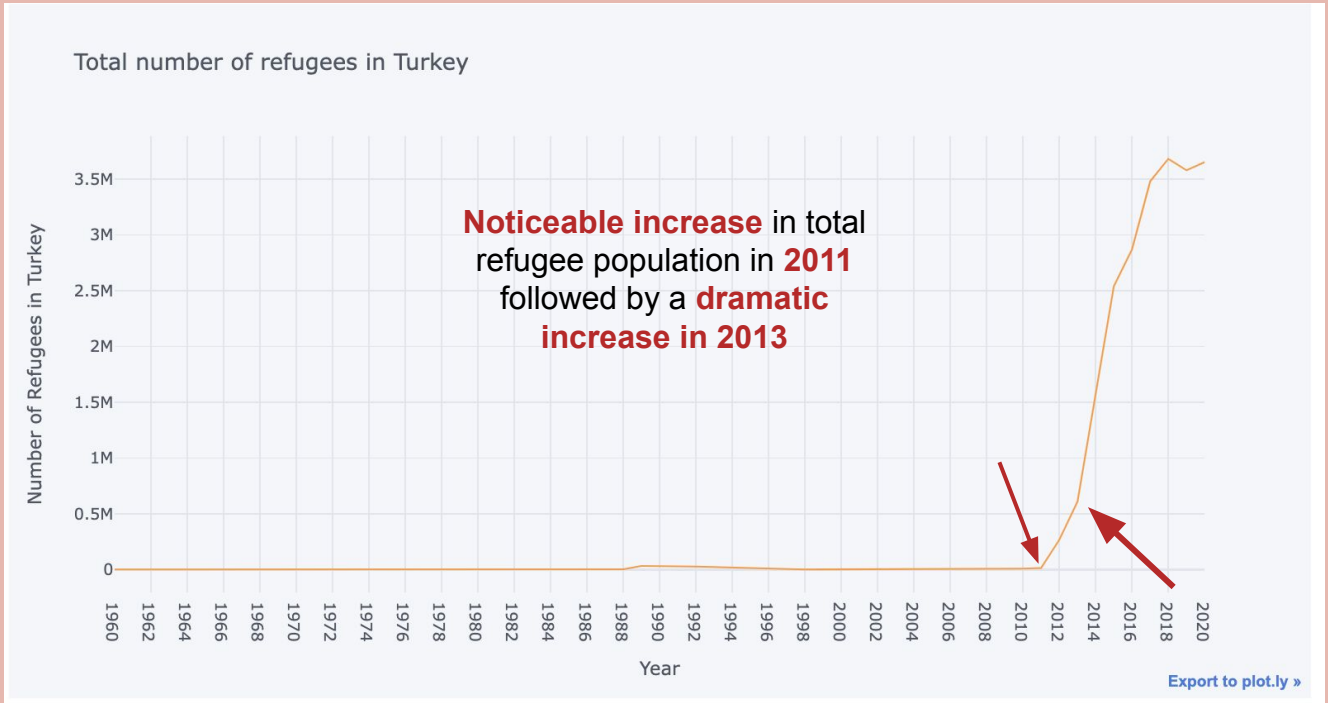
	Country/Region	Total Number of Syrian Refugees & Asylum Seekers (2021)
0	Turkey	3736235
1	Lebanon	840929
2	Jordan	672952
3	Iraq	254561
4	Egypt	136727
5	Other (North Africa)	42578



The top countries bringing in refugees were Turkey, Lebanon, and Jordan, which we will take a look at more closely

Source: United Nations High Commissioner for Refugees Operational Data Portal, *Situation Syria Regional Refugee Response* (2022)

Turkey hosts the largest population of Syrian refugees & asylum seekers

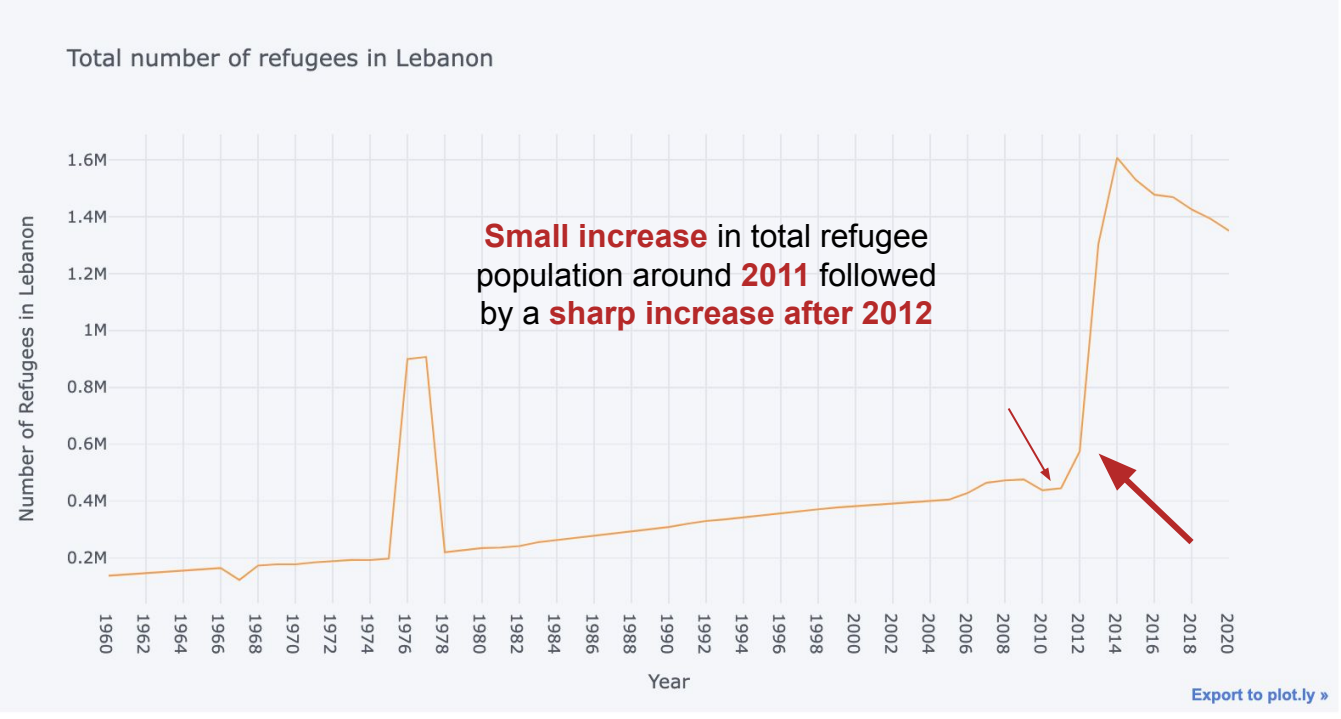


3,739,859 Syrian refugees & asylum seekers as of February 2022

65.8% Syrian refugees & asylum seekers

Source: United Nations High Commissioner for Refugees Operational Data Portal, *Situation Syria Regional Refugee Response* (2022)

Lebanon hosts the 2nd largest population of Syrian refugees & asylum seekers

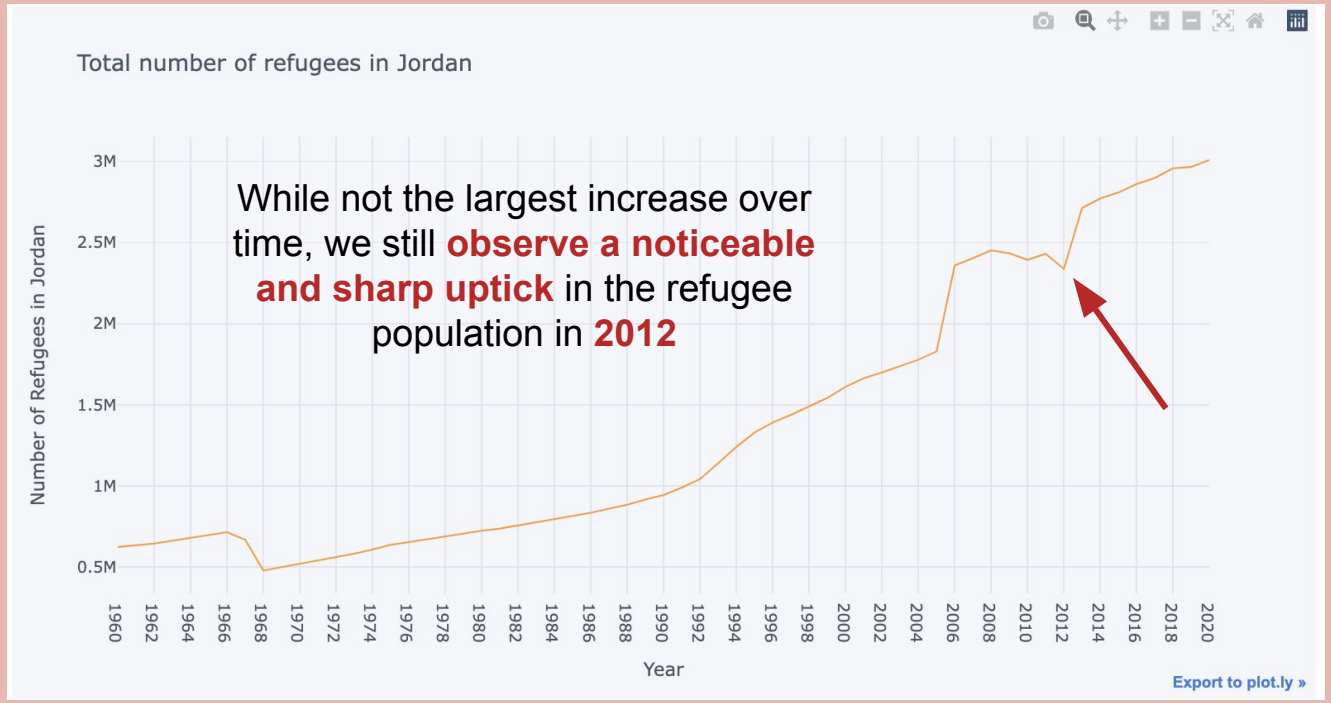


840,929 Syrian refugees & asylum seekers as of December 2021

14.8% of total Syrian refugees & asylum seekers

Source: United Nations High Commissioner for Refugees Operational Data Portal, *Situation Syria Regional Refugee Response* (2022)

Jordan hosts the 3rd largest population of Syrian refugees & asylum seekers



673,188 Syrian refugees & asylum seekers as of January 2022

11.8% of total Syrian refugees & asylum seekers

Source: United Nations High Commissioner for Refugees Operational Data Portal, *Situation Syria Regional Refugee Response* (2022)

Economic Development

The Washington Post

Syria's economic crisis worsens as bread lines grow

BEIRUT — Every morning, Abu Mohammed and his two eldest sons wake up for dawn prayer in Damascus, then take turns heading to the bakery.

Dec 26, 2020

Source: *The Washington Post*

The Syrian Economy

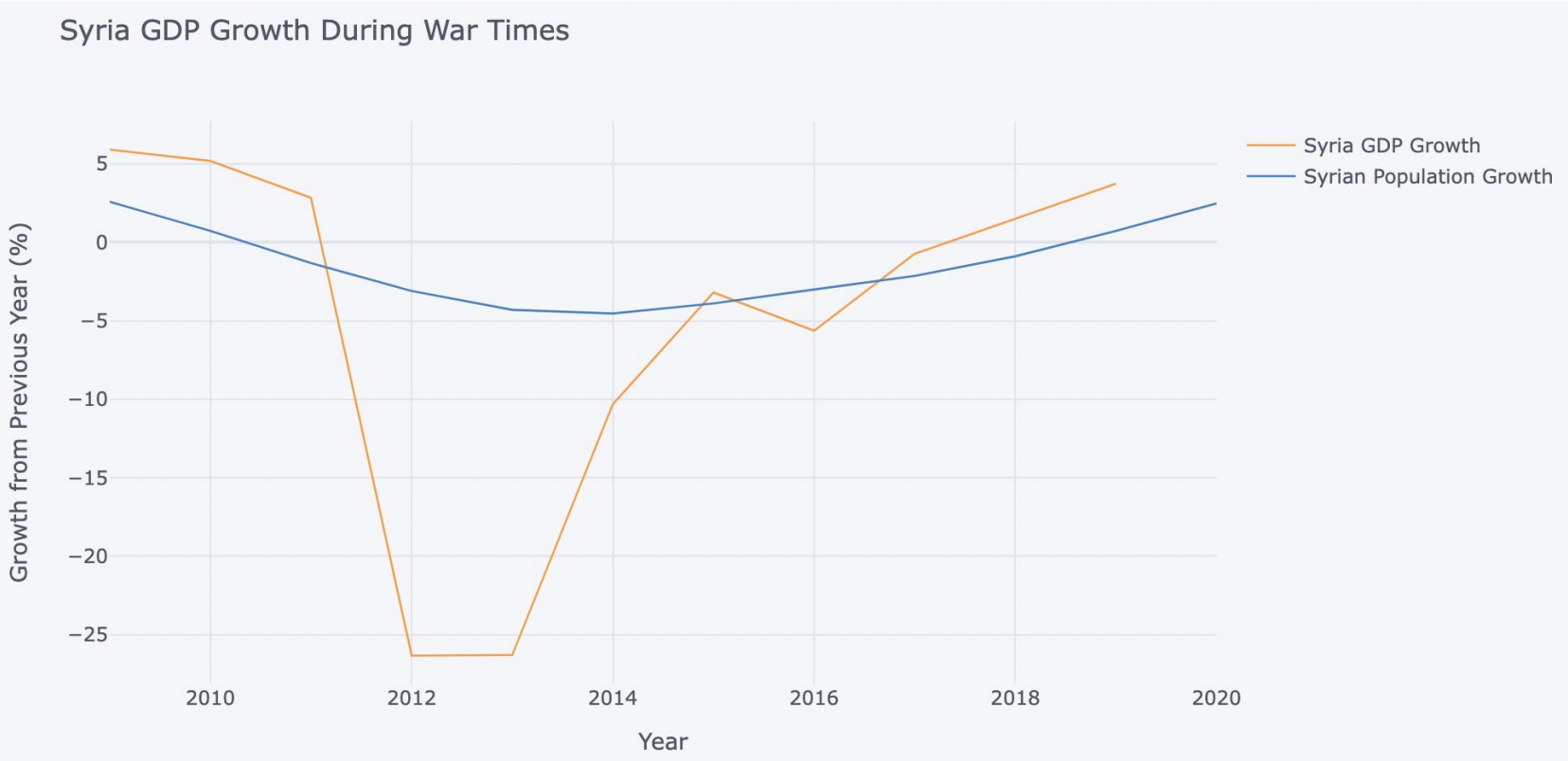
In March 2015 the United Nations Development Program reported

- 80 percent of Syrians inside the country were living in poverty
- Life expectancy has plunged by 20 years
- Economy had lost $200 billion since the conflict began

According to the World Bank

- Syrian economy shrank by more than 60% between 2010 and 2021
- Consumer goods experienced a near 300% inflation rate
- The Syrian middle class shrunk from around 60% of the population pre-war, to just 10-15% post war

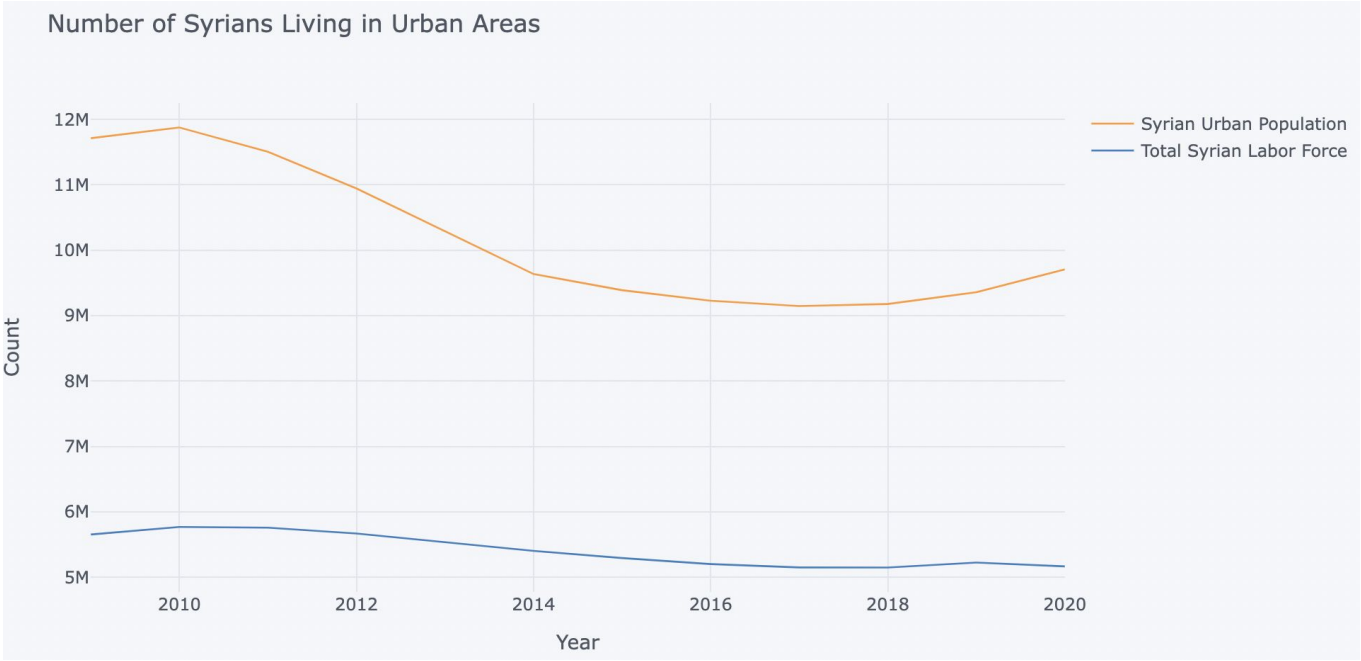
As the Syrian Population Began to Decrease, so did GDP…

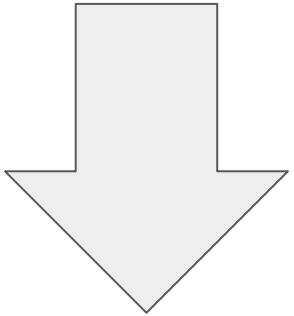


As the Syrian Population Began to Decrease, so did GDP…

- The Syrian economy faced back to back years of GDP decreases greater than 25% in 2012 and 2013 during the heart of the war
    - This large decrease in GDP was paralleled by a smaller but equally important decrease in population of 3.1% and 4.3% in both years, respectively
    - The following year, 2014, Syrian population decreased another 4.5%
- Population and GDP continued to incrementally decrease before finally starting to recover in 2019 and 2018 respectively

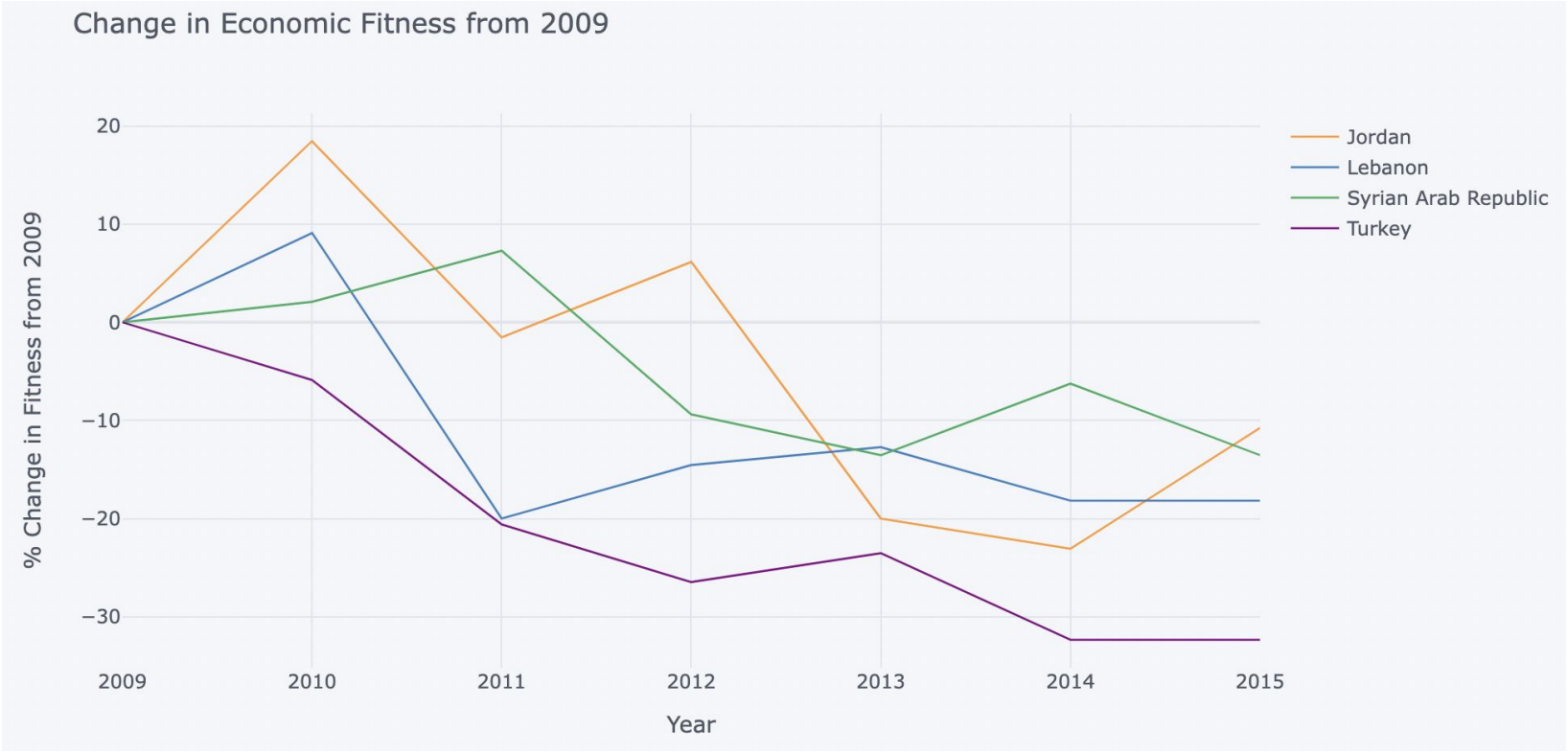
Movement ***AWAY*** from Urban Areas and Job Centers…





```
-0.08849557522123894
The change in Labor Force from 2009 to 2017 is -8.8%
-0.21947053800170796
The change in Urban Population from 2009 to 2017 is -21.9%
```

War Takes a Big Toll on Economies Throughout the Region



Turkey, Jordan, and Lebanon

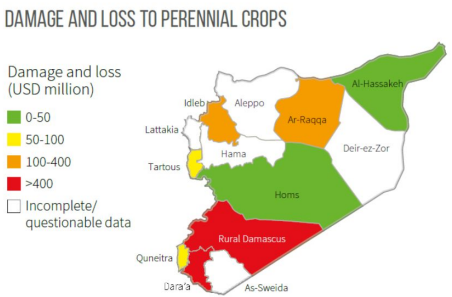
```
Economic Fitness (EF) is both a measure of a country's diversification and ability to produce complex goods on a glob
ally competitive basis.
```

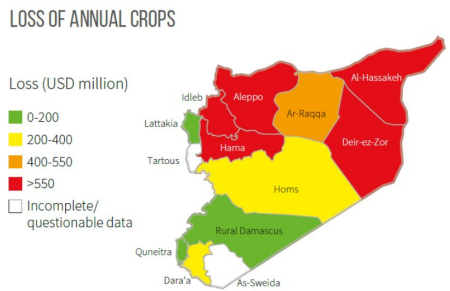
- War in Syria reduced the need for regional imports, especially out of three key neighboring countries: Turkey, Jordan, and Lebanon
  - A lack of trade within the Middle East as well as tensions from war sparked a sharp decrease in the economic fitness of not only Syria but the entire region
- The war leaves little available to stimulate some Middle Eastern economies as the aforementioned regions continue to struggle with respect to their currencies, GDP growth, and inflation rates

Agriculture

Background

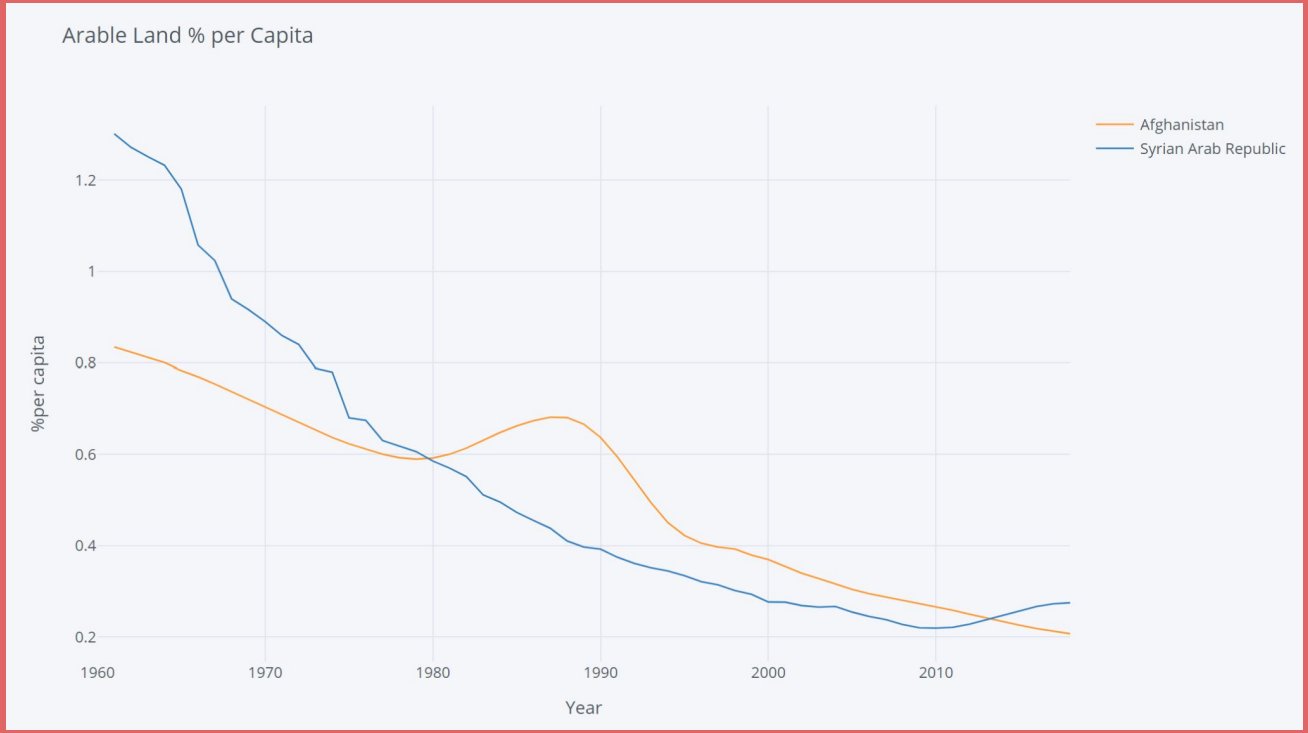
- Agriculture is a key part of the Syrian economy, consisting of approximately 26-30% of total GDP
- Political unrest, economic instability, the pandemic and irrigation have all contributed to a drop in agricultural production in the past 10 years
- Effects of war: conflict destroyed irrigation channels, instability led farmer to focus on growing crops for individual needs, wheat shortage



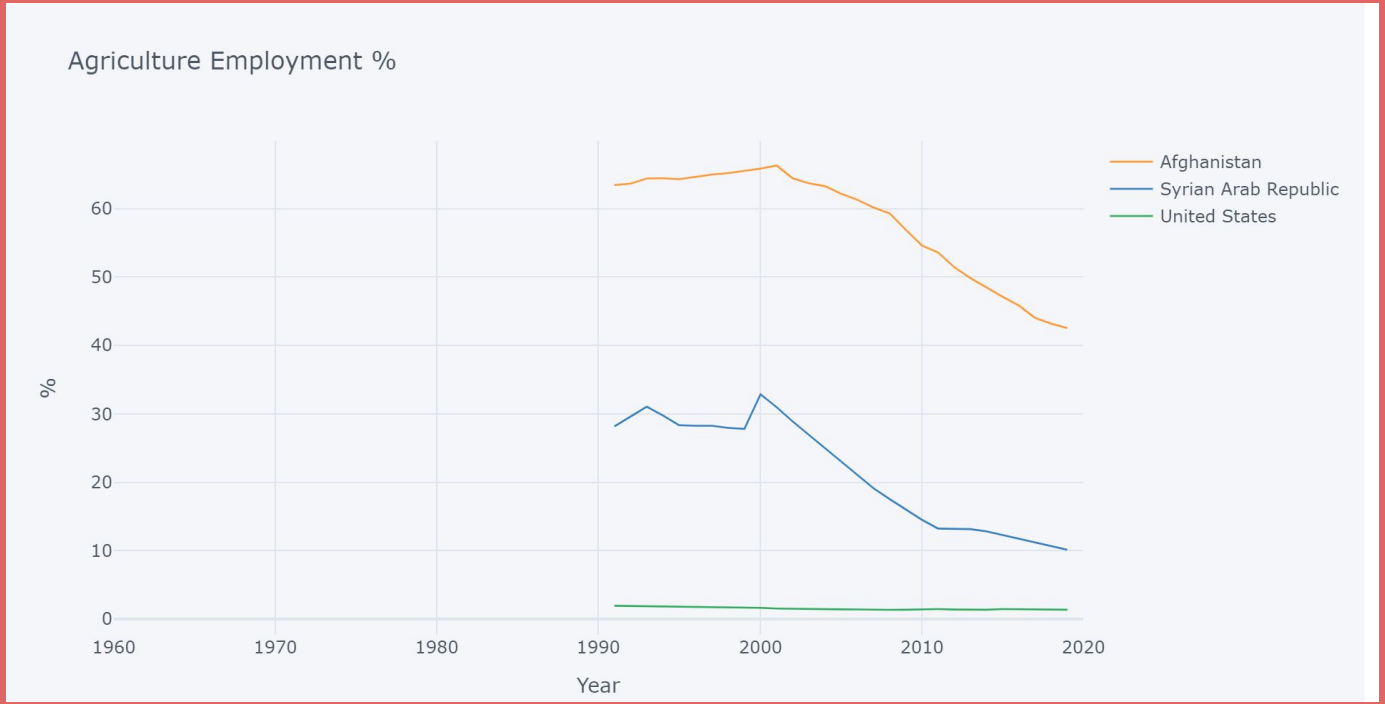


Source: FAO, 2017: 7[1]

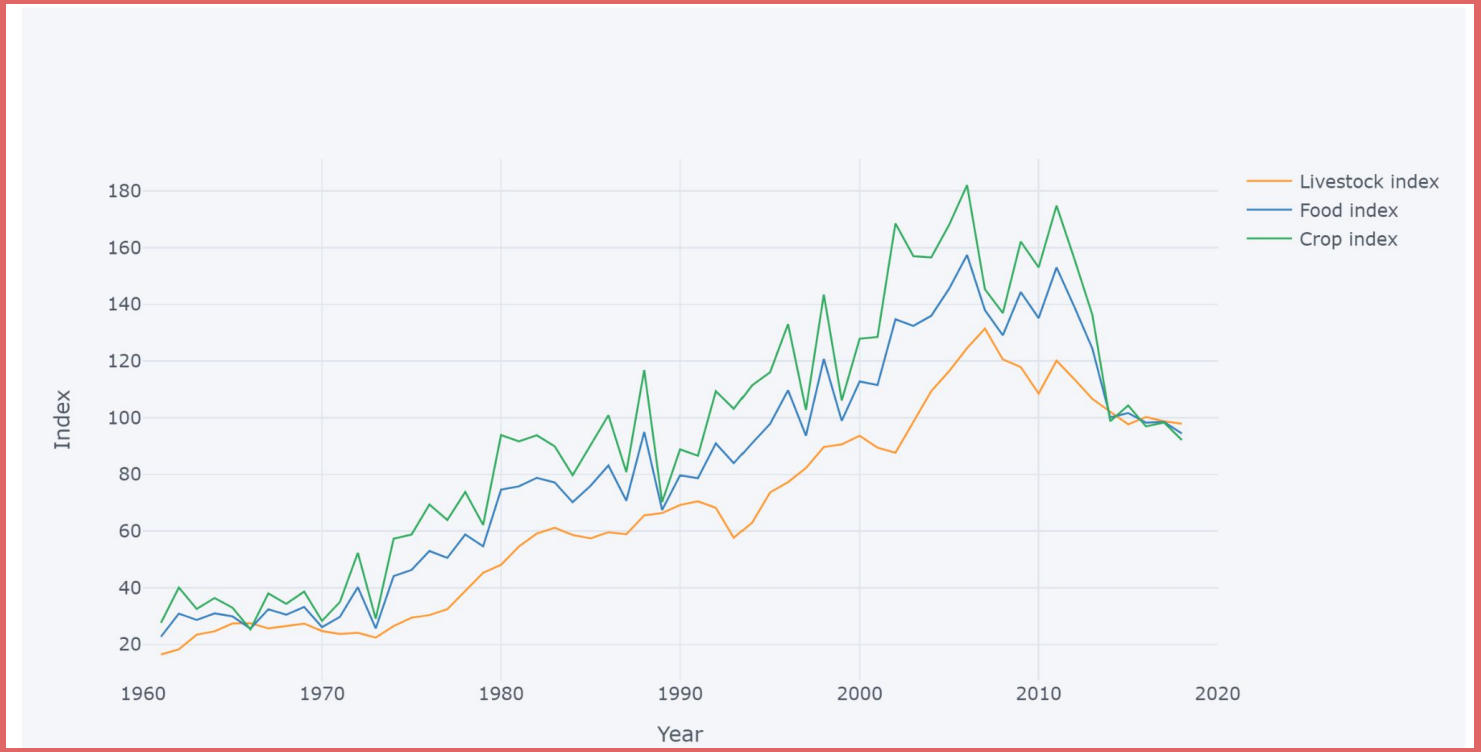
Available land is shrinking…



And farmers are getting displaced



So it’s no wonder agriculture is going down

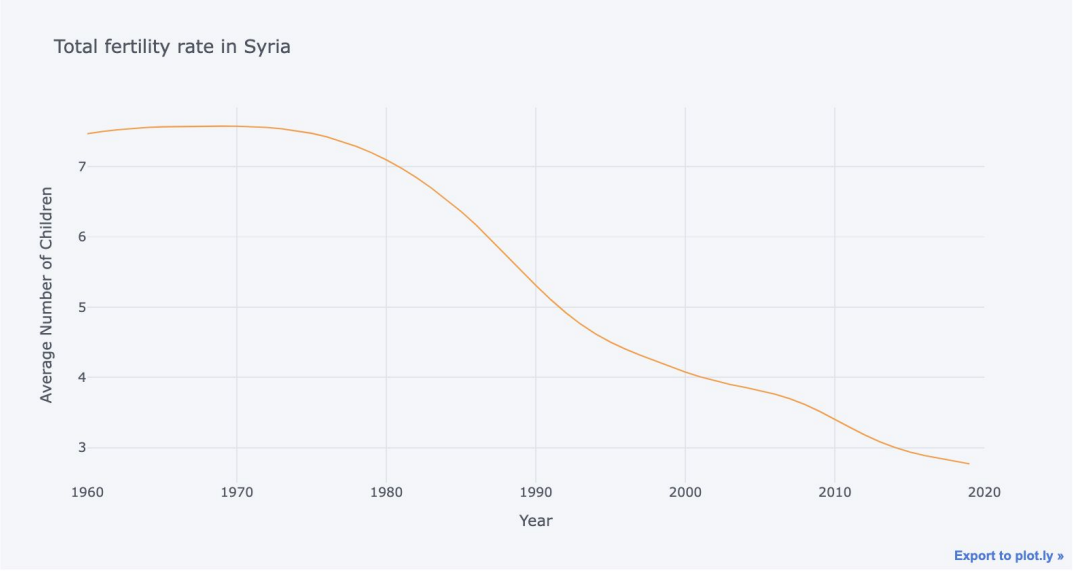


Fertility

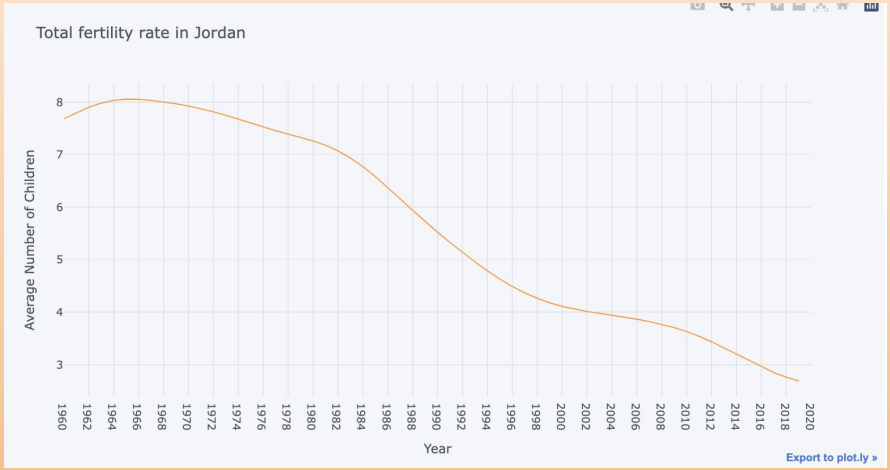
Fertility

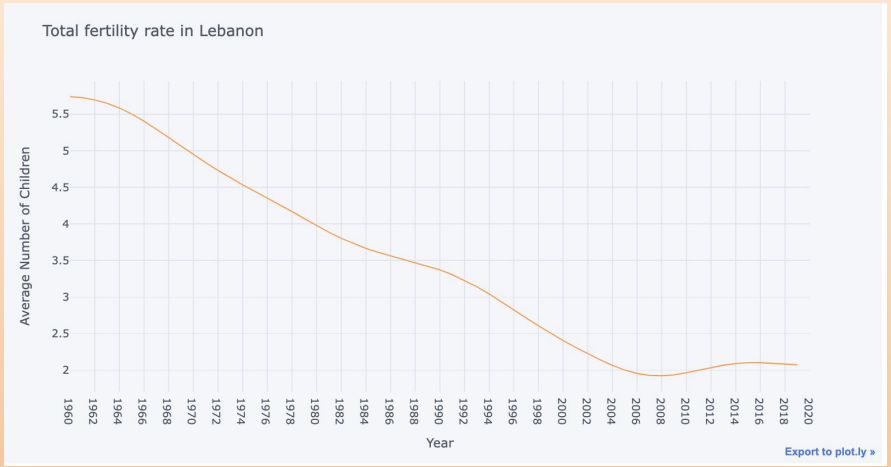
The fertility rate declined by more than 50% in Jordan, Syria, and Lebanon just between 2005-2010.

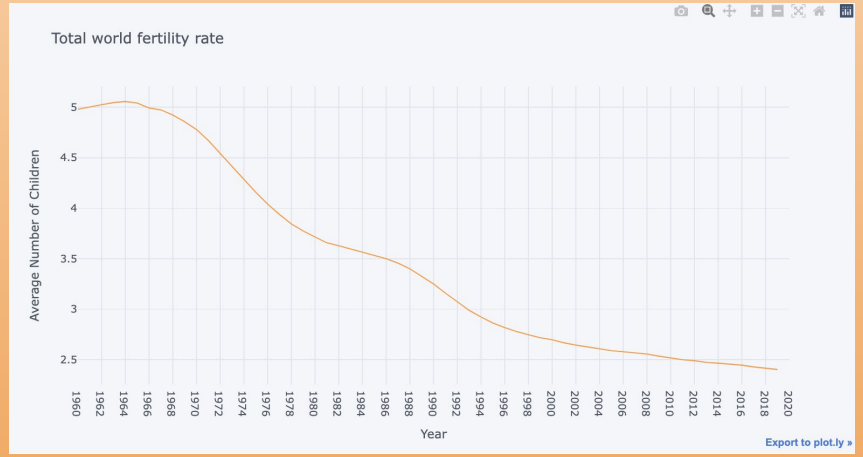
Predictions: The total fertility in Arab region expected to fall to 2.1 children per woman by 2045-2050



Fertility







Due to rising marriage age for women, delaying childbearing age, increased availability for contraception, higher levels of female education, increased female labor participation, overall improved status of women

Conclusion

The Outlasting Consequences of the Syrian War

Population

Economy

Agriculture

Fertility