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# Demographic gaps between Syrian and the European populations: What do they suggest?

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## Abstract

*Syrian crisis resulted in at least 6.1 million externally displaced people 983,876 of whom are in Europe while the rest are in neighbouring countries in the region. Turkey, due to its geographical proximity and substantial land borders with the country, has been the most popular destination for those fleeing Syria since April 2011. Especially after 2012, a sharp increase in the number of Syrian refugees arriving in Turkey was witnessed. This has triggered an exponential growth in academic and public interest in Syrian population. Numerous reports mostly based on non-representative sample surveys have been disseminated whilst authoritative robust analyses remained absent. This study aims to fill this gap by offering a comprehensive demographic analysis of the Syrian population. We focus on the demographic differences (from 1950s to 2015) and demographic trends (from 2015 to 2100) in medium to long term, based on data from World Population Prospects (WPP). We offer a comparative picture to underline potential changes and convergences between populations in Syria, Turkey, Germany, and the United Kingdom. We frame our discussion here with reference to the demographic transition theory to help understanding the implications for movers and non-movers in receiving countries in the near future.*

***Keywords:*** *Syrians; migration; population; demographic trends; demographic transition.*

## Introduction

At least 6 million 148 thousand Syrians have been uprooted as a result of the crisis and conflict ongoing since 2011 in Syria. As of 6 August 2017, 5,165,502 have crossed the borders into neighbouring countries of Turkey, Lebanon, Jordan and Iraq whilst 983,876 moved further to Europe (UNHCR, 2017). A similar volume of population has been displaced within Syria too. This practically makes Syria one of the worst displacement cases in the history as more than half the contemporary population is displaced. Turkey with a long land border with Syria as well as historic links between populations, particularly in border provinces appeared as a favourite destination for Syrians who escape the conflict. As conflict grew and spread, in 2012 and onwards, a sharp increase in the number of Syrians arriving in Turkey was observed (Yazgan *et al*., 2015; Sirkeci, 2017a). When Lebanon receiving proportionally the largest share of Syrian movers, Jordan, Egypt, and Iraq have also accommodated sizeable populations seeking refuge.

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Unlike the early days of the conflict when most movers preferred neighbouring countries, in later years, an increasing number of Syrians destined to Europe. There can be and are many factors moderating this behaviour. We can cite economic opportunities, democratic environment, as well as aspirations and cultures of migration among these factors. Certain political manoeuvres such as the German Chancellor Merkel's welcoming message in 2015 have also played a role.

In countries where sizeable Syrian communities emerged, debates about integration of movers have also been heightened in academia and general public. Being host for the largest population of Syrian movers, Turkey saw an exponential increase in academic interest in Syrians and migration in general. Nevertheless, most, if not all, of the research projects publicized have drawn conclusions based on small and non-representative samples. In the meantime, official data and summary releases remained primitive. Despite some interesting qualitative studies transpiring narratives of Syrian movers and non-movers in Turkey, there is a grave need for comprehensive analysis of trends in Syrian populations before attempting any conclusions about the future of this particular group and integration issues in waiting in Turkey and elsewhere.

Differences in demographic patterns and trends are as important as socio-economic and cultural differences between the movers and the non-movers in countries of destination. Nevertheless, apart from limited and often poor remarks that appear in discourses of politicians and in media, there has been no analysis of the demographic differences and projections for the future.

This sudden rise in interest in Syrians has resulted in an exponential growth in the number of research with poor quality, questionable methodologies, and controversial as well as unreliable analyses. This warrants robust and reliable analyses using representative and good quality data –as available. Our aim in this study is to offer a comprehensive analysis of Syrian population and demographic trends with reference to Demographic Transition Theory. Hence we may contribute to this gigantic task of filling the void with quality information. In this study, first, we delineate the demographic trends and changes in Syrian population from 1950 to 2015. Then we look at the projected trends from 2015 to 2100. We contrast these with the trends from selected key destination countries, Germany, Turkey and the United Kingdom. These analyses are based on the data from the World Population Prospects (UN, 2016). The conceptual point of reference for the analyses is Demographic Transition Theory which guides us in understanding the demographic changes which will be

reflected in Syrian mover populations in destination countries in medium to long term.

**Demographic Transition**

The demographic transition is generally believed to be an unfinished process in the developing or less developed world, where rapid population growth is prevalent (Newbold, 2010). Mortality rates in the developing world have fallen rapidly from the mid-20th century, particularly due to much improved health provisions and technologies, better care and nutrition. However, fertility rates largely remained above the replacement level, and on average approximately three children per woman were reported. The rates in sub-Saharan Africa have been much higher than the average.

Within the "developed" world[1], shifts in mortality and fertility rates occurred towards the end of the 19th century and in early 20th century in relation to the Industrial Revolution and major improvements in public health provision. These led to a rapid decline in infant mortality rates while increasing the life expectancy (Bongaarts and Watkins, 1996; Weeks, 2002; Weinstein and Pillai, 2001; Rowland, 2012; Yaukey et al., 2007). In all developed countries today, fertility rates have been low for long enough to see populations in many developed countries are nearing to the end of the age transition, which brings up the challenge of population aging as a major concern. Populations in developed countries are largely characterized by relatively slow rates of population growth, low fertility levels, and controlled immigration. Some countries in Europe, and particularly in Eastern Europe, have been experiencing negative population growth rates for a while. In other words, their populations are on decline. According to the Population Reference Bureau projections, for example, Latvia's current population of 2.3 million will shrink to 1.9 million by 2050, thanks to low fertility levels. Germany's population, currently 82 million, is projected to decline to 71.4 million by 2050 (Newbold, 2010: 23). Due to its population momentum effect, Turkey's population is projected to increase until 2045-50. However, negative population growth attributed to low fertility rates is projected for the second half of the 21st century. However, this transition in fertility and mortality was observed in the 19$^{th}$ century and in the beginning of the 20$^{th}$ century in developed countries.

Despite the effectiveness of the global demographic transition, especially in the second half of the twentieth century (Reher, 2004;

[1] Here we are using "developed countries" to refer to highly industrialised countries with high average incomes.

Caldwell, 2001; Caldwell and Caldwell, 2001), today there are still significant demographic differences between countries and population groups across the world. Undoubtedly, our understanding of the demographic transition is deepened through comparing populations, especially between migrant sending and receiving countries. Every country or population experiences demographic transition in a unique fashion characterised by their own historic, social, cultural, economic and technological transitions (Lestheaghe, 1983; Coale and Watkins, 1986; Watkins, 1987; Caldwell and Caldwell, 2001). Therefore, no rate or percentage change can be deemed 'high' or 'low', and no set of characteristics can be considered 'more developed' or 'less developed', or 'traditional' or 'modern', for instance, without comparisons with other populations (Rowland, 2006: 120).

Concepts and theories, such as the demographic transition, provide a general comparative framework for research. These comparisons are necessary to draw conclusions and improve our understanding. Comparing data for different populations, at national, regional or local levels, is essential in gauging whether populations are distinctive, how much they have changed through time and whether their characteristics are adequately understood. Hence we can identify and explain the structural characteristics and changes in demographic trends over time.

The age and sex structure of a population is a commonly overlooked aspect of the social structure, yet it is one of the most influential drivers of social change in human society. The number of people at each age and of each sex is important to understand how a society is organized and how it operates (Rowland, 2012). The age composition is determined by the interaction of three demographic processes. Population movements can have a sizable impact, since movers tend to be concentrated in particular age groups and, in addition, movement is often selective of sex and age. Males in working ages are often more likely to move and this may have a significant impact on population change (Rowland, 2012; Newbold, 2010). Mortality has the smallest short-run impact on the age distribution. When mortality declines suddenly (as is the case in less developed countries), it turns the population to be more youthful and makes it grow rapidly. At the same time, a decline in mortality influences the sex structure by resulting in an increasingly larger number of females than males in older age groups (due to the fact that females usually have longer life expectancy than males and hence share of females in older age groups increases). Changes in fertility generally produce the biggest changes in a society's age structure, regardless of the level of mortality. High fertility, in general, results in a young age structure whereas low fertility leads to ageing of population.

Demographers examine the population processes that are likely to have an impact on future age and sex structure of a population based on various population projection scenarios. At the same time, examining past population trends allows us to understand behaviours of cohorts over time and in relation to social events and changes. Population projections help us to identify the direction of change. For example, it is possible to understand how a youthful population structure turns to an ageing population over time by examining the past demographic transition records of many developed countries. What matters is how fast or slow this transition takes place. These changes in age and sex structures of a population have a bearing on political, economic and social stability.

Countries with significant negative or positive net migration will face a change in age and sex structure of their populations after a while. For instance, it is useful to examine population movements and demographic transition in Germany, United Kingdom, USA, and Canada as these countries are characterised by strong net migration flows over a long period.

Overall, it is possible to spot the full variety of age groups among the movers. However, young adults are overrepresented among international and internal movers. For example, USA sees more inflows than outflows but those moving abroad are generally older than those arriving in the USA. This would certainly have, albeit a small, impact on age structure (Bouvier et al., 1997; Weeks, 2002). In the short run, the volume of young population declines in places marked by net emigration whereas in places of net immigration, the share of the young age groups increases in the total population. In the long run, the impact of migration is felt most in fertility patterns. This is due to the fact that most migrants are in prime reproductive ages (15-49 years old).

Therefore, movers' demographic features can be important for the receiving countries. Being concerned of the impact of population movements on demographic transition, many developed and developing countries have altered their population policies from anti-natalist to pro-natalist perspectives. More specifically, many developed countries have been applied a controlled or selective immigration policy within a pro-natalist perspective (Yüceşahin et al., 2016). Pro-natalist policies promote fertility to ensure population growth. By doing so, they aim to compensate their possible workforce deficit.

**Data and Methods**

There are no data sources that include country specific demographics of Syrian movers in the receiving countries. Therefore, in this study, we used the United Nations' (UN, 2016) country specific demographics to study the demographic differences among populations assuming that Syrians who moved to other countries would continue with similar demographic behaviour to what can be portrayed for the population of Syria. Here we should note that over time, some convergence is expected in demographic patterns of the movers and local populations. However, since mass Syrian population movements have only emerged in the last six years, the convergence is expected to be limited. To illustrate the demographic transition of Syrian population, we used crude birth rate (CBR) which is the ratio of births to the total population, crude death rate (CDR) which is the ratio of deaths to the total population, total fertility rate (TFR) which is an age-adjusted, period measure of lifetime fertility, derived by summing age specific birth rates in a given year for all ages of childbearing, and life expectancy at birth (LEB) which is the average number of years of life remaining to a group of persons who reached a given age, as key demographic indicators (for detailed definitions see Siegel and Swanson, 2004). We have also used population distribution by age and sex in 1950, 1980, 2010, and 2015 to explain the changes and transformations in age and sex structure of Syrian population. For this analysis, we selected roughly equal intervals (i.e. 30 years) as 1950, 1980 and 2010. On the other hand, we used the 2015 data for the distribution of population by age and sex in order to present the outflow effects on Syrian population between the 5-year-period from 2010 to 2015.

In the second part of this chapter, we focus on the potential future demographic differences between Syrian and European populations. Based on the current population movements since the beginning of the Syrian crisis, we have selected three destination countries: Germany, Turkey and the United Kingdom. These countries either received a large number of Syrian movers or have been popular destinations for movers in the last three decades. We used several demographic indicators produced by the United Nations (UN, 2016) for the period from 1950 to 2100. These include median age (the age at which a population is divided into two equal sized groups), total fertility rate, child dependency ratio, age dependency ratio and total dependency ratio (dependency ratios are relative size of an age group of interest to the number of persons in a different age group providing support for the former) (see Siegel and Swanson, 2004). We have

also produced population pyramids of the four countries for 2015, 2025, 2050 and 2100 to illustrate the changes regarding age and sex distributions.

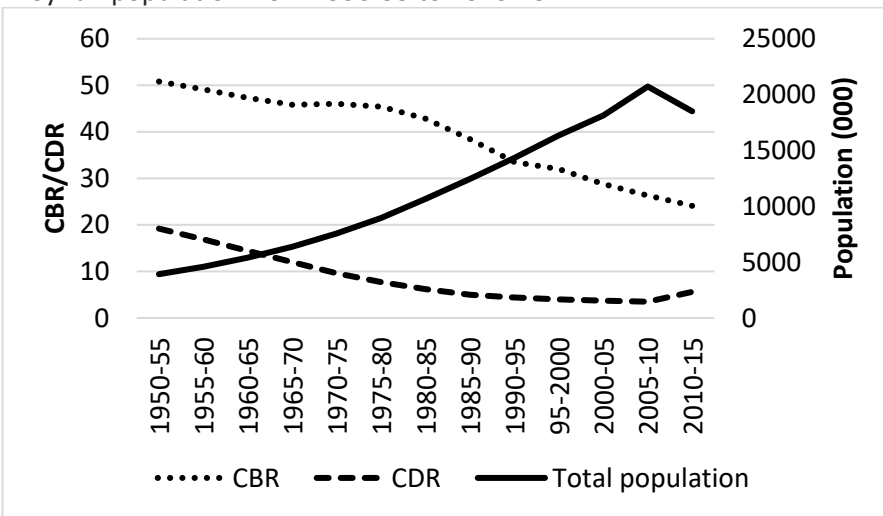
**Background: Demographic Transition in Syrian Population, 1950-2015**

Middle Eastern countries saw a shift from high fertility rates and high mortality rates towards lower rates in the second half of the 20th century. Similar to other developing regions, populations in the Middle East have gone through three major demographic stages especially during the second half of the twentieth century, in line with the Demographic Transition Theory (Winckler, 2003). The first is the pre-transition phase probably spanning from the early 20th century to the 1960s marked with high fertility and mortality rates. The second is the early transition phase from the 1960s to the 1990s, with rapid declines in fertility and mortality rates. This period saw high population growth rates (Allman, 1980; Omran and Roudi, 1993; Rashad, 2000). The third is the mid-transition phase from the late 1990s to 2010-15, during which the decline of fertility and mortality rates slowed down (Table 1). Thus, the demographic transition in the Middle East and/or Arab countries of Western Asia in general has been somewhat peculiar. Total fertility rose substantially before it began its historical decline in the 1960s. Life expectancy at birth rose rapidly.

Today in many countries of the Middle East, average total fertility is three or more children per woman. However, in general, fertility rates in Turkey, Tunisia and the Gulf countries are at about replacement level (i.e. 2.1 children per woman). Demographic transition in the Middle East and Near East seems likely to begin and continue at a declining pace, a unique fashion for the region. Syrian population in 1950 was 3.4 million and by 2010, it rose to 21.5 million. According to the United Nations (UN, 2016) Syrian population is expected to grow to 35 million by 2050. When compared to developed countries, Syrian population growth rate is significantly higher (Douglas, 2010: 50). With the exceptional small increases in 1965-70 and 1990-95 periods, crude birth rate has declined from 50.8 per thousand in 1950-55 to 24.1 in 2010-15. These high fertility rates along with low mortality rates resulted in increasing youth share in Syrian population. Also in general, across the region, crude death rates declined significantly to around 3.5 per thousand by 2005-10 (Table 1; Figure 1). This is even lower than the rates we would find in developed countries. However, by 2010-15, crude death rates increased slightly which is likely to be due to several wars and armed conflicts in the region (Figure 1). Population growth changes in Syria were mostly negative from 1980 to 2015 (Figure 2). This shows that Syrian population growth slowed down and

was destabilised due to wars and resulting mass displacements. As shown in Figures 1 and 2, crude death rate increased between 2005-10 and 2010-15 and average annual population growth rate changes turned negative at more remarkable rates. Conflicts and generally uncomfortable living circumstances pushed large segments of Syrian population to move to other countries in the region and beyond (Yazgan et al. 2015; Sirkeci, 2017a). This is particularly evident in the decline since 2010 corresponding to the intensive conflicts since 2011 (Figure 2).

**Figure 1.** Trends of crude birth rate, crude death rate, and population size in Syrian population from 1950-55 to 2010-15



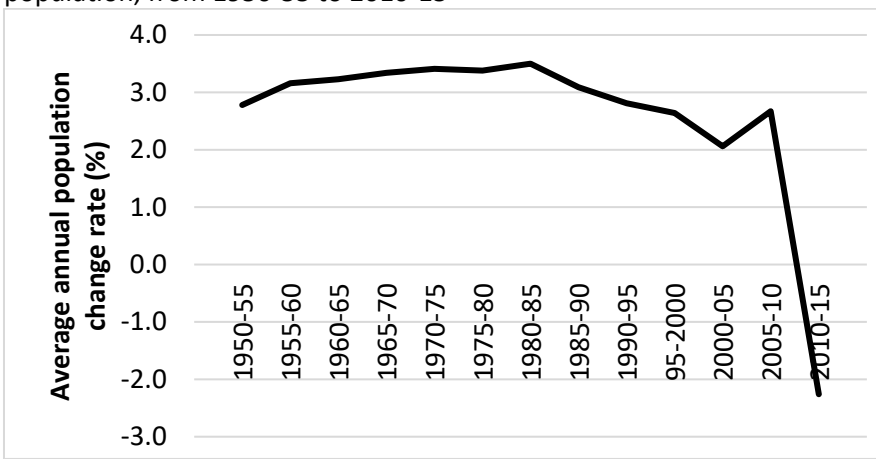

*Data Source: UN (2016).*

Contrary to many developing countries' experience with declining fertility in the early 1960s, the total fertility rate in Syria only started to decline significantly in the 1980s. Thus, despite rapid fertility transition seen in Syria, birth rates have remained high. The total fertility rate in Syria declined from 6.8 children per woman in 1980-1985 to 3.0 children per woman in 2010-2015 (Table 1).[2] In 1990-1995, the TFR declined to below 5 children per woman for the first time. Therefore three distinct phases of fertility transition can be seen in Syria: the first is the 'pre-transition phase' spanning from 1950s to the early 1980s with very high fertility rates; the second is the 'early transition phase' from the early 1980s to the mid-2000s, with rapid fertility decline; and the third is the 'mid-transition phase' of the

2 Taleb et al. (2015), with reference to the World Bank data, refer to different rates. For example, they state that total fertility rate was 3.6 in 2000 and declined to 2.9 in 2010.

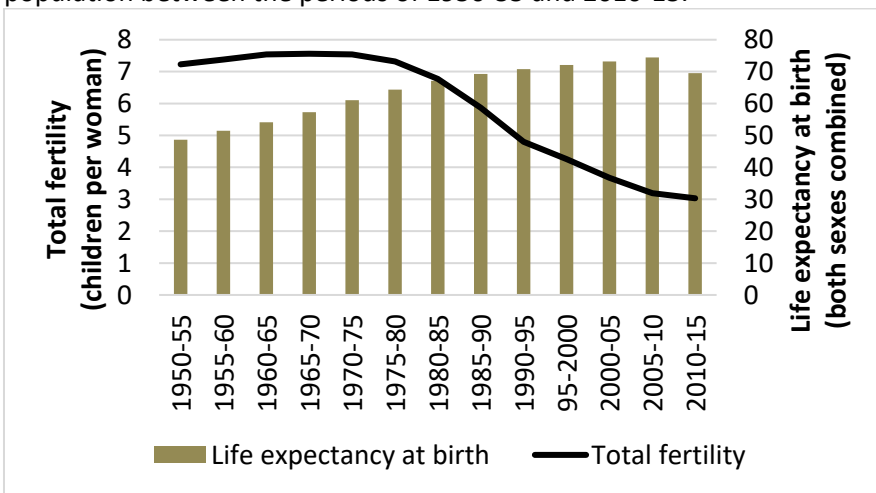
mid-2000s to 2010-2015 period (Figure 3). Approaching to the last phase(s) of the fertility transition, the third phase is characterised by slowing down of the decline in TFR. Unlike slightly below replacement level total fertility rates observed in many developing countries, the projections (UN, 2016) show that Syria's total fertility rate will reach the same levels no earlier than 2035-2040.

**Figure 2.** Trends in average annual rate of population change in Syrian population, from 1950-55 to 2010-15




*Data Source: UN (2016).*

**Figure 3.** Trends of total fertility rate and life expectancy in Syrian population between the periods of 1950-55 and 2010-15.




*Data Source: UN (2016).*

**Table 1.** Some selected demographic indicators of Middle East countries, from 1950-55 to 2010-15

| | 1950-55 | | 1980-85 | | 1990-95 | | 2005-10 | | 2010-15 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **CBR** | **CDR** | **CBR** | **CDR** | **CBR** | **CDR** | **CBR** | **CDR** | **CBR** | **CDR** |
| Algeria | 50.2 | 23.1 | 40.8 | 9.2 | 28.8 | 6.1 | 23.1 | 5.1 | 25.1 | 5.1 |
| Bahrain | 45.0 | 21.1 | 33.0 | 4.1 | 26.7 | 3.2 | 17.0 | 2.4 | 15.4 | 2.3 |
| Egypt | 50.6 | 25.4 | 39.0 | 11.4 | 29.8 | 7.9 | 25.2 | 6.4 | 28.5 | 6.2 |
| Iraq | 53.3 | 27.7 | 39.0 | 9.9 | 37.1 | 6.4 | 35.5 | 5.8 | 35.1 | 5.3 |
| Iran | 50.7 | 26.8 | 44.6 | 13.6 | 28.1 | 6.0 | 18.1 | 5.1 | 18.2 | 4.7 |
| Jordan | 47.4 | 20.4 | 39.7 | 6.5 | 34.0 | 4.8 | 28.7 | 3.9 | 27.9 | 3.9 |
| Kuwait | 43.7 | 13.6 | 36.3 | 3.6 | 19.9 | 2.6 | 23.2 | 2.7 | 20.6 | 2.5 |
| Libya | 51.0 | 30.6 | 37.0 | 6.5 | 25.4 | 4.8 | 22.9 | 4.8 | 21.7 | 5.3 |
| Lebanon | 40.2 | 12.9 | 28.8 | 7.2 | 23.3 | 6.6 | 12.7 | 4.7 | 15.0 | 4.6 |
| Morocco | 51.3 | 20.2 | 36.7 | 10.0 | 27.5 | 6.9 | 20.8 | 6.1 | 21.3 | 5.7 |
| Oman | 49.1 | 28.3 | 48.2 | 8.6 | 33.4 | 4.8 | 21.4 | 3.0 | 20.8 | 2.7 |
| Palestine | 45.9 | 20.0 | 44.9 | 6.8 | 45.7 | 4.8 | 34.0 | 3.7 | 33.1 | 3.6 |
| Qatar | 47.5 | 13.4 | 33.3 | 2.8 | 21.4 | 2.1 | 13.0 | 1.7 | 12.1 | 1.5 |
| Syria | 50.8 | 19.2 | 42.8 | 6.2 | 33.5 | 4.4 | 26.3 | 3.5 | 24.1 | 5.6 |
| S. Arabia | 47.8 | 23.2 | 42.5 | 7.2 | 33.1 | 4.5 | 22.6 | 3.5 | 20.8 | 3.4 |
| Tunisia | 45.5 | 26.6 | 33.1 | 7.8 | 22.9 | 5.8 | 17.0 | 6.0 | 18.4 | 6.6 |
| Turkey | 49.3 | 24.1 | 32.8 | 10.3 | 24.5 | 7.8 | 18.7 | 5.9 | 17.3 | 5.8 |
| UAE | 49.1 | 21.9 | 30.2 | 3.5 | 22.8 | 2.5 | 12.6 | 1.5 | 11.2 | 1.5 |
| Yemen | 48.4 | 30.3 | 54.7 | 15.1 | 49.8 | 11.1 | 35.8 | 7.8 | 33.2 | 7.1 |
| | **NI** | **TFR** | **NI** | **TFR** | **NI** | **TFR** | **NI** | **TFR** | **NI** | **TFR** |
| Algeria | 27.1 | 7.3 | 31.6 | 6.3 | 22.8 | 4.1 | 18.0 | 2.7 | 19.9 | 2.9 |
| Bahrain | 23.9 | 7.0 | 28.9 | 4.6 | 23.5 | 3.4 | 14.6 | 2.2 | 13.0 | 2.1 |
| Egypt | 25.2 | 6.6 | 27.6 | 5.5 | 21.8 | 4.1 | 18.8 | 3.0 | 22.3 | 3.4 |
| Iraq | 25.7 | 7.3 | 29.1 | 6.4 | 30.7 | 5.7 | 29.8 | 4.6 | 29.8 | 4.6 |
| Iran | 23.9 | 6.9 | 30.9 | 6.5 | 22.1 | 4.0 | 13.0 | 1.8 | 13.5 | 1.8 |
| Jordan | 27.0 | 7.4 | 33.2 | 7.1 | 29.2 | 5.1 | 24.8 | 3.6 | 24.0 | 3.5 |
| Kuwait | 30.1 | 7.2 | 32.7 | 5.0 | 17.2 | 2.4 | 20.6 | 2.6 | 18.1 | 2.2 |
| Lebanon | 27.3 | 5.7 | 21.6 | 3.8 | 16.8 | 2.8 | 8.0 | 1.6 | 10.3 | 1.7 |
| Libya | 20.4 | 7.1 | 30.5 | 6.7 | 20.5 | 4.2 | 18.1 | 2.7 | 16.4 | 2.5 |
| Morocco | 31.1 | 6.6 | 26.7 | 5.4 | 20.6 | 3.7 | 14.7 | 2.5 | 15.5 | 2.6 |
| Oman | 20.8 | 7.3 | 39.6 | 8.3 | 28.6 | 6.3 | 18.4 | 2.9 | 18.1 | 2.9 |
| Qatar | 34.1 | 7.0 | 30.4 | 5.5 | 19.2 | 3.7 | 11.3 | 2.2 | 10.6 | 2.1 |
| Palestine | 26.0 | 7.4 | 38.0 | 7.1 | 40.9 | 6.6 | 30.3 | 4.6 | 29.5 | 4.3 |
| Syria | 31.5 | 7.2 | 36.7 | 6.8 | 29.1 | 4.8 | 22.8 | 3.2 | 18.5 | 3.0 |
| S. Arabia | 24.6 | 7.2 | 35.3 | 7.0 | 28.6 | 5.6 | 19.2 | 3.2 | 17.4 | 2.9 |
| Tunisia | 18.9 | 6.7 | 25.4 | 4.8 | 17.1 | 3.0 | 11.0 | 2.0 | 11.8 | 2.2 |
| Turkey | 25.2 | 6.7 | 22.5 | 4.1 | 16.7 | 2.9 | 12.8 | 2.2 | 11.5 | 2.1 |
| UAE | 27.1 | 7.0 | 26.7 | 5.2 | 20.4 | 3.9 | 11.1 | 2.0 | 9.7 | 1.8 |
| Yemen | 18.1 | 7.4 | 39.6 | 8.8 | 38.7 | 8.2 | 28.0 | 5.1 | 26.1 | 4.4 |

*Note: CBR: Crude birth rate (per 1,000 people); CDR: Crude death rate (per 1,000 people); NI: Natural increase (per 1,000 people); TFR: Total fertility rate (children per woman).*
*Source: UN (2016).*

One of the important characteristics of the Demographic Transition is the increasing life expectancy depending on the primarily decreases in mortality in contrast to the decreases in fertility in due course. Life expectancy at birth in Syria increased 25.7 years from 1950-1955 to 2005-2010, increasing from 48.7 years to 74.4 years. It is expected to rise to 77.5 years by the 2050s (UN, 2016). Nevertheless, the civil war and conflicts in the country increasing since 2011, life expectancy at birth has declined to 69.5 years in Syria (Figure 3).

When child dependency ratio decreased from 100.8 percent in 1980 to 58.5 percent in 2010 in Syria, old-age dependency ratio also decreased from 6.1 percent to 5.8 percent. However, child dependency ratio bounced back to 63.1 percent and old-age dependency ratio to 6.9 percent in 2015. Total dependency ratio, therefore, decreased from 106.9 percent in 1980 to 64.3 percent in 2010, mainly due to the decrease in child dependency ratio (UN, 2016). The share of the population aged 65 and over first declined from 4.5 percent in 1950 to 3.0 percent in 1980, but increased to 3.5 percent in 2010 and to 4.1 percent in 2015 (UN, 2016).

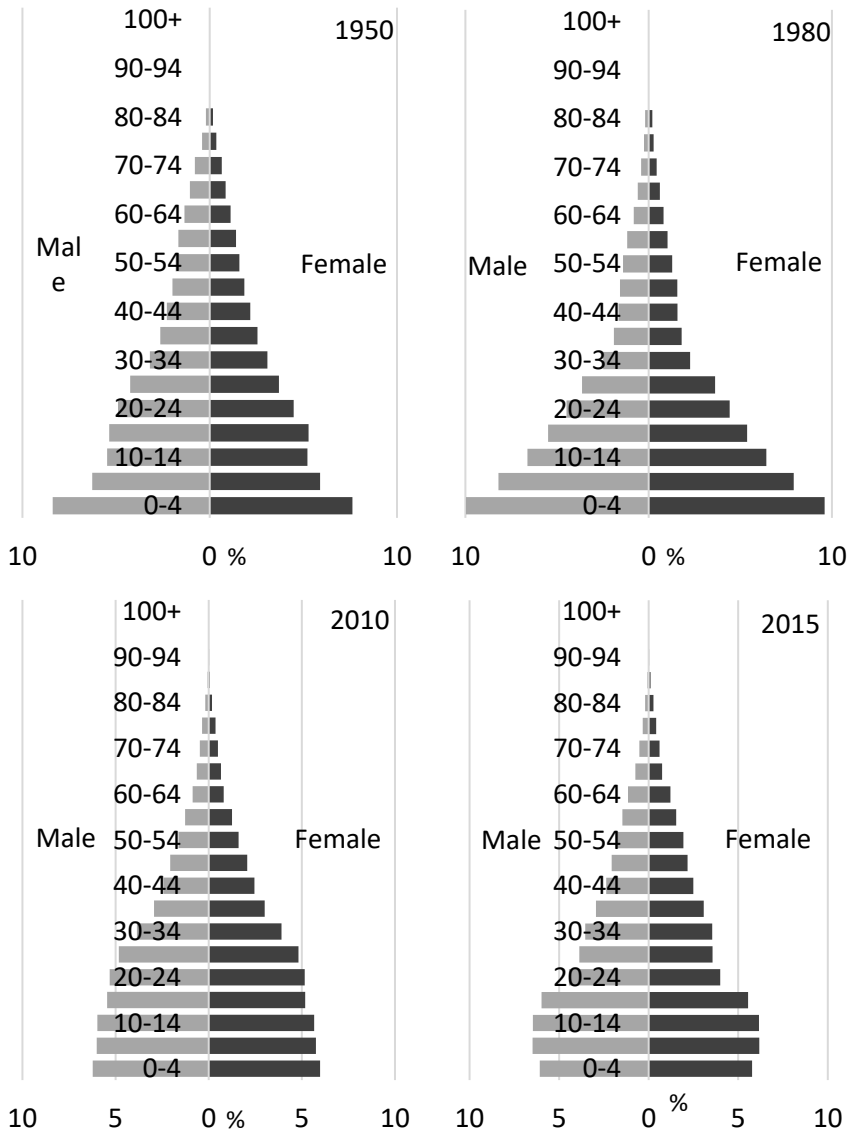
The types of population pyramids can illustrate the changes through demographic transition. For example, declining mortality makes population younger, since more children survive. This is reflected in wider based pyramids as the proportion of children increases early in the transition and leading young age profiles. Later in the transition, population ageing emerges as fertility declines reduces the share of children. Successive generations then become similar in size, as evident initially in the emergence of 'mature' age structures with similar numbers in parent and child generations. Ultimately 'old' age structures evolve in which the numbers in successive age groups are similar below the advanced ages where mortality is concentrated in post-transitional societies.

In sum, fertility decline has the greatest impact on the percentages in older age groups during the demographic transition, particularly because it reduces the relative numbers of children. In contrast, mortality decline has a smaller effect on the percentages in older age groups, but a dramatic impact on population size, bringing increased numbers through improved survival of infants and children (Rowland, 2012: 99-101). On the other hand, conflicts, wars and out- or in-migrations as a result of these conflicts could have an impact on the population structures because of the deaths, inflows or outflows (Courbage, 1999; Fargues, 2011). There are indirect relationships between demographic structures and economic and political crises (Courbage, 1994) and it was clearly evident in the Syrian case.

Population ageing has come as a rapid change in many developing countries especially in the 2000s. However Syria's population composition

has been dominated by younger people. The population pyramids of Syria in 1950 and 1980 show a typical wide-based structure signalling a very young population (Figure 4).

**Figure 4.** Distribution of Syrian population by age groups and sex, 1950-2015




*Data source:* UN (2016)

Rapidly declining mortality and high fertility levels made Syria's population younger from 1950 to 1980 (Figure 3 and 4). However, from 1980s because of the rapid decreases in total fertility rates (Figure 3) between 1980 and 2010, shape of the population pyramid for Syria has changed dramatically. Although the pyramid for 2010 shows still a young profile, a narrowing trend on the base can be observed (Figure 4).

It can also be said that the population pyramid of Syria in 2010 was starting to converge to a rectangular shape. However, between 2010 and 2015, probably the most important change was reflected in the fact that the population pyramid turned to an asymmetrical shape. The population pyramid for 2015 shows that the share of female population was higher than that of males in all age groups. For the 2010-2015 period, the two-way transition process was probably the reason for the asymmetrical distribution of population by age and sex in Syria. Undoubtedly, the first reason is the demographic transition. However, the impact of the violent conflicts from 2011 to 2015 is also evident, particularly reflected in the population pyramid for 2015 (Figure 4).

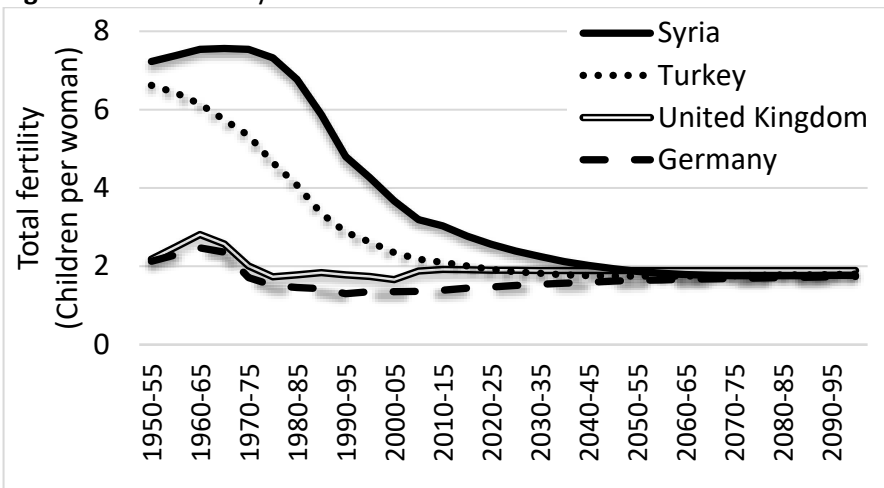
**Demographic Deficit and Potential Future Impact on Population**

In this section, we first briefly examine population patterns in Syria, the United Kingdom, Germany and Turkey to reflect on the differences between Syrian movers and local populations in receiving countries. While the total fertility rates in Turkey and Syria were both very high in the 1950s, Turkish rates are expected to match that of the UK in about 2020 and Germany in about 2050 (Figure 5). Despite similarly declining fertility rates seen in Syrian population, the population momentum is likely to continue to be well above Turkey until the 2050s. In the second half of the century, fertility levels for all four countries are expected to converge at slightly below replacement level.

Different demographic trends are evident in the projections of median age, too (Figure 6). Even if we assume these patterns to remain the same in the long run, i.e. 2100 and beyond, in the near future we expect the largest age group will differ among these four countries. This will be reflected in general population structure. Median age is a measure indicating that the population below and above this age will have 50% equal shares of the total but it does not imply any age concentration (Hobbs, 2004: 158). Median age is 45 in Germany, 40 in the UK, 30 in Turkey and just above 20 in Syria (Figure 6). In other words, when Syria just step into "middle age" group, Turkey, Germany and the UK are in the "ageing" group with median ages above 30. When we do not expect radical changes in median ages in

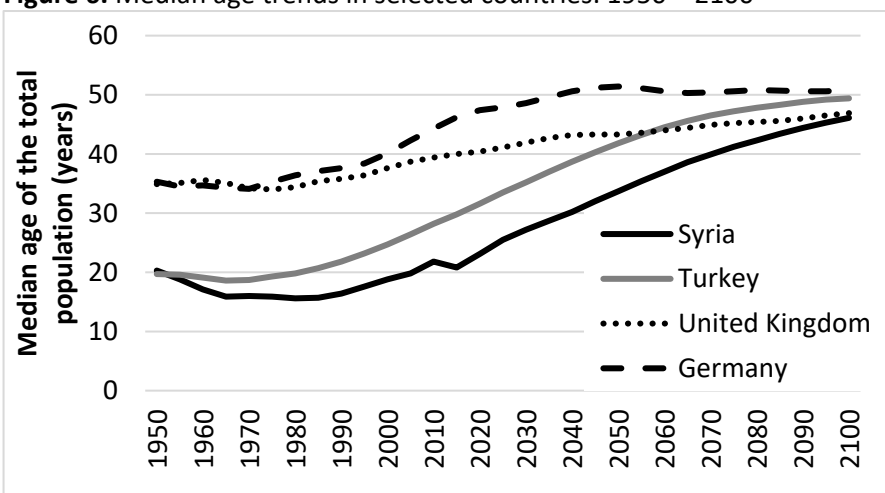
Germany and the UK, Turkey and Syria are likely to see their populations rapidly ageing in the coming decades. Significant differences between the three countries and Syria are likely to remain until the end of the century.

**Figure 5.** Total fertility rates in selected countries: 1950-2100




*Data Source: UN (2016).*

**Figure 6.** Median age trends in selected countries: 1950 – 2100



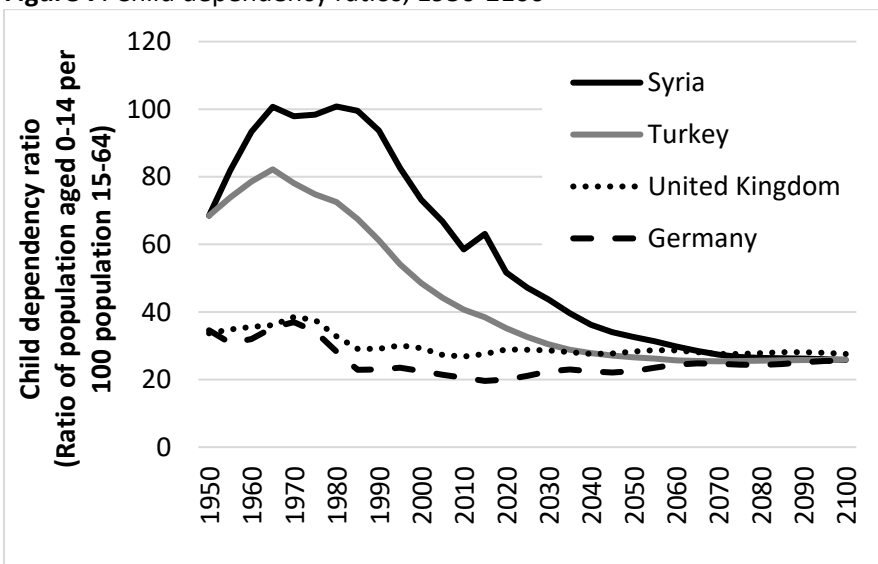

*Data Source: UN (2016).*

Age profile differences between the four selected countries can also be seen through the child and old-age dependency ratio patterns. These are shown in Figures 7 and 8, respectively. Old-age dependency ratio is also a

socio-economic indicator because it reflects the working age population. Figure 7 roughly shows that Turkey will converge with the UK in around 2040 and with Germany in about 2065 regarding child dependency ratios. However, Syrian population will reach to similar levels only towards the end of the 21st century.

Share of the population under 15 in Syria has started to decline in about the same period as it did in Turkey but this was reversed towards the 1980s, since when it has been in decline. This fluctuation can also be explained by the conflicts in the Middle East as Syria has historically received significant number of movers from neighbouring countries in trouble. Those aged 15-64 comprised 48.3 percent of population in Syria in 1980 and this figure rose to 60.5 percent by 2010. These trends in age structure of Syrian population needs to be taken into account when it comes to services such as child care, schooling, and job creation in the countries and areas of destination.

**Figure 7**. Child dependency ratios, 1950-2100

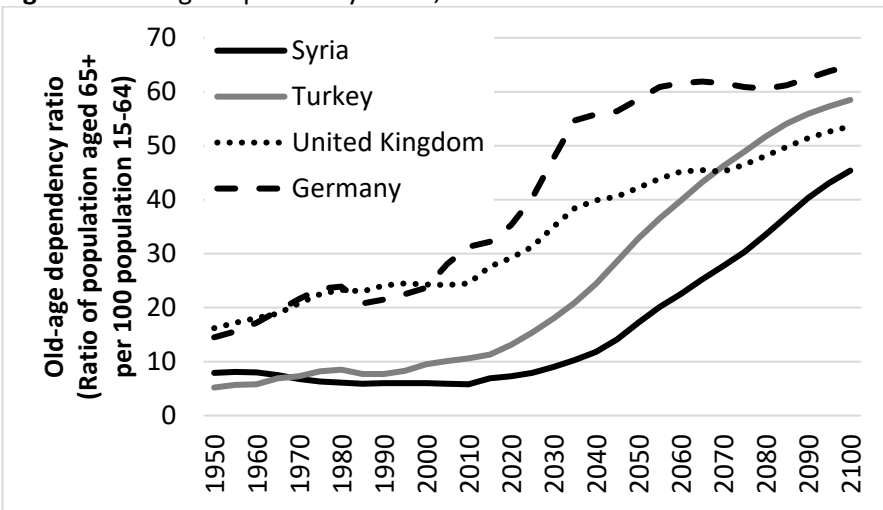



*Data Source: UN (2016).*

Figure 8 shows ratios of elderly population against those in working ages. The period from 1950 to present day is characterised by high percentage of people in working ages both in Turkey and Syria. This is also called "demographic window of opportunity". However, this period will end after the 2040s as the volume of 15-64 aged population will decline. For both countries, population aged 65 and over has been on the rise since

1980. However in Germany and the United Kingdom this decline had started long time ago and the demographic window of opportunity was closed. In 1980, the ratio of old-age dependency was 2.9 percent. It rose to 3.7 percent by 2010 and expected to reach 12.9 percent by 2050. As we have shown in Figure 8, this represents a large gap between Syrian population and populations of receiving countries. Projections indicate that difference will only fade away at the end of the 21st century.

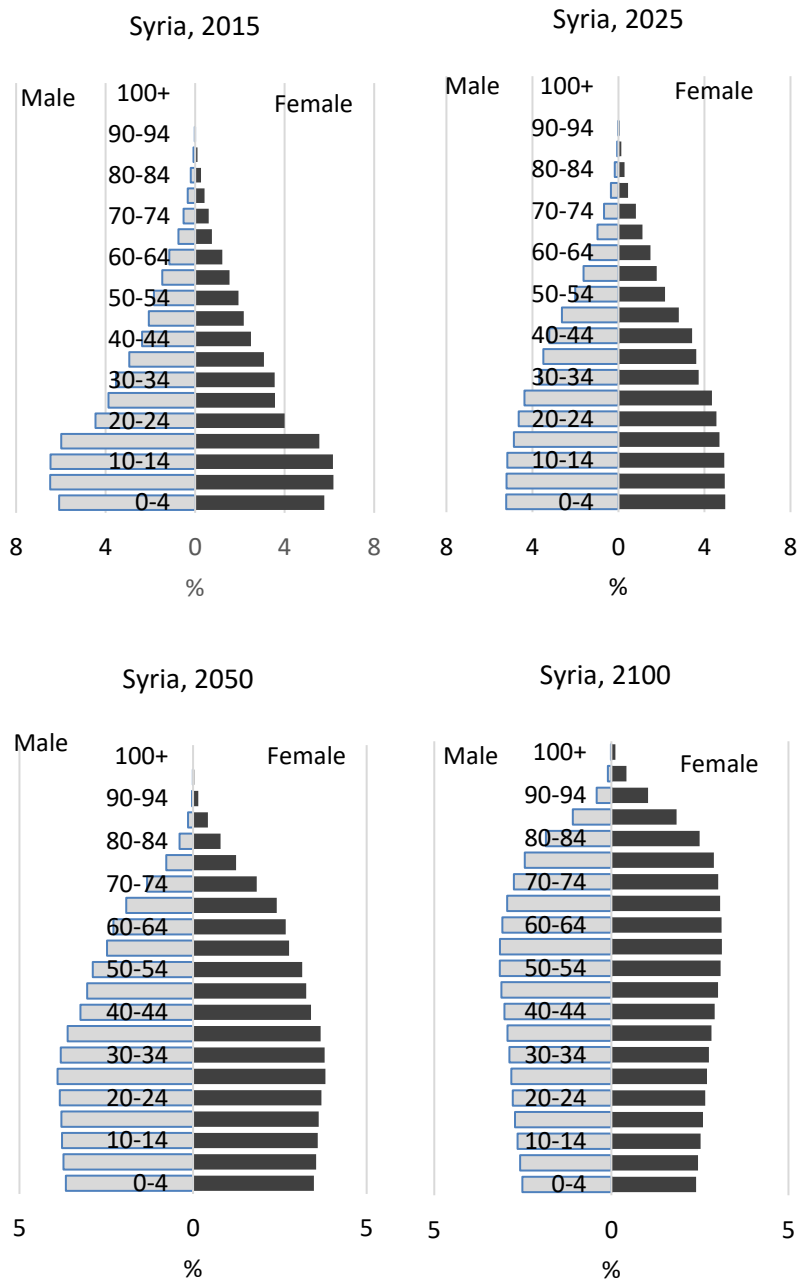
**Figure 8**. Old-age dependency ratios, 1950-2100




*Data Source: UN (2016).*

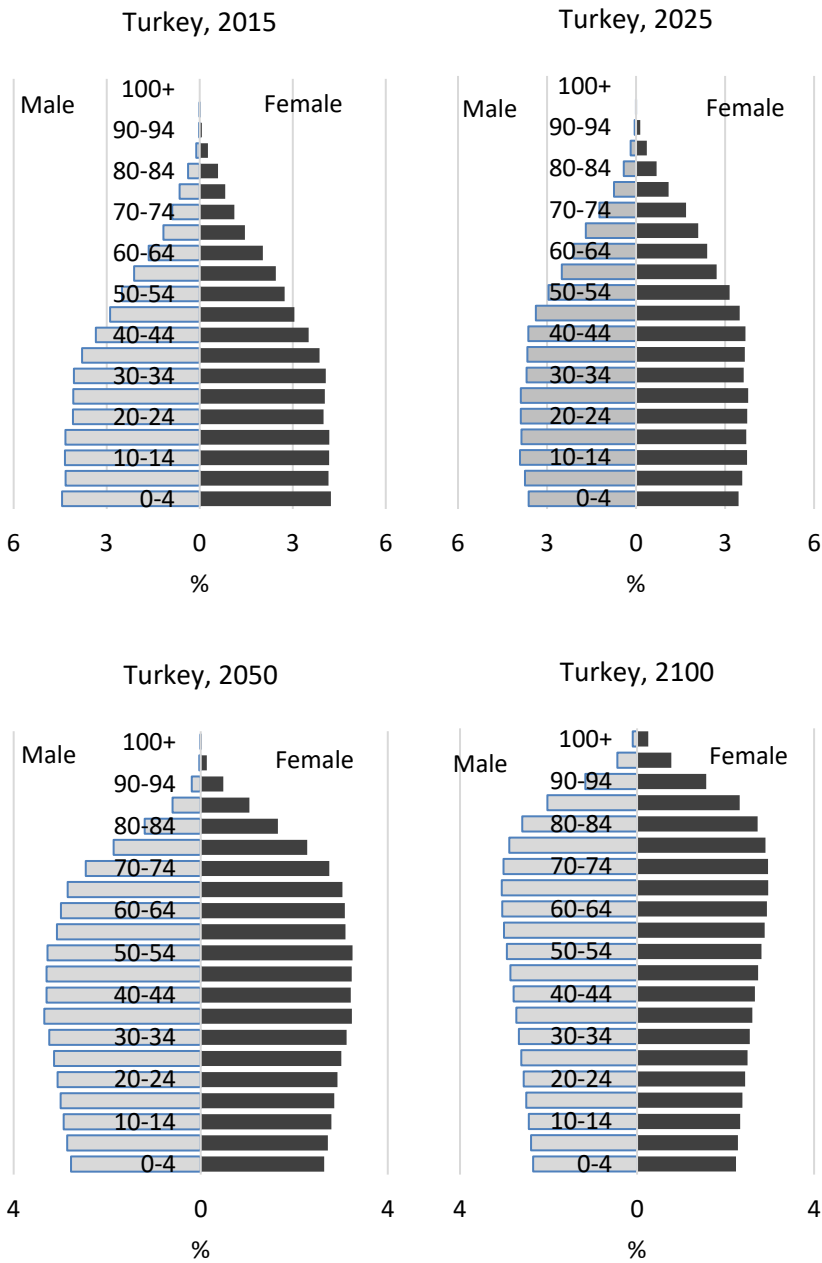
In figures 9a to 9d, we present population pyramids for the four selected countries. Different shapes of population pyramids and changes expected over time support our argument above. It is clear that a significant decline is expected in working age populations in Germany and the United Kingdom. Turkey's age and sex structure is also expected to converge rapidly with the trends seen in these two developed countries. It is important to note that all age groups up to 35-39 are about the same size in Turkey. Nevertheless, Syria differs from other three countries with its very large children and adolescent age groups. Over the course of the century, Syrian population is expected to be transformed into a shape similar to developed countries. Turkey's population will be ageing faster than others while children population will further shrink in Germany and the United Kingdom.

**Figure 9a**. Population pyramids for Syria, 2015-2100



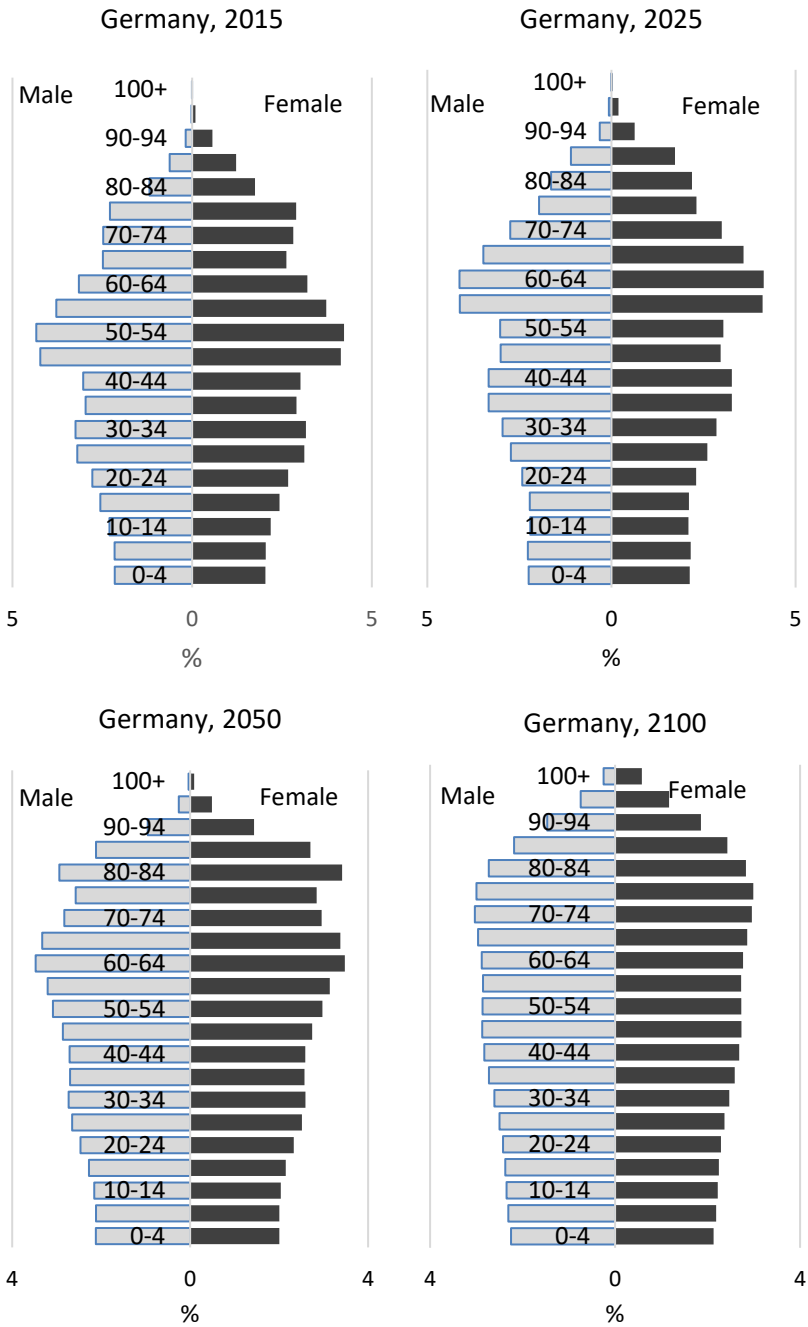

*Data source: (UN, 2016)*

**Figure 9b**. Population pyramids for Turkey, 2015-2100



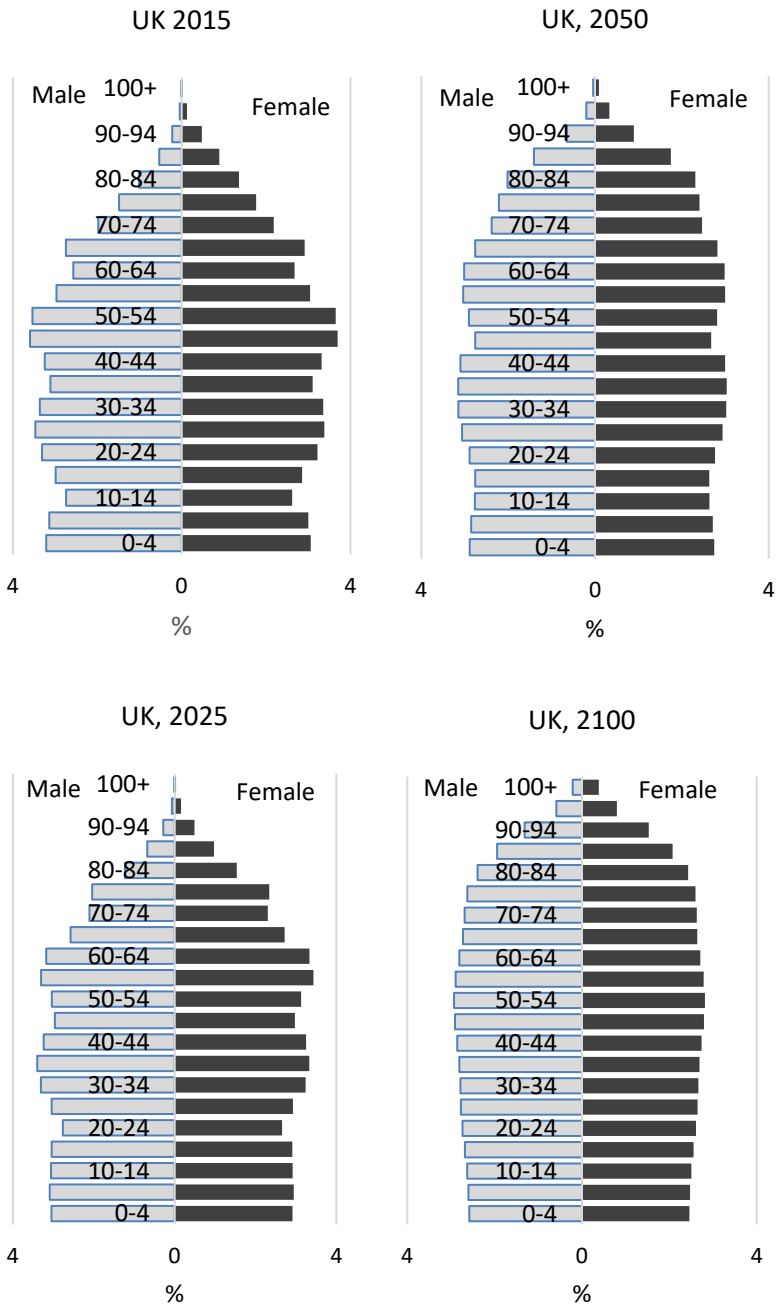

*Data source: (UN, 2016)*

**Figure 9c**. Population pyramids for Germany, 2015-2100




*Data source: (UN, 2016)*

**Figure 9d**. Population pyramids for United Kingdom, 2015-2100




*Data source: (UN, 2016)*

By 2050, the lower age groups, particularly children, will decline in their share of the total population in all four countries. In the same period, we expect the share of the groups aged 40 and over to gradually increase. However, this process will be much slower for the Syrian population. By the end of the 21st century, we predict that population pyramids will significantly converge as differences in demographic processes and patterns will decrease among these selected countries. Low fertility rates, ageing populations and relatively high mortality rates due to elderly population will characterise the demographic profiles of the countries by the end of the century (Figures 9a to 9d).

**Conclusion**

According to Demographic Transition Theory, fertility rates have been declining almost everywhere in the world (Reher, 2004). The same theory also suggests that the world population will continue growing as well as rapidly ageing across the countries in the coming years. By 2050, the population aged 65 and over is expected to exceed the share of those under 15 years of age in the world. This means, in terms of economic productivity, especially in developed and developing countries, we will experience serious difficulties in filling the gaps in the working populations due to ageing. In this regard, dynamic immigrant populations with their youthful demographic characteristics offer a potentially beneficial answer, at least for the short term, to this gap in the workforce that is expected to emerge in both the developed and developing countries. Again, our arguments also get strength with the assumption that migration is almost always age and sex selective (Weeks, 2002: 255-257).

We expect the Syrian movers abroad to exhibit very similar demographic behaviours with the population in Syria in the short term, and to converge with the trends in the respective countries of destination in the long-term (also see Sirkeci, 2017a; Sirkeci, 2017b). In this regard, we believe that the analysis of the population trends in Syria is appropriate and beneficial in the absence of reliable, detailed and definitive data on Syrian refugee populations in countries of destination. Our analyses will help interested parties to understand probable demographic trends of these new populations in Turkey, Germany and elsewhere. Hence better understanding of the needs, desires, wants and better planning of public services will be possible.

In our analysis, it is clear that there is a lag between the populations in Syria and the three selected countries in this analysis. Syrian population's profile with its largely young composition resembles that of Turkey in the

1980s for example. This also means that Turkey will benefit from a young population because already more than 3 million Syrians (half of whom are children) moved to Turkey and more Syrians who are likely to join them in the near future as suggested by the culture of migration model (Cohen and Sirkeci, 2011). Nevertheless, while this may mean receiving countries will have additional human resources to exploit by filling the gaps in the labour market and in pension funds, it comes with costs such as additional resources needed for schools, hospitals and other public services. For example, the number of additional school places needed in Turkey might be as high as one million and a large number of Syrian refugee children were still not enrolled at schools as of the end of 2016. Similarly, the number of children born to Syrian refugee mothers in Turkey has probably already exceeded 200,000 as by September 2016, the total number of children born to Syrians was nearly 180,000 according to Turkey's health ministry (Al Jazeera, 2017). Thus a young profile often means higher birth rates and that much healthcare and prenatal care needed.

As they are likely to stay on and more movers from Syria are to follow (i.e. culture of migration model (Cohen and Sirkeci, 2011; Sirkeci and Cohen, 2016) predicts further mobility even after the initial triggers of mobility disappears over time), one further issue of concern is sociocultural, political and economic integration of Syrian movers in destination countries. For example, in Turkey, despite the presence of a sizeable Arabic speaking minority population prior to the arrival of Syrians, anxieties about the arrival of this large additional Arabic speaking population need to be addressed to avoid conflicts and facilitate cohesion. Different cultural practices including religious nuances need to be understood and accommodated. The process of settlement and integration will be complicated and not without hurdles (Özservet and Sirkeci, 2016).

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