

The Economic Impact of Syrian Refugees in Sweden

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The Economic Impact of Syrian Refugees in Sweden*

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Abstract

This report analyzes the economic impact of forced migration on the host country. Specifically, it quantifies the magnitude of the costs associated with the Syrian refugees in Sweden. The results suggest that Syrians tend to accumulate large and persistent deficits over the life cycle. However, the aggregated impact of these deficits is negligible, largely because the Syrian population is much smaller, compared the native-born Swedes. The analysis further demonstrates that only half of the deficits are channeled through the public sector, implying that the fiscal costs of hosting Syrian refugees is quite modest, which is equivalent to about 0.4% of Sweden's annual GDP.

Introduction

Empirical studies generally suggest that the fiscal effect of total immigration is in a range between -1% and +1% of host countries' GDP (Rowthorn 2008). However, specific economic impact of forced migration has been examined to a much lesser extent. This report seeks to analyze the extent to which refugees are beneficial or costly to the host country's economy¹.

From a pure demographic perspective, a growing number of refugee immigrants may be beneficial to many developed countries (particularly in Europe), whereby

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¹This report also provides a context to the results of the survey study and the focus groups conducted in the FOCUS project. The leading question in the FOCUS project is: what is the socio-economic impact of the most recent Syrian migration on receiving countries?

the population is rapidly ageing. As refugees tend to be young, their arrival may help maintain the size of the working age population, which is needed for sustaining the transfer systems (e.g. social welfare and pensions), as well as for spreading the costs of public consumption (e.g. defense, health care, and education).

From an economic perspective, the net effect of refugee immigration is difficult to expect *a priori*, as it depends on various factors shaping refugees' economic contribution, such as human capital and its transferability (Chiswick, 1978; Chiswick et al., 2005; Bevelander, 2000), social capital and networks (Behtoui, 2007, 2008), and/or migrant selectivity (Borjas, 1999; Razin and Wahba, 2011). It could also depend on host countries' labor market condition and policy, such as whether there is labor market demand for refugees' skills (Aydemir, 2009), any discrimination against refugees, and/or any integration policy to improve refugee's economic performance (Qi et al., 2019, 2021).

The fiscal impact of refugee immigration are likely to be negative, but quite modest; should the European Union (EU) have received all refugees currently in Asia and Africa, it might have costed at most 0.6% of the union's annual GDP. Yet, would such an impact be disproportionately large for countries received a greater volume of refugees? This report presents the case of Sweden, which received the most refugees per capita during the mid-2010s.

The literature on the economic impact of immigration overwhelmingly focused on the public sector, i.e. whether or not immigration could increase tax revenue and reduce public deficits (see e.g. Auerbach and Oreopoulos (2000); Borjas (1994, 1999); Lee and Miller (2000); Rowthorn (2008); Ruist (2015, 2019); Storesletten (2000)). However, little is known about how immigration (and refugee inflow in particular) may affect host country's macro economy as a whole, including both public and private sectors. This report seeks to fill this void.

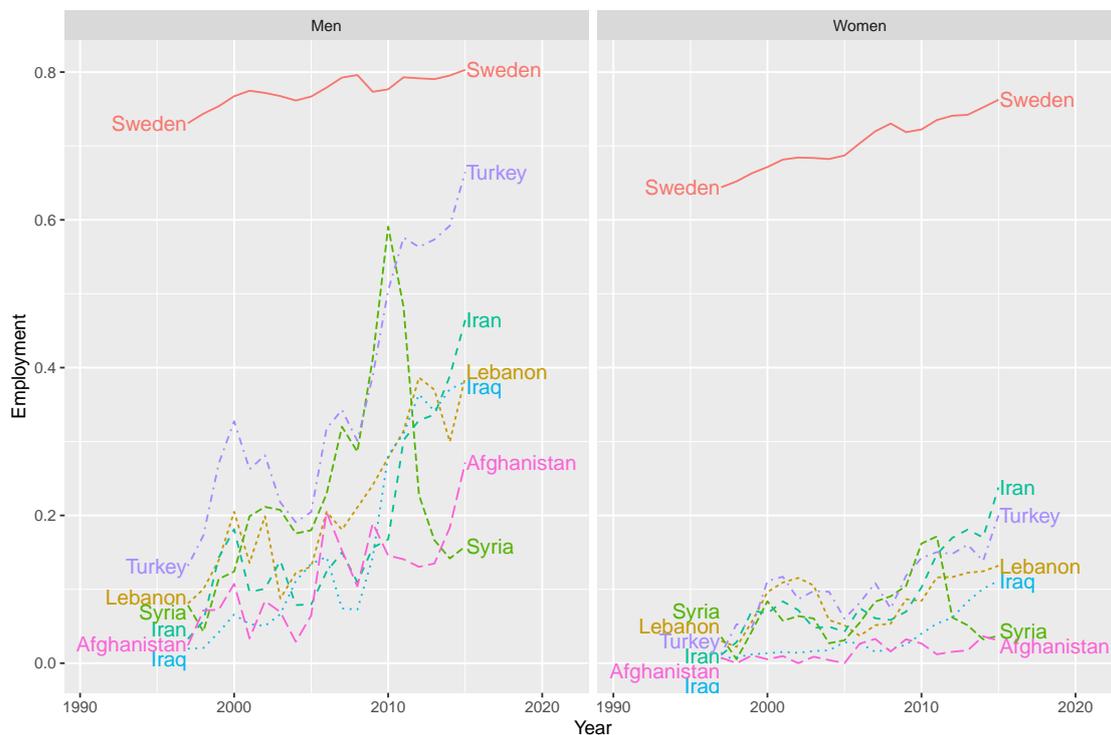
Refugee Immigration and the Welfare State

The economic consequences of receiving a large number of refugees would depend on both micro and macro factors. At the individual level, the newcomers' adaptation and integration into the local labor market will affect their life cycle deficits. The aggregation of these life cycle deficits will constitute the macro impact, which, however, will also depend on the age structure of the newly arrived refugees, as well as the size of the refugee population relative to the total Swedish population.

The Swedish welfare state is based upon an extensive redistribution of resources through the public sector. Not only is the redistribution in the form of public consumption, but also in cash transfers. For example, nearly half of total consumption is publicly funded, and the majority public spending is on education and health care (Lee and Mason, 2011).

Funding public consumption as well as the transfer systems requires a large tax base and a high level of labor force participation. However, the Swedish population is growing older, leading to a declining labor force, which presents a challenge to

Figure 1: Immigrants' first year employment rate in Sweden, arrival cohorts 1997-2016



sustain the redistribution system (Bengtsson and Scott, 2011; Bengtsson and Qi, 2018; Qi, 2016; Qi et al., 2018, 2019). Meanwhile, Sweden has experienced a large inflow of refugees in recent years, which may help maintain the size of the labor force, and hence alleviate some challenges associated with demographic ageing. However, whether a positive economic impact can be realized depends on refugees' economic performance.

Figure 1 illustrates the Middle Eastern immigrants' initial employment (in the first year after arrival) by entry cohorts, compared with the native-born Swedish population aged 20-65. The most striking feature in this Figure is that the initial employment of Syrian men and women dropped sharply after 2010, while that of other groups continue to rise. These diverging patterns suggest that there is no (instant) employment effect on the local workers; the inflow of refugees only suppressed the employment rate for Syrians, but neither for any other Middle Eastern groups, nor for the native born swedes after 2010. On the other hand, a low employment level among the newly arrived Syrians implies an additional challenge to the welfare state. This report seeks to quantify the magnitude of this challenge.

Refugee's Life Cycle Deficit

Labor market integration is a crucial factor determining refugees' economic life cycle. A good integration may enhance refugees' labor income, which is important for financing their own consumption, as well as making a contribution to public consumption and transfers. A poor integration, however, may imply a lack of self-

sufficiency and a high chance of being a net recipient from the welfare transfer systems.

Labor income over the life cycle reflects how labor supply, employment, and productivity vary over age or time. It typically starts to increase from early 20s, peaks at 40s, and then gradually decline until retirement age (Lee and Ogawa, 2011; Qi, 2015). However, for immigrants, there is another time dimension to shape the life cycle income trajectory - years since migration.

Immigrants whose source-country skills do not transfer fully to the new labor market might face limited job opportunities and/or low wage offer upon arrival. This implies that, at a given age, newly arrived immigrants tend to have lower labor income, compared to experienced immigrants and native-born population. However, the Immigrant Assimilation Model (IAM) and Immigrant Human Capital Investment Model (IHCI) posit that new immigrants would have little opportunity cost of human capital investment, and strong incentives to learn than earn (Chiswick, 1978; Duleep and Regets, 1999). It follows that earnings are temporarily low initially, but followed by a steep earnings growth after having restored the value of their untransferred skills.

Based on IAM and IHCI, we may further posit that life cycle deficits would be large for newly arrived immigrants, even if they are at prime working age. However, the deficit will diminish along with earnings growth after immigrants having acquired skills specific to the host countries labor market.

Aggregate Impact of Refugee Immigration

Immigrants tend to be young adults, which may be beneficial for countries like Sweden to counteract the adverse fiscal impact of population ageing. However, as mentioned above, employment level is low among the newly arrived, a large inflow of immigrants may therefore lead to a temporary increase in aggregate life cycle deficits. In the long-term, the aggregate deficits may decline or reverse to surpluses, if immigrants' labor market performance improves. Empirical studies nevertheless suggested that the direction of fiscal effects of immigration is uncertain, with a magnitude ranging between -1% and +1% of host countries' GDP (Rowthorn, 2008).

Despite of a large literature examined the fiscal consequences of immigrant population as a whole, specific impact of a large inflow of refugees is largely under-researched, with an exception however: Ruist (2015) estimated that, in 2007, the Swedish public sector redistributed the equivalent of 1.0% of GDP from the rest of the country's population to the refugee population. Nevertheless, this estimate can hardly reflect the reality in recent years, because the number of newly arrived refugees has grown substantially, and the composition of refugee population has also changed dramatically; in 2007 the refugee population in Sweden was dominated by those from Former Yugoslavia, whereas, in recent years, the largest group is from Syria. This report therefore specifically analyzes the economic consequence of the large influx of Syrian refugees during the mid-2010s.

In addition, as discussed at the outset, the literature on the economic impact of

immigration overwhelmingly focused on the public sector, namely the fiscal impact (see e.g. Auerbach and Oreopoulos (2000); Borjas (1994, 1999); Lee and Miller (2000); Rowthorn (2008); Ruist (2015, 2019); Storesletten (2000)). However, little is known about how immigration may affect savings, wealth, and deficits of private households. This report therefore contributes to the literature by demonstrating how refugee immigration may exert an economic impact on the public as well as on the private sector, respectively.

Data and Method

Deficit is defined as the difference between consumption and income. Typically, we experience deficits (consumption $>$ income) at young and old ages, and surpluses (consumption $<$ income) during middle ages or prime-working ages. To smooth the life cycle consumption, it requires an economic mechanism that reallocates resources from surplus to deficit ages (Samuelson, 1958; Diamond, 1965; Lee and Mason, 2011).

Reallocation may operate through both public and private sectors (Lee and Mason, 2011). The public sector, mainly the government, may levy taxes, which are then redistributed through public transfers (such as social security and welfare benefits), and through public expenditures on health care, education, and infrastructure, etc. The private sector may rely on private institutions and markets to facilitate reallocation, such as capital income from private savings and investments and/or familial transfers. These private sector flows are important for supporting consumption of the dependent population, such as children and the elderly.

It is also important to note that private and public consumption are financed by distinctive economic flows. The private consumption is sustained by individuals' disposable income, which is the sum of earned income from labor and capital as well as received social benefits minus the paid taxes. Public consumption (such as expenditures on health care, education, and infrastructures) are financed by individuals' net public transfers (or net tax contributions). An individual is a net recipient of public goods and services if his/her public consumption exceeds net public transfers. Conversely, an individual is a net contributor to the welfare system if the public consumption is lower than the net public transfers. Typically, children and elderly tend to be net recipient, whereas working age population are mostly net contributor.

We rely on multiple data sources to construct the deficit variable over an average refugee's life cycle. The income variables are obtained from the "Migrant Trajectory" (MT) collection of the Swedish registry data organized by the Stockholm University Demography Unit. To measure the life cycle consumption, we rely on the per capita age profiles constructed by National Transfer Accounts Sweden. The age profiles are then adjusted up and down, so that the aggregated consumption value matches with the annual total consumption in expenditure-based Gross Domestic Product (GDP). The GDP data is obtained from Statistics Sweden's GDP estimates by expenditure approach 1950-2017. All economic variables are adjusted for inflation by 2017 price level. Below, we provide detailed treatment of each variable.

MT data provides information on gross income from labor and capital, all cash

transfers (encompassing pension, social insurance, social welfare benefits, housing allowance, and housing supplement), and disposable income for all individuals residing in Sweden. We use this information to measure refugees' labor and capital income. Net public transfers are computed by taking the difference between gross income (both from labor and capital) and disposable income.

National Transfer Accounts Sweden provides per capita age profiles of public and private consumption. Public consumption is classified into three broad categories: 1) education; 2) health; and 3) other. The Education category consists of child-care and schooling. The Health category includes health care, elderly care, and assistance or aid to the handicapped. And the Other category comprises general public administration, defense, police and the administration of justice, trade and industry affairs, environmental protection affairs, supply of housing affairs and social progress, recreational activities, and culture and religion.

Private consumption is also classified into three broad categories: 1) education; 2) health; and 3) other. Private education consumption are mainly the fees paid for childcare and after-school recreation activities. Private health consumption is mainly for dental care and medicine uncovered by the public health care. Private other consumption mainly comprises housing expenses and durable such as cars and home amenities. With data on annual GDP, we calculate a scaling factor that adjusts the per capita age profiles of consumption up and down so that the aggregate consumption value matches the total consumption in expenditure-based GDP.

With the income and consumption variables described above, we can compute the life cycle deficits by taking the difference between consumption and income. Once we have the per capita deficit for each age, we can multiply it by the population at the same age to get the aggregate life cycle deficit. The total deficit in an economy is the sum of deficits at all ages.

Empirical Findings

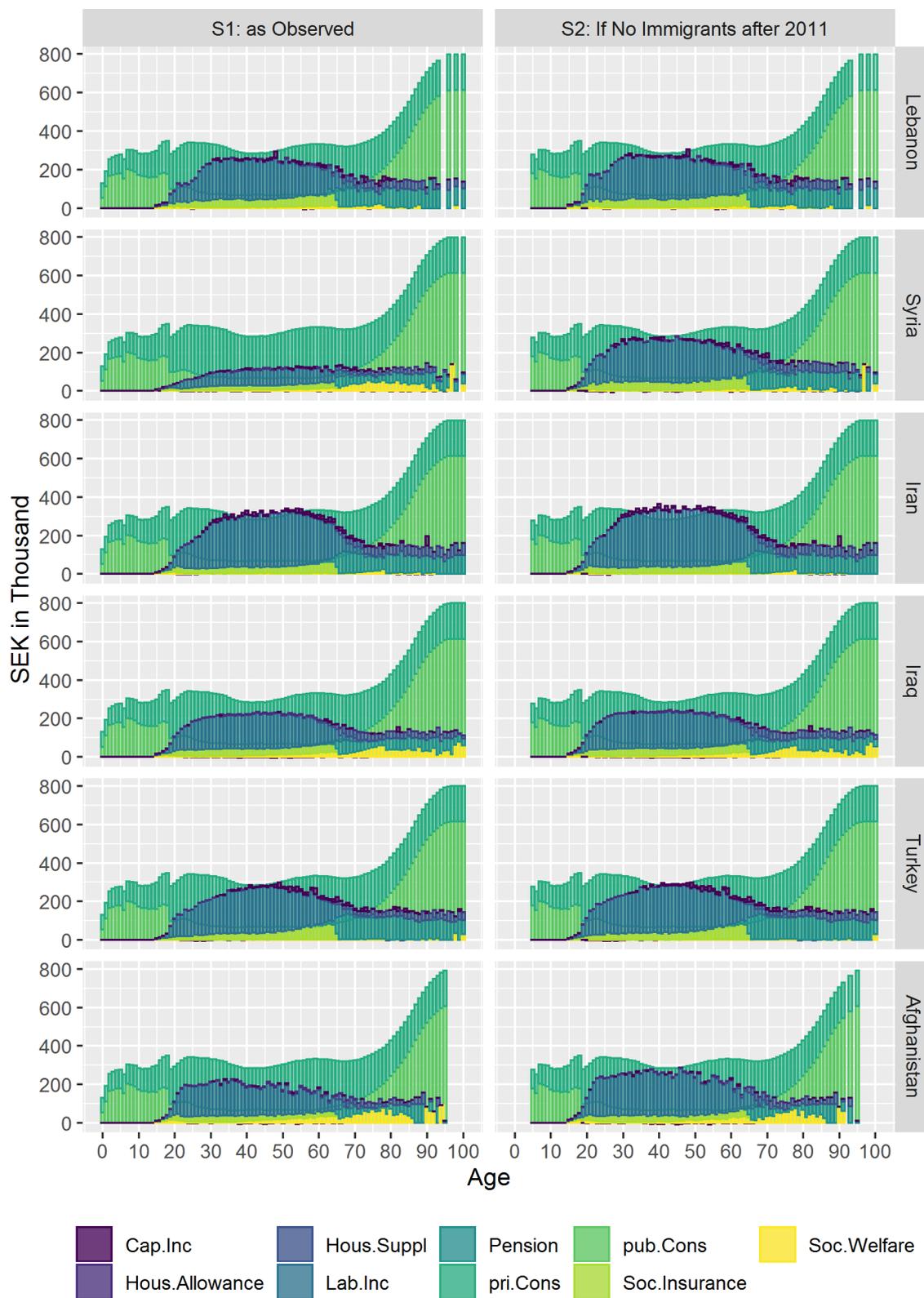
In this section, we examine the fiscal impact of the recent refugee crisis. Specifically, we simulate life cycle deficits in a counter-factual scenario that assumes no immigration after 2011. We then compare these simulated values with the observed ones.

Per Capita Life Cycle Income

Figure 2 illustrates the difference between the observed life cycle income in 2016 and the counter-factual age profiles. It is obvious that, among all immigrants from the Middle East, the difference is the greatest for Syrians. The counter-factual scenario suggests that if the refugee crisis did not occur, the labor income for an average Syrian immigrant would have been much higher, and similar to those from other Middle Eastern countries. It also suggests that Syrians on average would have received lower welfare benefits, should the refugee crisis did not happen.

The sheer difference between the observed and counter-factual life cycle income

Figure 2: Observed and Counter-factual Per Capita Life Cycle Income and Consumption



warrant emphasis. It is well established that refugees tend to have lower employment and earnings, compared to non-refugee immigrants, e.g. labor migrants. Hence, a large influx of refugee population may suppress the average labor income. However, this explanation might not necessarily hold, as Syrians arrived in Sweden during the refugee crisis are actually more positively selected, in terms of education, than those arrived before the crisis. In 2010, about 20% of the Syrian immigrants had a tertiary education or higher, a smaller share than that of the Swedish-born. However, these percentage shares increased to 32.2% in 2016, which exceeded the corresponding share of the native-born Swedes - 31.07% - (Aradhya and Mussino, 2020).

The large influx of refugee population may create a crowding effect in the labor market, which may in turn lead to an oversupply of labor, and thus suppress the employment rate and/or wages. However, this mechanism is unlikely to play an important role, as Figure 2 shows that the refugee crisis did not exert any noticeable impact on other comparable immigrant groups.

A more plausible explanation would be that a large number of newly arrived refugees who lacks work experience specific to the Swedish labor market. As mentioned earlier, immigrants whose source-country skills do not transfer fully to the new labor market may find difficulty to establish themselves (Chiswick, 1978; Duleep and Regets, 1999). Although Syrians came during the refugee crisis are more positively selected, in terms of education, compared to their earlier arrived counterparts, these additional university or higher credentials might not be immediately recognizable to the Swedish employer. As a result, the average labor income is substantially lowered, and the number of welfare recipients increased.

Life Cycle Deficit

Figure 3 illustrates the effect of the recent refugee crisis on per capita life cycle deficit. Similar to the patterns in life cycle income, the effect is the greatest for Syrians. Both public and private deficits have increased, most noticeable among those at prime working age.

Figure 4 depicts how the aggregate life cycle deficit changed as a result of the refugee crisis. Syrians experienced the greatest change, followed by those from Afghanistan. As discussed earlier, the aggregate life cycle patterns are not only dependent on the per capita profiles, they are also affected by the population age structure. The sheer difference in the aggregate life cycle deficits between the observed and counter-factual indicate that the newly arrived refugees are mostly children as well as young adults. Hence, at the aggregate level, the deficits tend to shift towards younger age.

Aggregate Impact

To quantify the effects of refugee crisis, we calculate the total deficits (both private and public) for the observed and for the counter-factual scenario, and then take the difference. Figure 5 illustrates the effects of refugee crisis on public and private deficits during 2010-2016.

Figure 3: Observed and Counter-factual Per Capita Life Cycle Deficit

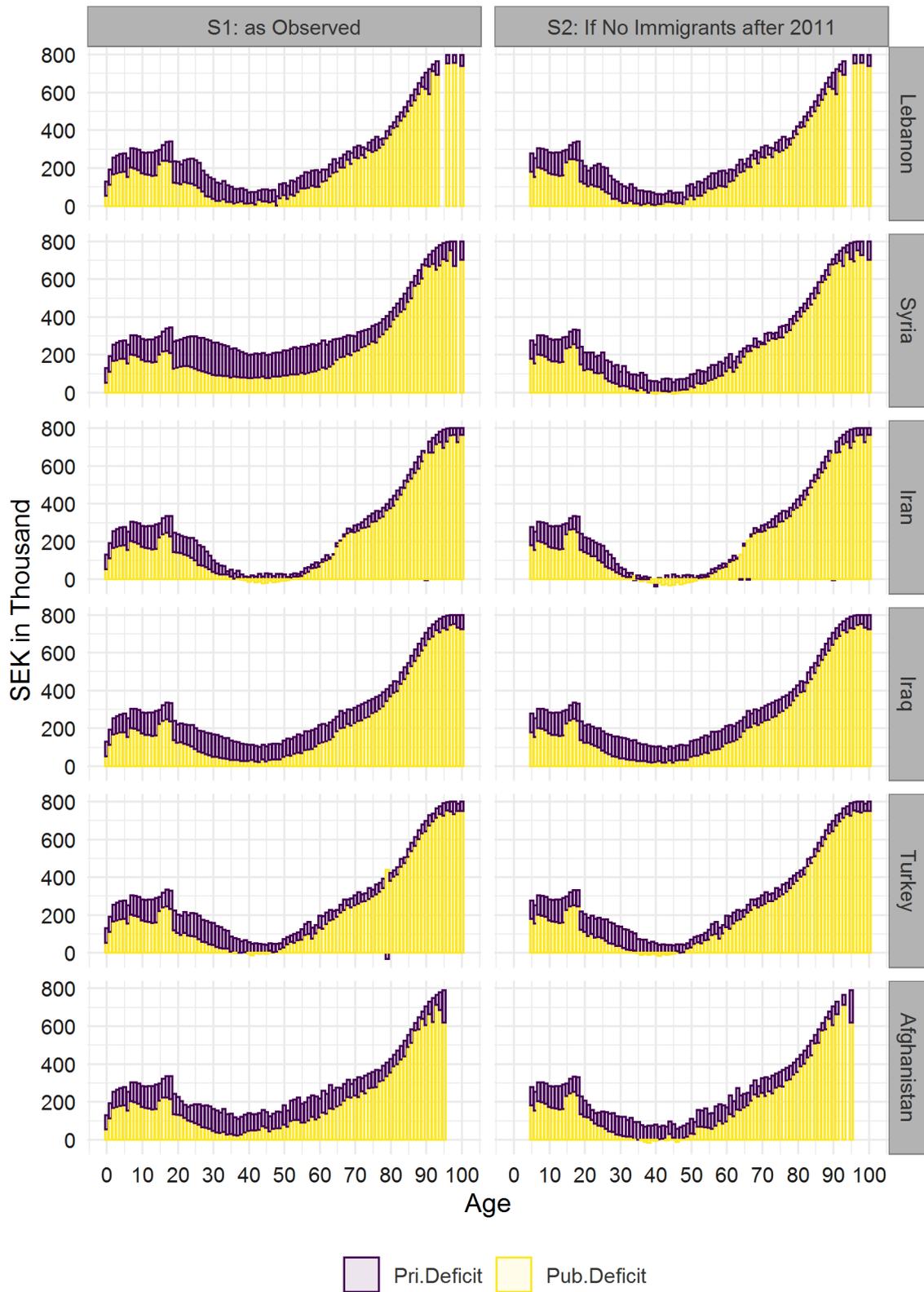


Figure 4: Observed and Counter-factual Aggregate Life Cycle Deficit

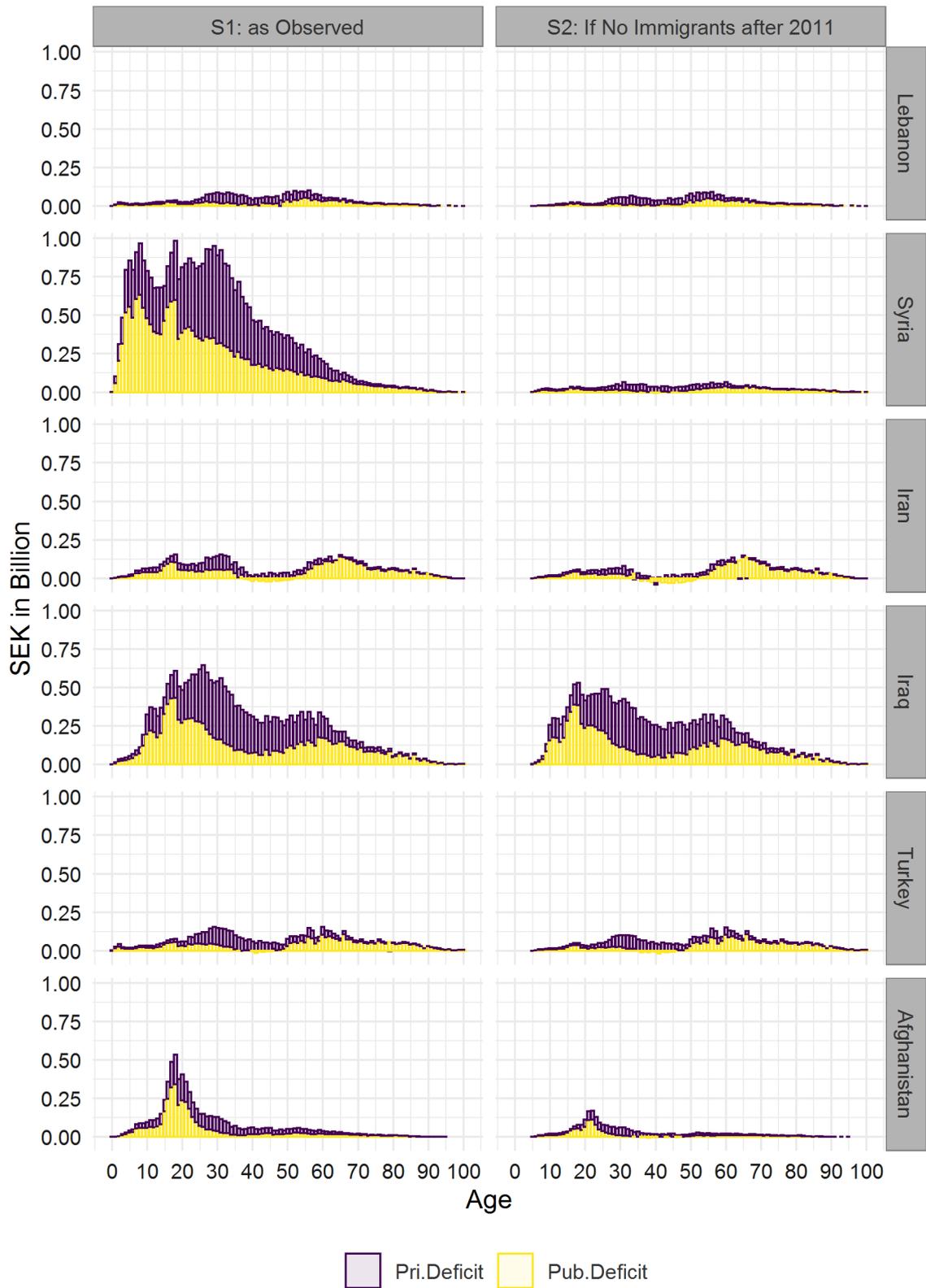
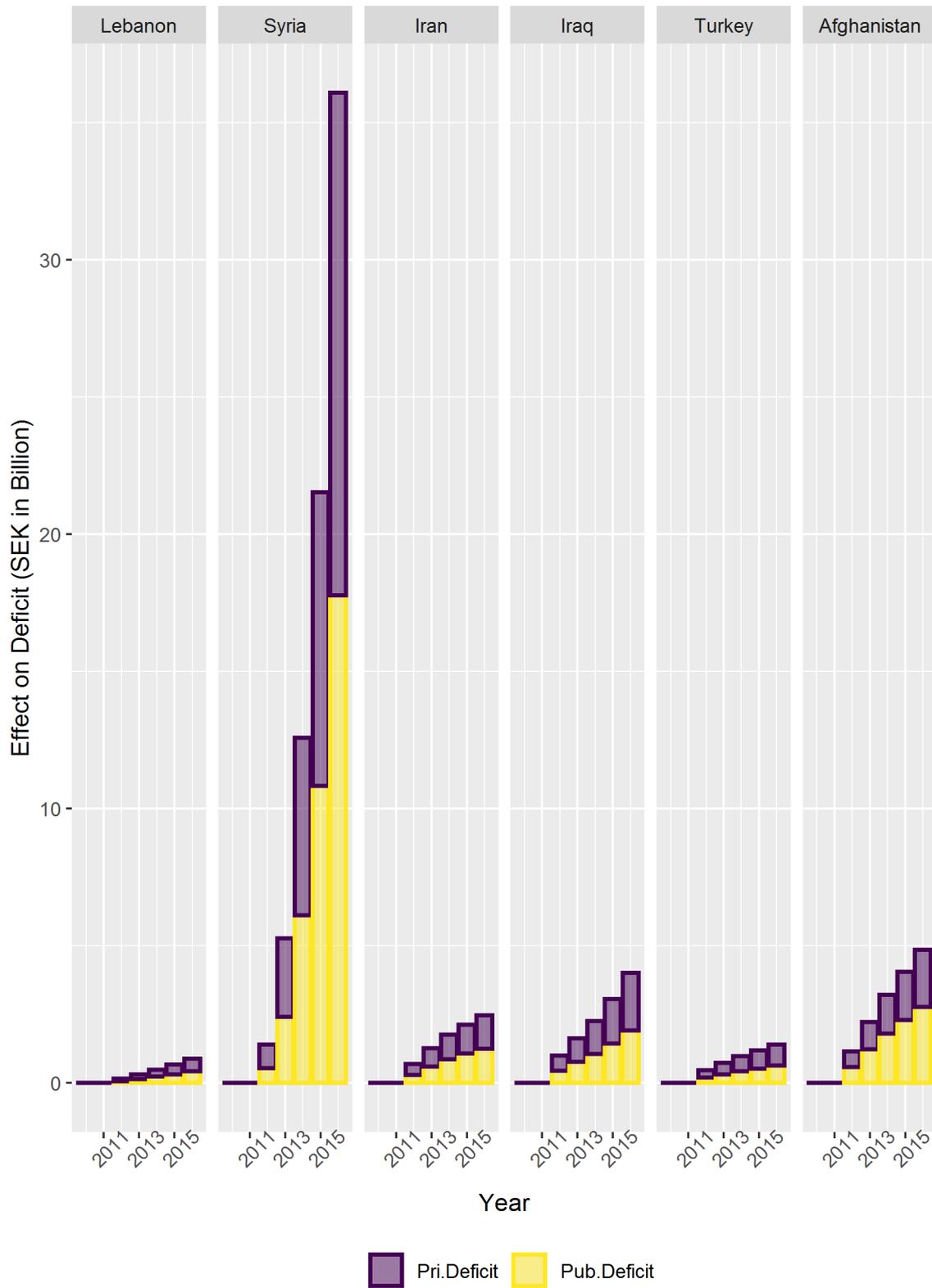


Figure 5: Effects of Refugee Crisis on Total Deficits, 2010-2016



As the number of newly arrived Syrians growing since 2011, the effects on total deficits exacerbate accordingly. In 2016, the deficit effect of Syrian refugees is about 36 Billion SEK or approximately 3.6 Billion Euro. However, only half of these deficits is public, which might be counted as part of fiscal deficits. In other words, the fiscal cost of the inflow of Syrian refugees is about 18 Billion SEK or approximately 1.8 Billion Euro.

It is true that billions of deficits due to the inflow of refugees from a single country might sound striking. However, in relative terms, the fiscal cost of Syrian refugees is merely 0.4% of Sweden's GDP in 2016.

Summary and Discussion

In this report, we consider the shape of the economic life cycle of an average immigrant from Syria. In general, Syrian's life cycle is characterized by a low level of income from labor and high reliance on public transfers, mainly social welfare benefits and housing supplement. This life cycle pattern leads to a persistent deficit (both public and private). However, at the aggregate level, Syrians' deficits are negligible relative to the native-born Swedes, simply because the population size of Syrians is much smaller than that of the Swedes. Moreover, the aggregated life cycle deficits tilt towards younger ages, which is largely due to a young age structure of the Syrian population.

The overall economic costs of Syrian immigrants (measured by the increased total deficits) is about 36 Billion SEK (or approximately 3.6 Billion Euro) for the year 2016. However, only half of these costs are financed through the public transfer system, which implies that the fiscal impact of the refugee crisis is about 1.8 Billion Euro - equivalent to 0.4% of Sweden's GDP in 2016. This estimate suggests that the fiscal cost of Syrian refugees is quite modest, compared to previous estimates which are typically in the range between -1% and +1% of host countries' annual GDP (Rowthorn, 2008). However, a salient difference is that previous estimates largely reflect the effect of receiving economic migrants, whereas our estimate specifically reflects the consequence of refugee migration from Syria.

The last, perhaps the most important, note is that the costs associated with Syrian refugees might not persist in the long run. There are, at least, three reasons for optimism. First, the number of newly arrived refugees has been declining since 2015, when Sweden tightened the policy for receiving asylum seekers. Second, the newly arrived Syrians are mostly children and young adults, which may support Sweden to counteract the economic consequences of population ageing in the coming decades, hence offset the current fiscal effect. Third, the recently arrived Syrians are more positively selected (in terms of education) than those arrived before the refugee crisis. Hence, there is a reason to believe that once these newly arrived Syrians have restored the value of their credentials, they could make positive contribution to the welfare system.

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