

Box 1.1: A first assessment of the macroeconomic impact of the refugee influx

Europe is facing an unprecedented influx of asylum seekers, which has put considerable strain on several EU countries. The arrival of large numbers of asylum seekers mirrors global developments where the number of persons displaced by war, conflict or persecution reached a high of nearly 60 million in 2014 according to the UN refugee agency⁽¹⁾, up by more than 8 million compared to 2013. Syria is by now the largest country of origin with 7.6 million persons internally displaced and 3.9 million refugees at the end of 2014, followed by Afghanistan (2.6 million refugees) and Somalia (1.1 million refugees).

Against this backdrop, the number of refugees, displaced persons and other migrants that have made their way to Europe rose by almost 50% in 2014. A further, sharp increase has occurred in the first three quarters of this year, though there is considerable uncertainty as to the exact number and composition of persons arriving. According to Frontex, the EU border agency, more than 710,000 migrants entered the EU in the first three quarters of 2015 (up from 282,000 in total in 2014). A vast majority of them arrived in three countries: Greece, Hungary and Italy; receiving 350,000, 204,000 and 129,000 persons, respectively, by end September. These numbers refer to a broad group of people containing both potential asylum seekers as well as other types of migrants (note that the data refer to irregular crossing of borders).⁽²⁾ Focusing on asylum seekers alone, more than 1.2 million persons have applied for asylum in the EU since the start of 2014.

Differences among available data sets are sizeable and reflect differences in definitions and coverage, double-counting (e.g. of irregular migrants applying for asylum in several Member States) or under-counting (related to unreported irregular

border crossings). Although considerable efforts have been made to complement data from Eurostat by reviewing data from different international institutions, as well as EU and Member States' agencies, data availability and reliability remain a source of uncertainty when trying to assess the macroeconomic impact of these flows at the current juncture.

The sharp rise in the arrival of asylum seekers has put considerable strains on several Member States, both *transit* and *destination* countries⁽³⁾, that have seen their capacity to receive them tested, sometimes amid political and social tensions. However, it should be noted that an inflow of about one million persons into the EU in 2015⁽⁴⁾ as a whole would correspond to just 0.2% of the total population. This is markedly less than e.g. the increase in foreign-born population by more than 6 million persons (or 15%) in Spain alone between 1995-2008. The number also pales when compared to Syria's neighbouring countries.⁽⁵⁾ Depending on how the situation in Syria and its neighbouring countries develops (as well as other parts of MENA, South Asia and Africa), a sustained further rise in the influx of migrants cannot be excluded.

This forecast contains a first assessment of the impact of the larger-than-expected inflows of asylum seekers on the economies of the EU. It is based on the flows up until the third quarter of this year whilst applying a technical assumption for the remainder of the forecast period of a sustained high level (basically keeping the inflows at the level of 2015-Q3 until end of 2016 unless domestic sources provide more well-founded estimates). For 2017, a gradual normalisation of the flows and the recognition rate are assumed (see tables 1 and 2 for the data used for the countries most affected). Overall, an additional 3 million persons is assumed to arrive in the EU over the forecast period. This

⁽¹⁾ UNHCR (2015) annual Global Trends Report: World at War, June.

⁽²⁾ Note that the term *asylum seeker* is not equal to *refugee* or *migrant*. Under EU law, an asylum-seeker has applied for asylum and is awaiting a decision. If successful, the individual obtains international protection (i.e. either a refugee status or a subsidiary protection status). In this text, the term refugee is used for all "beneficiaries of international protection". The more general term migrant covers third-country nationals establishing their usual residence in an EU Member State for a period that is, or is expected to be, at least 12 months. It therefore includes refugees, labour migrants as well as family-unification migrants. Unsuccessful asylum seekers who do not leave the host county are considered irregular migrants just as those who cross borders illegally.

⁽³⁾ *Transit country* refers to the country/countries through which migration flows (whether regular or irregular) move through, from the *country of origin* in order to enter the *country of destination*. It should be noted that some Member States may be both a transit and a destination country.

⁽⁴⁾ Also with a substantial period of 2015 behind us, the uncertainty surrounding the influx thus far and its future development is substantial. Based on border crossing in the most recent period, it cannot be excluded that the technical assumption of an inflow of 1 million persons in 2015 will prove too low.

⁽⁵⁾ Turkey hosts more than 2 million Syrians by end Sep. according to UNHCR estimates while Syrian refugees make up about 20% of the population of Lebanon by now (and almost 8% of that of Jordan).

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corresponds to an increase in the population of 0.4% after taking into account that some asylum seekers will not qualify for international protection.

Full economic impact cannot be measured at this stage

Short-term impact via higher public spending...

The impact is expected to differ across the EU. This reflects not only differences in the size of the flows, but importantly whether the asylum seekers transit or stay (and if the latter, for how long); are granted asylum or rejected (and the extent that those who are rejected stay irregularly); and differences in the legal provisions to access the labour market. The impact will also be affected by the economic structure of the Member State and its work force; characteristics of the refugees (e.g. the extent they complement or substitute the native work force in terms of age and skills) and lastly of the host countries' capacity to integrate those that will be granted international protection status.

Table 1:
Refugee inflows for main transit countries

	Italy		Greece		Hungary ⁽¹⁾	
	2014	2015	2014	2015	2014	2015
Non-EU national arrivals	170,000	165,000	40,000	500,000	20,000	250,000
Asylum applicants	65,000	83,000	7,500	12,000	40,000	300,000
Total decisions	35,000	52,000	13,000	10,000	5,000	3,500
Positive decisions	20,000	25,000	2,000	5,000	500	500
Recognition rate	57%	48%	15%	50%	10%	14%
Population ('000)	60,783	60,796	10,927	10,812	9,877	9,849
Asylum applicants (% of population)	0.11%	0.14%	0.07%	0.11%	0.40%	3.05%
Refugees (% of population)	0.03%	0.04%	0.02%	0.05%	0.01%	0.01%

Sources: Irregular border crossings for 2014 in Italy (referred to arrivals by sea) and Greece are based on UNHCR data; irregular border crossings in Hungary are based on FRONTEX data; estimations for 2015 irregular border crossings are based on technical assumptions. Remaining data for 2014 from ESTAT, 2015 data derived applying technical assumptions on ESTAT data. Notes: According to FRONTEX, in the second half of September, Croatia has emerged to be a relevant transit country with an estimated 97,000 people crossing its border. However, the effects are not yet visible in the number of asylum applications submitted within the country.

⁽¹⁾ The number of asylum applications for 2015 in Hungary is bigger than the number of non-EU arrivals for the same year as it includes applications submitted in previous years and applications made by non-reported irregular border crossings. The majority of applications submitted in Hungary are not reviewed within the country as typically applicants moved to other EU MSs.

For Member States that are to a large extent *transit countries*, additional public spending typically relates to rescue operations, border protection (esp. if managing an external EU border), registration of asylum seekers and the short-term provision of food, healthcare and shelter. For *destination countries*, spending also includes elements like social housing, (language) training and education.⁽⁶⁾

⁽⁶⁾ Besides support during the reception period for the larger group of asylum seekers, some integration-related spending may affect destination countries also beyond the forecast horizon.

The extent to which this additional spending will affect a country's budget balance depends on the use of contributions by e.g. the EU's Asylum, Migration and Integration Fund⁽⁷⁾, or the European Structural and Investment Funds and to which extent other revenues and expenditures are adapted. If net spending is increased, the additional public consumption and investment raises GDP growth (albeit less than proportionally, assuming a fiscal multiplier below 1). For destination countries, an additional impact on growth can come via a larger labour force, although with a certain lag as processing asylum applications, integration, recognition of qualifications, training etc. usually take time.

...is moderate, albeit more pronounced for some countries.

While unevenly distributed across countries, the estimated additional public expenditure related to the arrival of asylum seekers is limited for most EU Member States. For the most affected transit countries, the currently-estimated effect on the headline balance amounts to a maximum of 0.2% of GDP in 2015, broadly stabilising in 2016. For destination countries, the impact amounts to a maximum of 0.2% of GDP in 2015, with a small further increase in some countries in 2016. In Sweden, which has among the highest share of refugees as a percentage of the population in the EU, the impact on the headline balance is expected to be closer to 0.5% of GDP this year. The corresponding positive effects on growth would be somewhat smaller.

In the medium to long term, labour-market integration matters most

Literature on the economic impact of migration in the medium term is rich and often focuses on the EU and the US as receiving countries. Studies from the International Organisation for Migration (IOM)

⁽⁷⁾ AMIF is a substantial funding instrument to support efforts made at the EU and Member State level to manage the refugee influx within the 'European Agenda on Migration'. Support is also given to third countries, e.g. via more financial resources for UNHCR and the World Food Programme. Overall, an additional funding of EUR 9.2 billion have been allocated to address the refugee crisis over 2015-16.

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Table 2:

Refugee inflows for main destination countries

	EU 28		Germany		Sweden		France		UK		Austria		Belgium		Netherlands	
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
Asylum applicants	550,000	1,200,000	170,000	430,000	75,000	165,000	60,000	60,000	32,000	40,000	25,000	46,000	15,000	38,000	22,000	40,000
Total decisions	357,000	550,000	130,000	250,000	53,000	60,000	68,000	73,000	26,000	40,000	n.a.	n.a.	20,000	20,000	19,000	22,000
Positive decisions	160,000	275,000	58,500	137,500	30,000	34,000	15,000	16,000	10,000	13,000	2,300	10,000	8,000	10,000	13,000	15,000
Recognition rate	48%	50%	48%	55%	57%	57%	22%	22%	38%	33%	-	-	40%	50%	68%	68%
Population ('000)	506,881	508,191	80,767	81,174	9,645	9,747	65,836	66,352	64,351	64,767	8,507	8,585	11,204	11,258	16,829	16,901
Asylum applicants (% of population)	0.11%	0.24%	0.21%	0.53%	0.78%	1.69%	0.09%	0.09%	0.05%	0.06%	0.29%	0.54%	0.13%	0.34%	0.13%	0.24%
Refugees (% of population)	0.03%	0.05%	0.07%	0.17%	0.31%	0.35%	0.02%	0.02%	0.02%	0.02%	0.03%	0.12%	0.07%	0.09%	0.08%	0.09%

Sources: ESTAT and national bodies (for DE, German Ministry of Economics and BA.MF; for SE, Swedish Migration Agency (between 140,000 and 190,000 of asylum applications forecasted for 2015); for BE, CGVS; for UK, Home Office; for NL and AT, national governments). Figures for 2015 are from national bodies' forecasts or estimations derived through technical assumptions and based on ESTAT data or national databases. For France and UK, the number of decisions in 2015 is higher than number of applications received probably due to pending applications from 2014 reviewed in 2015.

Notes: Recognition rate is the ratio between positive decisions and total decisions. Total decisions and positive decisions include only first instance decision as final decision figure is not available for 2015. For DE, estimations for 2015, based on EASY system and BA.MF: 1 million arrivals, 800,000 new registrations to residents' registration offices, 700,000 net population inflows, around 430,000 applications. EU 28 number for asylum applicants is not the sum of single MS figures as applicants in transit countries might also apply in other destination countries (e.g. asylum applications in Hungary).

and the OECD, among others, typically point to a small impact on growth and public finances in the medium term, which can be positive when migrants are well integrated into host country labour markets. For example, the fiscal impact of cumulative waves of migration has been close to zero in the OECD on average over the past 50 years (rarely exceeding $\pm 0.5\%$).⁽⁸⁾ However, the fiscal impact tends to vary according to the category of migrants, with labour migrants generally having the largest positive impact (see also section I.1).

Thus in the medium to long run, budgetary positions can improve. Research indicates that non-EU migrants typically receive less in individual benefits than they contribute in taxes and social contributions. Employment is usually the single most important determinant of a migrant's net fiscal contribution. For Member States with an ageing population and shrinking workforce, migration can alter the age distribution in a way that may strengthen fiscal sustainability⁽⁹⁾ – yet, if the human potential is not used well, the inflow can also weaken fiscal sustainability. Moreover, while migration flows can partly offset unfavourable demographic developments, earlier studies have shown that immigration could not on its own solve the problems linked to ageing in the EU.⁽¹⁰⁾

Turning to the functioning of labour markets, migrants can improve the adjustment capacity to regional differences or shocks by taking on jobs in

sectors where natives may be unwilling to work and by being more responsive than natives to regional differences in economic opportunities. Immigration can also contribute to an increase in human capital going beyond the purely quantitative impact of an increase in the labour force, but that depends crucially on education and skill levels, which in turn are critical to determining the degree of substitution or complementarity between immigrant and native workers. Past experiences have shown that the impact on wages and employment can be negative for some groups of native workers, typically among the low-skilled.⁽¹¹⁾ At the same time, literature shows a positive distributional effect on native workers that complement the immigrant workforce. Overall, immigration appears to have no obvious or little impact on native unemployment levels.

Applying such results in the current situation needs to be done with care, however. Refugees are a diverse group and may, moreover, not have the same profile (country of origin, age, gender, education and skillset) as the wider group of migrants considered in earlier studies. Reliable data on the education level of the people in the current migration wave are still scarce, but information gleaned so far suggests it may be comparatively low.⁽¹²⁾ Refugees are more likely than labour migrants to work below their qualification level (partly because of language problems and partly because prior qualifications and experiences

⁽⁸⁾ OECD Migration Policy Debates, May 2014: Is migration good for the economy?

⁽⁹⁾ The World Bank noted in its Global Monitoring Report 2015/16 how “migration can help countries to adjust to uneven demographic change... and that the global economic dividends they can bring can be considerable”.

⁽¹⁰⁾ See, for example, the 2015 Ageing Report at http://ec.europa.eu/economy_finance/publications/european_economy/2015/ee3_en.htm.

⁽¹¹⁾ See, inter alia, <http://wol.iza.org/articles/do-immigrant-workers-depress-the-wages-of-native-workers> and <http://wol.iza.org/articles/do-migrants-take-the-jobs-of-native-workers>.

⁽¹²⁾ See, for example, IAB, ‘Asyl- und Flüchtlingsmigration in die EU und nach Deutschland.’ Aktuelle Berichte 8/2015, IAB, ‘Flüchtlinge und andere Migranten am deutschen Arbeitsmarkt: Der Stand im September 2015.’ Aktuelle Berichte, 14/2015.

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obtained outside the host country are sometimes undervalued, according to some studies).⁽¹³⁾ While wages tend to catch up over time, they generally start from a very low level for refugees. Lastly, the employment rate of refugees is inclined to catch up to those of other migrants over time, albeit stopping short of reaching the ones of labour migrants.⁽¹⁴⁾ Labour-market outcomes thus crucially depend on how quickly and how well refugees are integrated.

Stylised scenarios for a tentative impact 'guesstimate'

In view of the significant uncertainties in estimating the current inflows in terms of size and composition during 2015-17 (let alone future ones), this assessment of their economic impact will need to be updated and refined as more information becomes available.

To serve as an illustration of the possible medium-term impact, simulations have been carried out using DG ECFIN's global macroeconomic model QUEST for the EU as a whole and for Germany (which is receiving the largest number of asylum seekers). They serve to see how a 'shock' to the population, with different assumptions on skill levels as regards the newly arrived⁽¹⁵⁾, may affect growth, public finances and labour markets.

These simulations are based on a number of technical assumptions, such as an expected additional increase in the EU population of 1 million people this year, 1.5 million in 2016 and about half a million in 2017. Assuming that some asylum applications are rejected, this corresponds to an increase in the population of 0.4% at most. It is thereafter assumed to gradually revert to inflow levels seen in recent years. Using round figures should facilitate a scaling up (or down) of the results as more information becomes available, providing better estimates on inflows.

⁽¹³⁾ For a further discussion see, for example, the "qualifications of immigrants and their value in the labour market: a comparison of Europe and the US", in OECD/European Union, 2014, Matching Economic Migration with Labour Market Needs.

⁽¹⁴⁾ OECD Migration Policy Debates, Sep. 2015: Is this humanitarian migration crisis different?

⁽¹⁵⁾ To understand the importance of skill distribution, two extreme cases are considered. In one scenario, migrants are assumed to have a skill distribution that is proportional to the existing one within the EU (high). With the limited information available so far suggesting a lower skill level than the native population, in a second scenario (low), all migrants are assumed to be low skilled.

Other assumptions underlying the simulations concern recognition (of refugee status) and labour-force participation rates, where the recognition rate is assumed to be 50%⁽¹⁶⁾ and about ¾ of the accepted applicants are assumed to be of working age. As a result, this implies an increase in the EU labour force of about 0.1% by the end of 2015 and by 0.3% in both 2016 and 2017. Lastly, the fiscal cost⁽¹⁷⁾ is expected to have a full impact on budgetary balances, implying higher deficits (or lower surpluses) and debt levels, for illustrative purposes.

The impact from higher public spending and a larger labour force with a skillset similar to the existing one in the EU is expected to:

- contribute to a small increase in the level of GDP this year and next, compared to a baseline scenario, rising to about ¼% by 2017. This however is less than the rise in the underlying population, implying a small, negative impact on GDP per capita throughout the period; and
- strengthening the outlook for employment (which is expected to improve gradually to about 0.3% more employed persons by 2017), in part from a wage response.⁽¹⁸⁾

Table 3:
Combined effects of increase in spending and labour force - skillset as natives*

	2015	2016	2017	2018	2019	2020
GDP	0.09	0.21	0.26	0.27	0.26	0.26
GDP per capita	-0.11	-0.15	-0.06	-0.05	-0.06	-0.06
Employment	0.06	0.22	0.30	0.31	0.31	0.31
Current account % GDP	-0.01	-0.02	-0.03	-0.03	-0.03	-0.03
Real wages	-0.08	-0.20	-0.25	-0.22	-0.18	-0.16
Gov Debt (% of GDP)	-0.05	-0.08	-0.03	0.01	0.01	-0.02
Gov balance (% of GDP)	0.00	-0.04	-0.04	0.00	0.03	0.05

*Level difference compared to base-line scenario

⁽¹⁶⁾ The increase in the recognition rate compared to 2014 reflects, above all, a composition effect with a higher share of e.g. Syrian migrants.

⁽¹⁷⁾ The fiscal spending is assumed to evolve in line with migrant flows and to amount to 30% of GDP per capita per migrant, on average. This is based on cost estimates of around EUR 12,000 per migrant in the case of Germany. It is moreover assumed to be partly government consumption and partly targeted transfers to liquidity-constrained consumers.

⁽¹⁸⁾ In the model, a fall in wages compared to baseline brings the labour market back into equilibrium. This is partly reflecting a composition effect as earlier studies point to relatively low wages for refugees when entering the labour market. By contrast, empirical studies show mixed results on whether immigration lowers the wages of native workers primarily reflecting the degree of substitution or complementarity (see also section I.1).

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The impact on public finances is very limited according to this simulation, based on the assumed temporary nature of the additional expenditure.

Turning to the second simulation where the increase in the labour force is based on low-skilled workers, the positive impact on growth is more limited. GDP is in this case expected to be close to 0.2% higher in the medium term (see table 4). The difference on the employment outlook is less pronounced, which partly reflects how the model predicts stronger downward pressure on real wages further out.

Table 4:
Combined effects of increase in spending and labour force - lowskilled*

	2015	2016	2017	2018	2019	2020
GDP	0.06	0.14	0.18	0.17	0.17	0.17
GDP per capita	-0.14	-0.22	-0.14	-0.14	-0.15	-0.15
Employment	0.04	0.18	0.25	0.28	0.29	0.29
Current account % GDP	0.00	-0.01	-0.02	-0.03	-0.03	-0.02
Real wages	-0.02	-0.12	-0.18	-0.20	-0.20	-0.20
Gov Debt (% of GDP)	-0.03	-0.02	0.06	0.14	0.19	0.21
Gov balance (% of GDP)	-0.02	-0.07	-0.08	-0.05	-0.02	0.00

* Level difference compared to base-line scenario

In order to illustrate how an individual EU country could be more affected by large inflows, a similar set of simulations have been undertaken for Germany.⁽¹⁹⁾ The scenario where the newly-arrived are assumed to have the same skill set as the native population points to an increase in GDP of about 0.2% this year, rising to 0.4% in 2016 and about 0.7% higher than a baseline scenario by 2020.

Table 5:
Combined effects of increase in spending and labour force for Germany - skillset as natives*

	2015	2016	2017	2018	2019	2020
GDP	0.16	0.43	0.56	0.67	0.71	0.72
GDP per capita	-0.69	-0.60	-0.51	-0.43	-0.34	-0.30
Employment	0.20	0.56	0.77	0.92	0.99	1.00
Current account % GDP	-0.03	-0.08	-0.11	-0.12	-0.11	-0.10
Real wages	-0.23	-0.51	-0.61	-0.63	-0.60	-0.56
Gov Debt (% of GDP)	-0.01	0.17	0.42	0.63	0.81	0.90
Gov balance (% of GDP)	-0.10	-0.25	-0.22	-0.21	-0.13	-0.05

* Level difference compared to base-line scenario

(19) The net population assumptions for Germany are 700,000 this year, 530,000 in 2016 and 255,000 in 2017. Taking into account that some asylum applications are rejected, this corresponds to an increase in the population of 1.8% in total.

Should the influx consist of low-skilled workers only; the impact on growth is reduced to 0.4-0.5% in the medium term. The model impact is primarily driven by the larger labour force in both simulations. As a result, employment is set to increase by about 1% in 2020 in both scenarios, reflecting also stronger downward pressure on real wages.

Table 6:
Combined effects of increase in spending and labour force for Germany - lowskilled*

	2015	2016	2017	2018	2019	2020
GDP	0.12	0.31	0.38	0.46	0.47	0.47
GDP per capita	-0.73	-0.72	-0.69	-0.65	-0.58	-0.55
Employment	0.19	0.52	0.72	0.87	0.94	0.96
Current account % GDP	-0.02	-0.06	-0.08	-0.10	-0.10	-0.09
Real wages	-0.13	-0.37	-0.55	-0.64	-0.68	-0.69
Gov Debt (% of GDP)	-0.01	0.16	0.45	0.72	0.98	1.16
Gov balance (% of GDP)	-0.11	-0.27	-0.27	-0.27	-0.21	-0.15

* Level difference compared to base-line scenario

Summing up and notwithstanding the unprecedented migration flows into the EU during this year and next, the economic impact is expected to be relatively small in the medium term, raising the level of GDP by 0.2-0.3% above the baseline by 2020. As illustrated in the simulations for Germany, the impact may be more significant for certain countries (and for destination countries more than transit ones looking beyond the immediate time horizon).

Recalling the substantial uncertainty surrounding the assumptions underpinning these stylised simulations; should the technical assumptions of an inflow of 3 million people over the forecast period prove too high, the model results yield relatively linear results. Assuming a lower influx of 2 million over 2015-17, the impact on GDP could be expected to be around 0.1-0.2% higher (than a baseline scenario).

There is considerable uncertainty surrounding the numbers involved and these estimates also depend on assumptions about skills and integration patterns which may differ from those in previous studies. As a result, these studies may provide only a partial guide to assessing the current situation and the margin of error in this estimate may be higher than usual, both on the positive and the negative side.