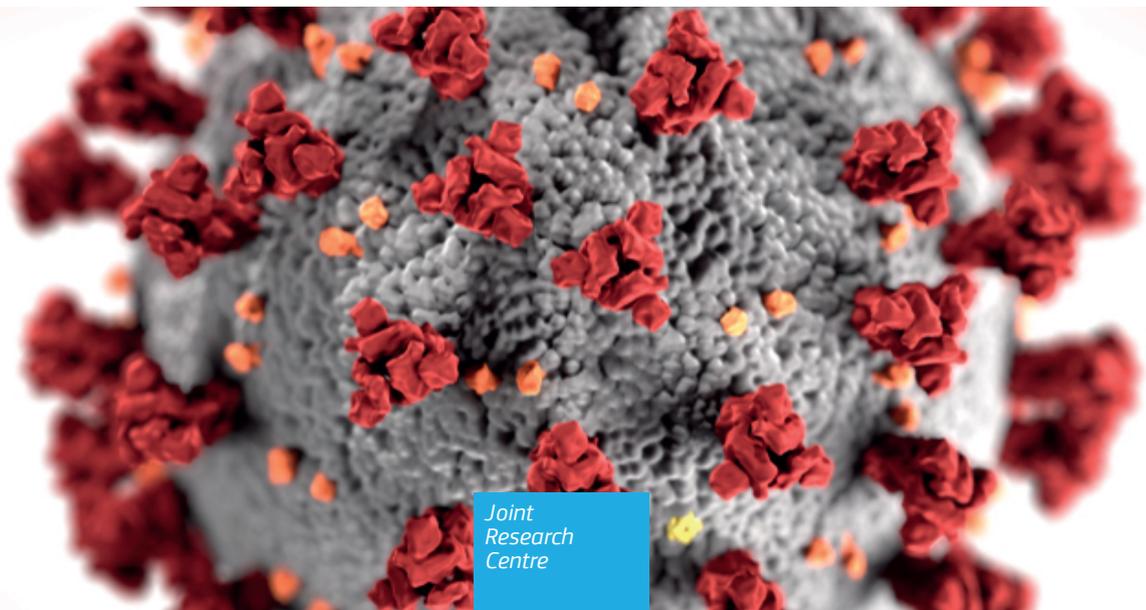


JRC TECHNICAL REPORT

Meeting labour demand in agriculture in times of COVID 19 pandemic

Kalantaryan, S.
Mazza, J.
Scipioni, M.

2020



This publication is a Technical report by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The scientific output expressed does not imply a policy position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Contact information

Name: Jacopo Mazza
Address: Via Enrico Fermi, 2749, 21027 Ispra (VA), Italy.
Email: jacopo.mazza@ec.europa.eu

EU Science Hub

<https://ec.europa.eu/jrc>

JRC120800

EUR 30235 EN

PDF	ISBN 978-92-76-19174-2	ISSN 1831-9424	doi:10.2760/686549
Print	ISBN 978-92-76-19175-9	ISSN 1018-5593	doi:10.2760/837597

Luxembourg: Publications Office of the European Union, 2020

© European Union, 2020



The reuse policy of the European Commission is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated. For any use or reproduction of photos or other material that is not owned by the EU, permission must be sought directly from the copyright holders.

All content © European Union, 2020.

How to cite this report: Kalantaryan, S., Mazza, J., Scipioni, M., *Meeting labour demand in agriculture in times of COVID 19 pandemic*, Publications Office of the European Union, Luxembourg, 2020, EUR 30235 EN, ISBN 978-92-76-19174-2, doi:10.2760/686549, JRC120800.

Meeting labour demand in agriculture in times of COVID 19 pandemic

Sona Kalantaryan, Jacopo Mazza, Marco Scipioni

Unit E.6 Joint Research Centre, European Commission

Abstract: Member States affected by the COVID-19 pandemic have often resorted to shelter in place orders to stop the virus from spreading widely. These orders have affected many economic activities, but are designed to prevent a shutdown of those essential activities that are meant to keep the population safe and fed. Agriculture is one of those sectors that needs to be kept functional, but mobility restrictions have kept seasonal temporary workers, which this sector has grown reliant on, from reaching their workplace curbing the productivity of this essential sector. This report analyses the potential for the agriculture sector to replace the seasonal workers who are prevented by shelter in place orders from reaching their usual place of work with EU native born workforce. Looking at labour market flows into agriculture in the past decade, this report finds that the probabilities of flows in agriculture are low. Movers into agriculture are mostly migrant men older than 19 living in a rural area and with low qualification. After analysing recent labour market trends, the report concludes that native workers can only partially fill potential vacancies in the sector.

Key Messages:

- Overall, the agricultural workforce is shrinking. Over the last decade the total number of people employed in agriculture in the EU decreased from 10.8 to 8.9 million. This decrease is exclusively due to native-born workers.
- Amongst the newly employed in this sector, native-born are entering this sector in ever lower numbers, and this is not compensated by the parallel increase in the share of foreign workers in agriculture.
- About 68.3 thousand non-EU born seasonal workers entered the agricultural sector.
- Available data on foreign seasonal workers in the EU is fragmented and partial, suggesting that more efforts should be made to improve the data collection and reporting on intra-EU mobility of seasonal workers and authorisations for the purposes of seasonal work issued to Third Country Nationals.
- The estimated probabilities of flows in agriculture are low. Movers into agriculture are mostly migrant men older than 19 living in a rural area and with low qualification;
- Wages in agriculture are low. More than half of the workers in this sector earn wages in the bottom three deciles of the income distribution;
- When accounting for differences in within-sector occupations, educational level, age and gender composition, non-EU born earn lower wages than native agriculture workers in Belgium, Cyprus, France, Greece, Hungary and Italy, and higher wages in Austria, Estonia, Spain, Ireland, Romania, Slovenia and Slovakia;
- The potential for local idle labour force to replace the missing foreign labour force is present, but probably limited especially at currently normal wage rates;
- Exceptions for seasonal workers in the agriculture from current mobility restrictions should be considered.

1. Introduction

Glossary:

In this report we adopt the following four categories when referring to individuals' origin:

- 1. Native-born: a person born in the current country of residence;*
- 2. EU-born: a person born in one Member State other than the one of current residence;*
- 3. Non-EU born: a person born outside of the Union;*
- 4. Foreign: someone who is not a native when not differentiating between EU and Non EU born.*

In the context of the current coronavirus emergency, increasing attention has been devoted to the possible effects that mobility restrictions may have on the supply of foreign workers in the agricultural sector. This topic has been widely commented upon in the media¹, and research centres and think tanks have also explored this

issue in detail². The argument that is often made in the news coverage is that agriculture in EU Member States heavily relies on seasonal workers, and that most of these workers are foreign workers, either coming from within or outside the EU. Because workers now face unprecedented mobility barriers, this poses a substantial risk to the agricultural sectors, and as a consequence, to the food supply in Europe.

In some sending and hosting country, steps have been taken to enable mobility for seasonal foreign workers³, or introduced exceptions to mobility restrictions to allow them in⁴, or proposed to regularise those already in the country but in an irregular situation to enable them to take up employment⁵. The European Commission (2020) adopted a guidance at the end of March 2020 recommending that Member States treat seasonal workers from other Member States, particularly in the agricultural sector, as 'critical workers', and thus apply arrangements to ensure

¹ Amongst others, see <https://www.ft.com/content/b03adf5c-b829-42ac-9a68-ca05938f4059> ; <https://www.nytimes.com/2020/03/27/business/coronavirus-farm-labor-europe.html?smid=fb-share&fbclid=IwAR1GP2URqvFz4IQRtywi6lpkP0Iu2ZhLBrC56lUmp3DjMo25CzstXB5aFR4> ; <https://www.dw.com/en/germany-drafts-romanian-farm-labor-for-coronavirus-pandemic/a-53066735> ; <https://www.reuters.com/article/us-health-coronavirus-produce-insight/fresh-produce-in-europe-set-to-be-more-scarce-as-coronavirus-strikes-idUSKBN21D12V>.

² See <http://www.migrationpolicycentre.eu/events/mpc-webinar-migrant-workers-under-covid-19-lockdown/>; <https://publications.iom.int/system/files/pdf/mpp-41.pdf>; <https://www.migrationpolicy.org/news/meeting-seasonal-labor-needs-age-covid-19>.

³ <https://www.derstandard.at/story/2000116890200/erntehelfer-fuer-tirol-und-kaernten-aus-rumaenien-eingeflogen>; <https://www.ft.com/content/e27a9395-db47-4e7b-b054-3ec6ba4cbba3>.

⁴ <https://www.ft.com/content/871b6d39-4497-49c5-856c-549cb42e67ce>; <https://time.com/5818428/germany-farm-workers-coronavirus/>.

⁵ <https://www.politico.eu/article/italy-seasonal-migrant-farm-workers-coronavirus-covid-19/>.

their free movement⁶, while in parallel respecting the 'Guidelines for border management measures to protect health and ensure the availability of goods and essential services'⁷ as well as the 'Guidance on the implementation of the temporary restriction on non-essential travel to the EU'⁸. The Commission guidelines have, however, an indicative nature and are not binding for the Member States. Migration and public health are areas where the EU competence is limited and Member States have the key responsibility to address the respective challenges.

In this context, as the Migration Policy Institute aptly summarises⁹, governments have envisaged (or are reported to be considering) three different - but not mutually exclusive - strategies:

- attract unemployed, students, inactive, and other available citizens into the agricultural sector;
- prolong the stay of regular migrants who are already in the country, regularise those who are not legally present to enlist them in the workforce, or enabling asylum seekers with pending applications to take up employment sooner than the normal procedures would entail;
- activate schemes to bring in seasonal foreign workers, thus enacting exceptions to overall mobility restrictions.

In spite of the urgency of the situation and the need to prevent a shortage of seasonal workers, it is also important that their rights and social protection are not overlooked. More than ever, Member States must ensure the strict application of national provisions transposing EU rules on the occupational safety and health of workers, which require that occupational risks are assessed and adequate preventive and protective measures are in place.

To clarify the terms of the debate, we opted for a two-pronged strategy. First, we track what is known from official statistics regarding the presence of foreign workers¹⁰ in the agricultural sector from EU Labour Force Survey (EU LFS) data, and how many people moved into agriculture in recent years. We complement this

⁶ Communication from the Commission. Guidelines concerning the exercise of the free movement of workers during COVID-19 outbreak. 2020/C 102 I/03. C/2020/2051. Please see the press release at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_545.

⁷ https://ec.europa.eu/commission/presscorner/detail/en/IP_20_468.

⁸ https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/20200327_c-2020-2050-report.pdf.

⁹ <https://www.migrationpolicy.org/news/meeting-seasonal-labor-needs-age-covid-19>.

¹⁰ In this document, when referring to foreign workers, we refer to both EU-born and non-EU born population. In this regard, we follow Eurostat terminology when talking about migrant integration (see https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Migrant_integration_statistics_%E2%80%93_labour_market_indicators#Labour_market_participation_.E2.80.94_activity_rates). Briefly, under the 'migrant integration statistics', Eurostat (loosely) defines three groups: 'native-born' (i.e. the population born and residing in the reporting country), 'EU-born' (individuals 'born in a different EU Member State to the one in which they were living'), 'Non-EU born persons' ('referred to as persons born outside the EU').

with an analysis of the sparse data on seasonal permits granted to non-EU born migrants, with a specific focus on agriculture. This first leg has many and important data limitations, which we highlight in the text. Second, to have a clearer idea of the potential pool of people available to work in the agricultural sector, we estimate probabilities for each individual in the LFS to transition into agriculture, based on past patterns. We use such estimates to provide rough figures of the potential pool of workers in agriculture. The estimates of such pools of potential agricultural workers are entirely connected with the current mobility restrictions, but these methodologies and rough figures could be updated in the future if, unfortunately, the need for such measures should emerge again.

In this debate, there are several interlocking issues to be considered in order to have a full, EU-wide picture.

First, it is currently difficult to know the scale of the missing agricultural workforce. While newspapers articles are replete with claims quantifying seasonal foreign labour needs in the hundreds of thousands for several countries (e.g. Spain, France, Italy)¹¹, it is genuinely difficult to trace them in official statistics. This is mainly because in many countries, the agricultural sector is one where work is precarious, to a certain extent undeclared irregular, intermittent, and short-term, all characteristics that make it difficult to have a full picture from official data. For instance, in a previous investigation in the role of foreign workers in the agriculture based on EU LFS data¹² found that 93% of those legally employed in agriculture were natives, and only about 6.5% were foreign workers (coming from either within or outside the EU). However, in some MSs such as in Spain, they represent 25% of the agricultural workforce. In addition, in only three Member States - Spain, Italy and Denmark - the difference between the share off employed in agriculture and the share in all other economic sectors was positive, meaning that the share of migrants in that sector was higher than in the other sectors.

Second, by glancing through newspapers, it is also difficult to understand the timing of these purported labour market shortages. Indeed, while some articles connect these labour force needs to specific periods, others just report figures without any time frame. In a policy perspective, this is an essential aspect as, if seasonal foreign workers are needed to carry out essential harvesting and planting tasks, the timing of the recruitment and labour force deployment needs to be harmonised with such tasks.

A third element is connected to the consequences of mobility restrictions. Newspapers report that several governments have enacted programmes to attract people who could potentially work immediately (e.g. students, unemployed,

¹¹ The FT reports that France is in need of about 800,000 seasonal workers, with 2/3 coming from abroad; see <https://www.ft.com/content/871b6d39-4497-49c5-856c-549cb42e67ce>. EurActiv quotes Coldiretti - an Italian farmers' organisation - according to which 'more than 25% of the food produced in Italy relies on the hands of over 370,000 regular seasonal workers coming from abroad every year'; see <https://www.euractiv.com/section/agriculture-food/news/italy-looks-to-non-eu-migrants-plug-gap-in-agricultural-workforce/>.

¹² <https://ec.europa.eu/jrc/en/publication/migration-eu-rural-areas>.

inactive) and are already present locally¹³. This is because mobility restrictions make not only cross border mobility, but also internal mobility, difficult. In this case, it is interesting to understand the potential pool of people who are more likely to take up employment in the agricultural sector, based on past data from the EU LFS. It is useful to remember that the sustainability of these schemes, if successful at all, is completely dependent on the persistence of such mobility restrictions, since it is very likely that once lifted, people will seek other jobs as in normal times. In other words, it should be noted that the idea of sketching the contours of the potential pool of likely workers in agriculture who are available locally is something forced by circumstances, as in normal times people would have different incentives and face a completely different labour market. To anticipate a point which will be developed in more detail later on, native residents have taken up employment in ever fewer numbers over the past decade, and their relative share in the total employment in agriculture has accordingly decreased.

A fourth element concentrates on the working conditions in the agricultural sector. Indeed, a useful framing of the current situation should consider four key actors: at the macro level, sending and hosting country; at the micro level, agricultural workers and farmers. These actors have different concerns and interests. For instance, while working conditions in the agricultural sector are often considered especially difficult¹⁴, the prospect of contagion from a global pandemic may further deter potential seasonal foreign workers in sending countries, thus making recruitment more difficult in destination countries. In addition, farmers will need to ensure health protection, thus undertaking new and potentially costly arrangements.

This note provides a quick snapshot of what we know about foreign workers in the agricultural sector – both seasonal and not - based on official statistics, extracted from either Eurostat or EU LFS. Rather than a precise picture, these figures should be interpreted in many ways as pointing to a lower threshold. Many official statistics, including the EU LFS, are not designed to capture seasonality, and have problems in providing a representative picture of the foreign population because of, *inter alia*, language barriers, sampling strategies based on the type of accommodation (LFS excludes collective households¹⁵), or the limitations towards the inclusion of those who either enter, or stay, or take up employment irregularly. Further, Eurostat statistics on seasonal permits for third country migrants are not supplied in Eurostat databases for all EU countries, they do not always include admission from visa-free countries, and in the case of first permits for remunerated activities – thus excluding data specifically ensuing from the implementation of the 2014 Seasonal Workers Directive – they do not consider permits for less than three months. To sum up, the data landscape when it comes to the foreign labour force in

¹³ The degree to which residents might respond to the unmet labour demand in agriculture depends on the social safety net provided by the state and the employment conditions in the agriculture sector.

¹⁴ For an overview, see <https://ec.europa.eu/jrc/en/publication/migration-eu-rural-areas>, and the literature quoted therein.

¹⁵ <https://ec.europa.eu/eurostat/documents/7870049/10227633/KS-FT-19-008-EN-N.pdf/b7e61862-511f-2bce-a0bf-d1e16761e354>

agriculture is very fragmented and partial, making EU-wide analysis and generalisations very difficult. Even when these figures are available, they obviously do not include irregular migration and undeclared employment, which we know from previous studies and reports to be present¹⁶ in the agricultural sector (Corrado, de Castro, and Perrotta 2016; Górny and Kaczmarczyk 2018; Rye and Scott 2018).

¹⁶ On this topic, see for instance the EMN Synthesis Report – Illegal employment of TCNs in the European Union (http://www.emn.lv/wp-content/uploads/00_eu_illegal_employment_synthesis_report_final_en.pdf, pp. 6, 17), or the Commission report on the implementation of the 2009 Employers’ Sanctions Directive (<https://ec.europa.eu/transparency/regdoc/rep/1/2014/EN/1-2014-286-EN-F1-1.Pdf>, p. 9).

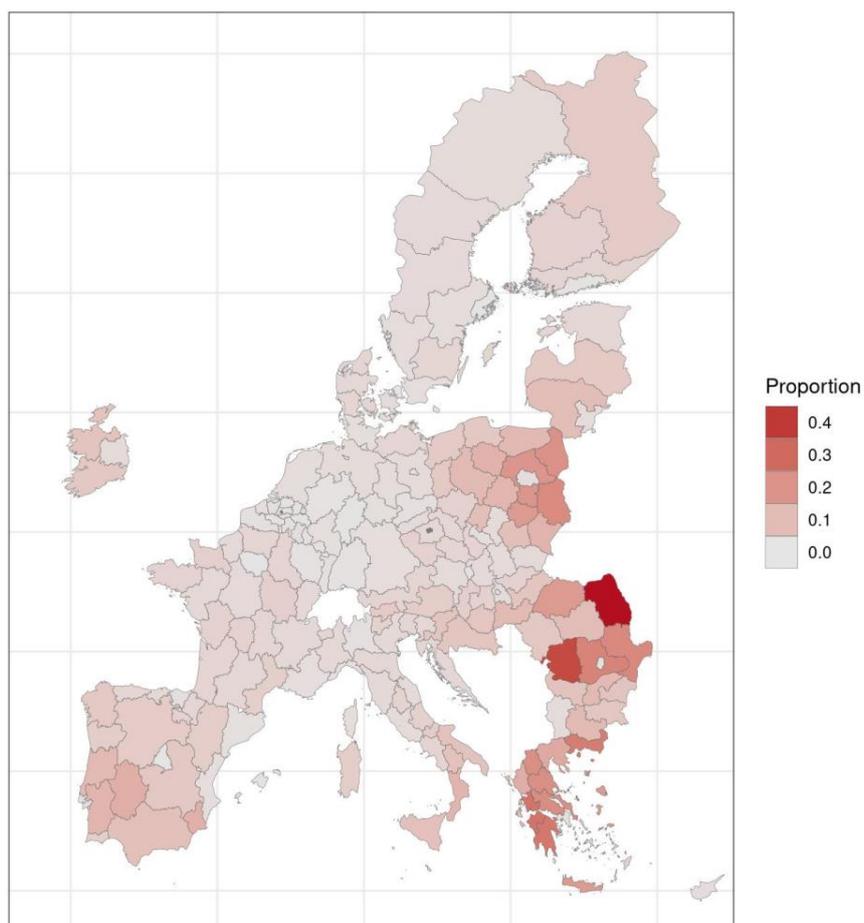
2. Employment dynamics over the last decade

In this section, we look at LFS data to better understand the role of resident foreign workers – in other words, both EU-born and non-EU born population - in the agricultural sector. Among all the limitation listed in the section above, here we would like to emphasise the fact that seasonal workers are not included in the LFS, and thus are analysed in Section 3.

Workers employed in agriculture, absolute numbers (2018, by NUTS)

The share of employment in agriculture over total employment is low in most Member States (Figure 1). The exceptions are Eastern European countries (Romania in particular), and some regions in Mediterranean countries, such as Greece and Spain.

Figure 1. The proportion of the labour force employed in agriculture, by NUTS, 2018



Notes: (C) EuroGeographics for the administrative boundaries. Map produced in R with the help from Eurostat-package. Source: own elaboration of EU LFS microdata.

Data on the evolution of employment in the agricultural sector (2009-2018)

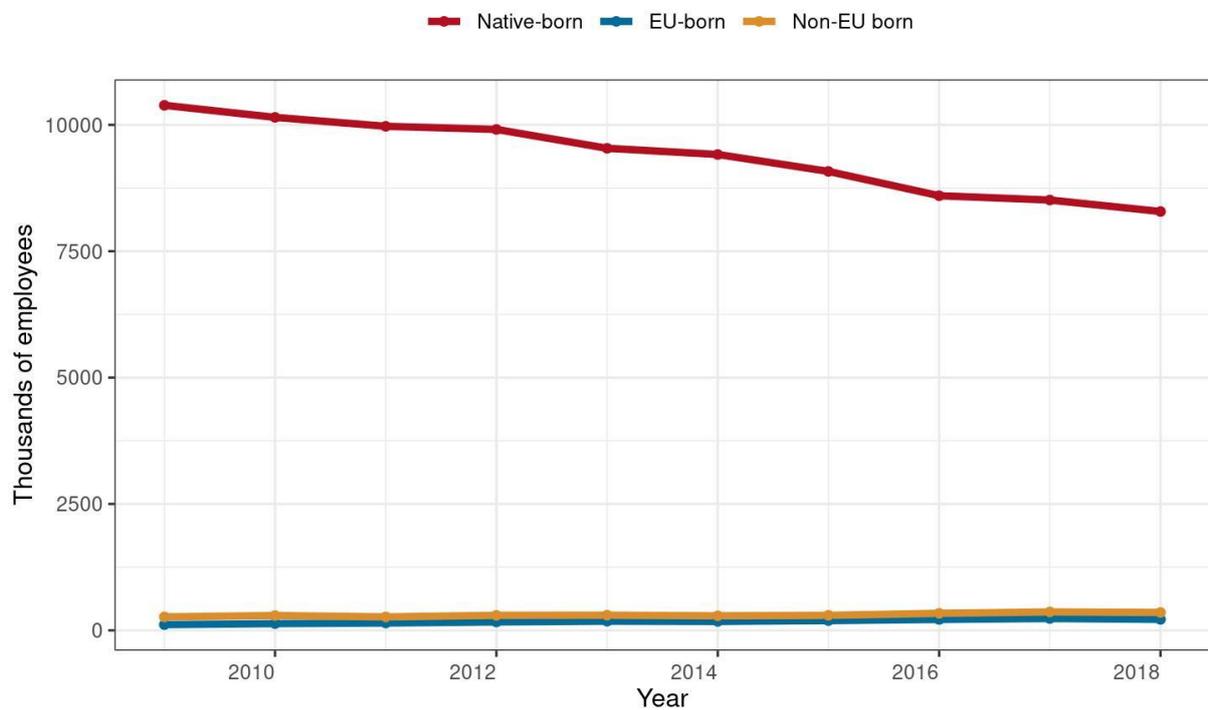
We look at the EU LFS to describe the evolution of the agricultural workforce in the last decade. Over time, the agricultural sector has become more and more dependent on the foreign labour force. According to information provided by EU LFS, between 2009 and 2018, the total number of people employed in agriculture in the EU decreased by almost two million: from 10.8 to 8.9 million (EU LFS 2009 - 2018). This decrease is exclusively due to native-born workers. In 2018, there were 2.1 million fewer natives employed in agriculture compared to 2009. This outflow was only partially compensated by EU-born and non-EU born migrants as the two groups increased by 104.1 and 87.8 thousand, respectively. The combined effect of the outflow of native workers and the inflow of EU mobile citizens and TC migrants has increased the share of non-natives in agriculture of three percentage points from 3.5% to 6.4%.

Workers in the agricultural sector are frequently employed in elementary occupations (labelled as ISCO9). Between 2009 and 2018, the number of natives employed in elementary occupations decreased by 126.3 thousand. The outflow of natives was nearly matched by the inflow of EU-born migrants (50.2 thousand) and non-EU born migrants (87 thousand). The net effect has been an increase in the share of non-native born employed in elementary occupations in the agricultural sector from 14 to 24%. Interestingly, out of 87.8 thousand increase in non-EU born migrants employed in the agriculture sector, 87.0 thousand are employed in Elementary occupations.

These figures reflect the situation of those residing on the territory of the Member State at the time of the survey as this is the population surveyed in the EU LFS. However, this sector heavily depends on seasonal workers both from other EU Member States (especially from the Eastern Member States) and non-EU countries, who are not included in the EU LFS. While the overall decline in the number of employed in agriculture might be due to automation and technological innovation, another possible explanation is that native-born workers have been replaced by a combination of EU-born and non-EU born workers and non-resident seasonal workers. If this is the case, the EU LFS would be underestimating the number of workers employed in the agricultural sector since it only covers the resident population. To be sure, these two trends may have happened in parallel, as they are not mutually exclusive. Further research is needed, with other data sources, to clarify this point.

In the majority of Member States, the share of foreign workers among the total employed in agriculture is lower than their shares in all other sectors pooled together (Natale et al. 2019). The role of the foreign labour force is particularly prominent in Spain, Italy, and Denmark where the percentage of migrants among total employed in agriculture is from 6 to 9 percentage points higher compared to other sectors (pooled) in 2017.

Figure 2. Evolution of employment in the agricultural sector, EU aggregate, 2009-2018

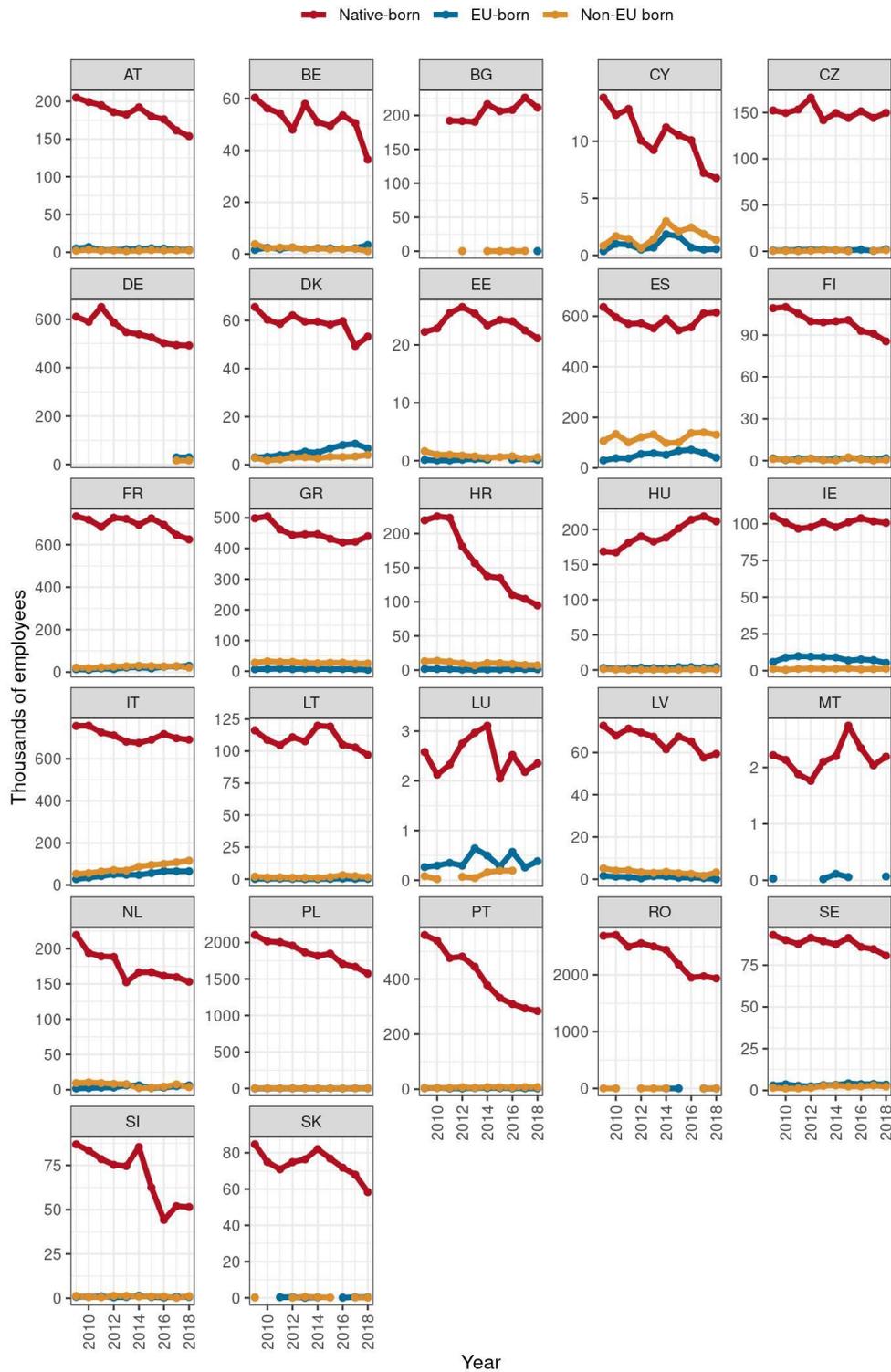


Source: own elaboration of EU LFS microdata.

Figure 2 above describes the evolution of the workforce in agriculture from 2009 to 2018 (the last available wave of the EU LFS). It depicts the constant drop in the native workforce and the less than proportional increase in the migrant workforce described earlier.

The EU-wide trend is mirrored at the country level (Figure 3). In almost all Member States, the native workforce in agriculture has decreased, and has not been compensated by an inflow of foreign workers.

Figure 3. Evolution of employment in the agricultural sector, by Member State, 2009-2018

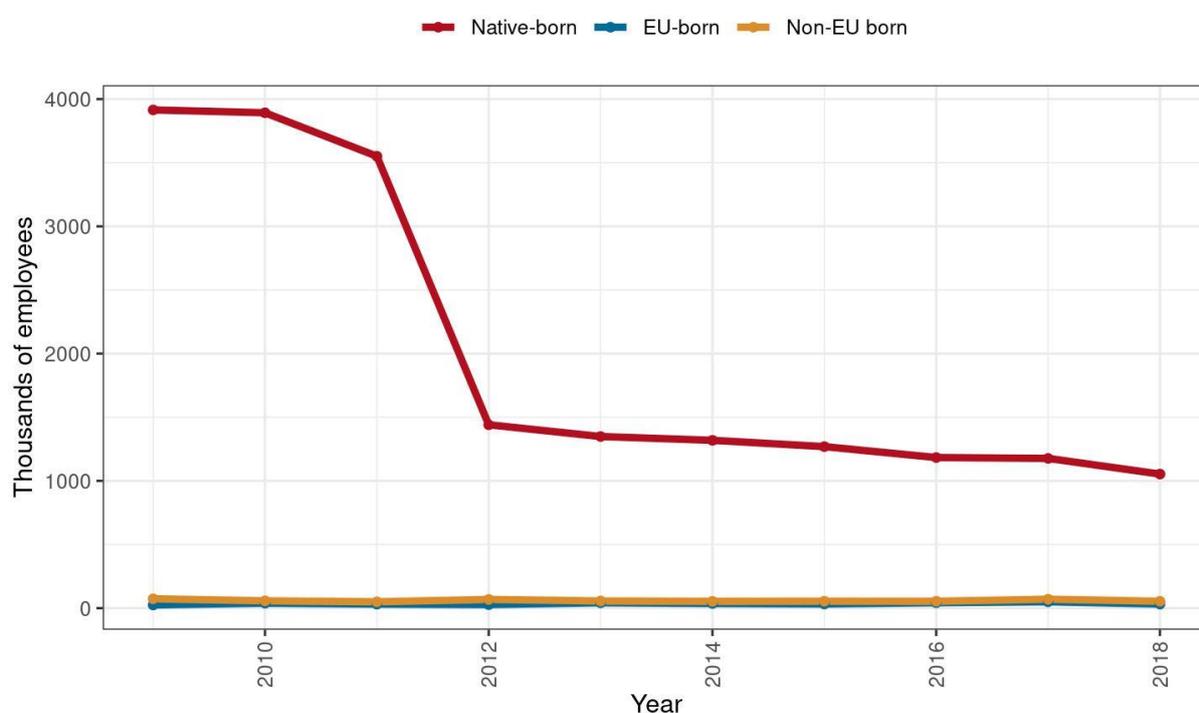


Source: own elaboration of EU LFS microdata.

Evolution of new entrants (2009-2018)

At the EU aggregate level (Figure 4), there was a sharp decrease in the number of new entrants into the agriculture sector from 2011 to 2012. This decrease is mostly driven by the sharp drop in the new entrants in Romania which went from 2.495 million in 2011 to only 417 thousand in 2012 (see Figure 5 for more details). A similar dynamic is observed for Croatia. Overall, it is possible to notice that, since 2013, the total of people who entered the agricultural sector did not exceed 1.5 million, and reached a new low by 2018 with 1.14 million new workers.

Figure 4. Evolution of newly employed in the agricultural sector, EU aggregate, 2009-2018



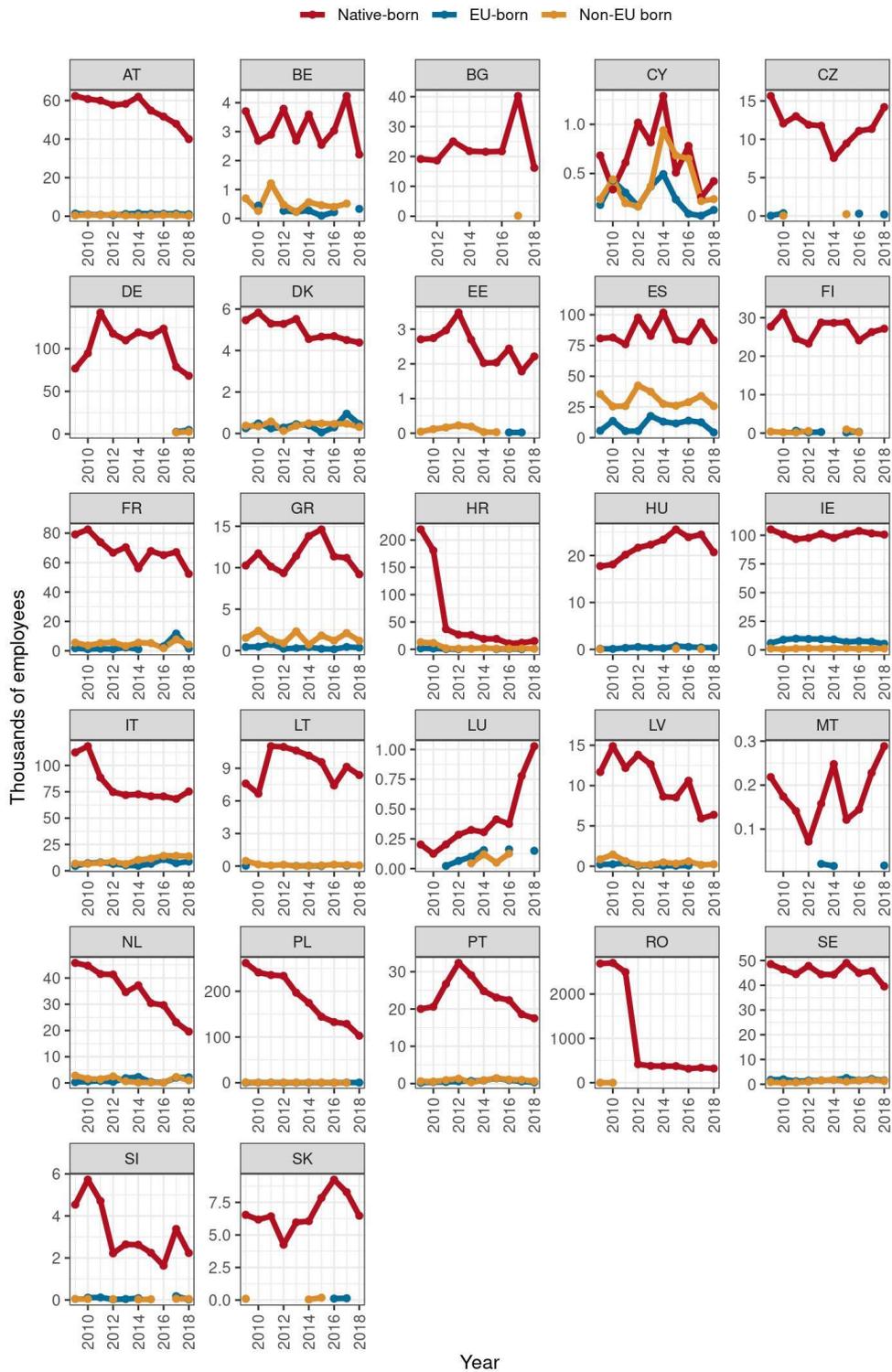
Source: own elaboration of EU LFS microdata.

Overall, the dynamics across the Member States vary significantly (Figure 5). In most of the Member States, but to a different extent, the number of native-born new entries decreased over the considered period (AT, DK, EE, FR, HR, IT, LV, NL, PL, RO, SE, SI). It is harder to interpret the trends for the foreign-born workers (both EU and non-EU). Albeit with substantial fluctuations, Spain has witnessed large inflows of migrant labour into agriculture. In Italy and Sweden, steady inflows of migrants into agriculture have been coupled with a marked decrease in natives

taking up jobs in that sector. For the rest of Member States, the available data¹⁷ does not allow for a straightforward interpretation of the trends over time when it comes to migrants entering the agricultural labour force.

¹⁷ Please note that for many Member States we only have intermittent data points when it comes to migrant population entering agriculture.

Figure 5. Evolution of newly employed in the agricultural sector, by Member State, 2009-2018



Source: own elaboration of EU LFS microdata.

3. Seasonal workers from non-EU countries

While it is frequently reported that the agricultural sector heavily depends on seasonal workers, it is difficult to provide an estimate of how many seasonal workers are employed in this sector, mostly due to data limitations: (i) the EU LFS by design does not capture the seasonal workers temporarily present in another Member State and (ii) the information TCN seasonal workers is fragmented, even more so when a particular sector of employment is concerned. Unfortunately, we lack comparative data capturing seasonality for EU-born workers in agriculture, though we know that intra EU mobility greatly contributes to addressing labour market shortages related to seasonal works in agriculture sector. Interestingly, the outflow of agriculture workers from some eastern Members States generated demand for seasonal workers from non-EU countries. For instance, while many Polish citizens are employed in seasonal agricultures works in Germany, Poland recruits Ukrainian citizens for seasonal works in the same sector (see, for instance, Górny and Kaczmarczyk 2018). For the seasonal workers coming from outside the EU, we rely on Eurostat data on residence permits and authorisations for seasonal work conferred to non-EU born migrants.

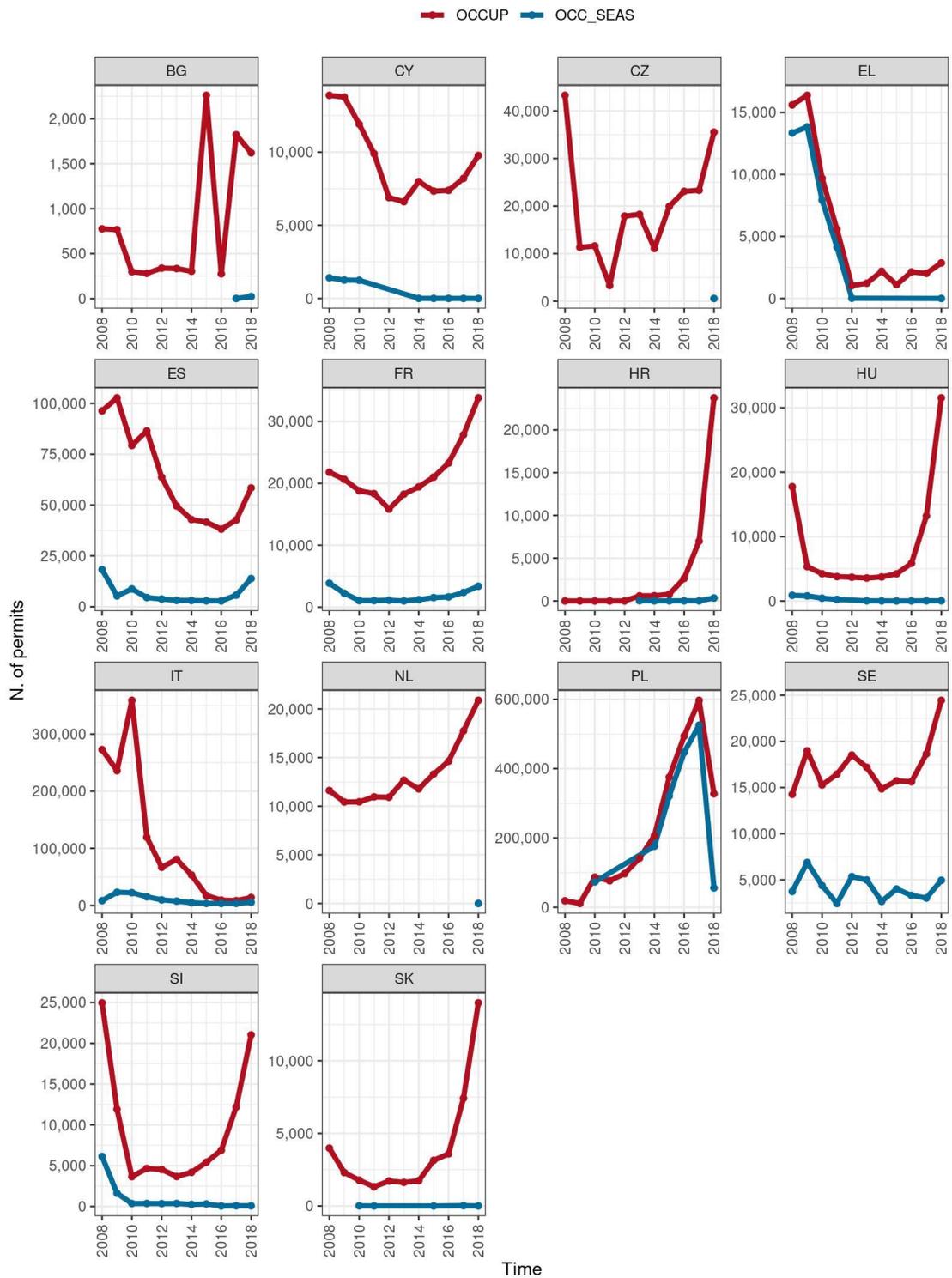
First permits issued for remunerated activities

Data on residence permits for remunerated activities¹⁸ collected by Eurostat offer a snapshot of the evolution of issuance of seasonal permits to non-EU citizens since 2008. Unfortunately, such data is not complete and several Member States do not constantly report their figures. In addition, several countries reported 0 seasonal permits being issued in several years. Therefore, the picture emerging from this dataset is necessarily fragmented and cannot be deemed to provide a complete picture, but just insights on some Member States. Moreover, the source does not provide information on the sector of employment. While for some Member States the agriculture sector might be one where the majority of TCN seasonal workers are employed (e.g. Italy, Spain) this might not necessary be true for the others.

Figure 6 below indicates that the annual number of seasonal, non-EU born workers have varied widely across the EU, from a minimum of 0 to a maximum of 540 226 in Poland in 2017. At the EU aggregate level, most of the seasonal permits have been issued in Poland (3,196,546 since 2008). We can also notice that, for that country, seasonal permits make up for most of the total permits for remunerated activities. Other countries where the total issuance of seasonal residence permits in the period considered (2008-2018) has been substantial, in absolute terms, are Italy (214,772, or about 6.3 thousand per year), Spain (144,168, or about 4.2 thousand per year), and Sweden (91,432, or about 2.5 thousand per year).

¹⁸ First permits issued for remunerated activities by reason, length of validity and citizenship (migr_resocc); https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_resocc&lang=en.

Figure 6. First permits issued for remunerated activities by reason, length of validity and citizenship, and member state, 2008-2018



Source: own elaboration of Eurostat data

Authorisations for the purpose of seasonal work by length of validity and economic sector

If we concentrate exclusively on the authorisations issued for non-EU born migrants for the purpose of seasonal work¹⁹, again we face similar data limitations as the ones exposed above. Eurostat does not report implementation figures for many Member States. In addition, when figures are provided, we observe that in many cases 0 permits are reportedly being issued for the only 2 years we have in Eurostat database (namely, 2017 and 2018). While the source (Eurostat) states that the statistics on Seasonal Workers (under Art 26 Directive 2014/36/EU) is supposed to be published since 2018, at the time this study is being drafted the provided information is fragmented which prevents from having an EU-wide picture.

According to Eurostat, out of 92,743 authorizations issued for seasonal works, 74,144 (or about 80%) were for the agriculture sector. In Poland and Spain – the leaders in terms of the number of authorizations (almost 46,000 and 20,000 for Poland and Spain in for 2017 and 2018) issued for seasonal work – 98 % was for the agriculture sector (Table 1). In terms of nationalities of origin, most of the authorisations issued for seasonal works in agriculture were issued for Ukrainians (64%) and Moroccans (25%). These figures do not include those TCNs who irregularly entered EU Member States and eventually found a job in the agriculture (or another) sector and hence remain invisible to official statistics.

Due to the mobility restrictions enacted in relation to the current pandemic, it is unclear how many of either EU mobile citizens or TCN seasonal workers will be able to reach their workplaces in countries of destinations in time, possibly creating severe labour shortages for the sector. According to the sources briefly summarised in the first section, several EU governments, national and EU-wide employers' associations, and trade unions have already expressed concerns in this regard. In addition, in the current context, it is also likely that seasonal workers too will ponder carefully the costs and benefits - and crucially the health risks - presently associated with taking up seasonal jobs, in a sector which has been characterised by poor working conditions in several Member States.

The authorisations are of different duration: from 1 to 90 days, 91 days to 6 months, and from 7 to 9 months. Using the number of authorisations and corresponding duration it is possible to calculate the maximum number of person-month provided by TCNs to the agricultural sector through authorisations for seasonal works. For 2018, it amounted to 369 054 person-month, mainly in Poland (240 399), Spain (84 810), and Italy (26 271).

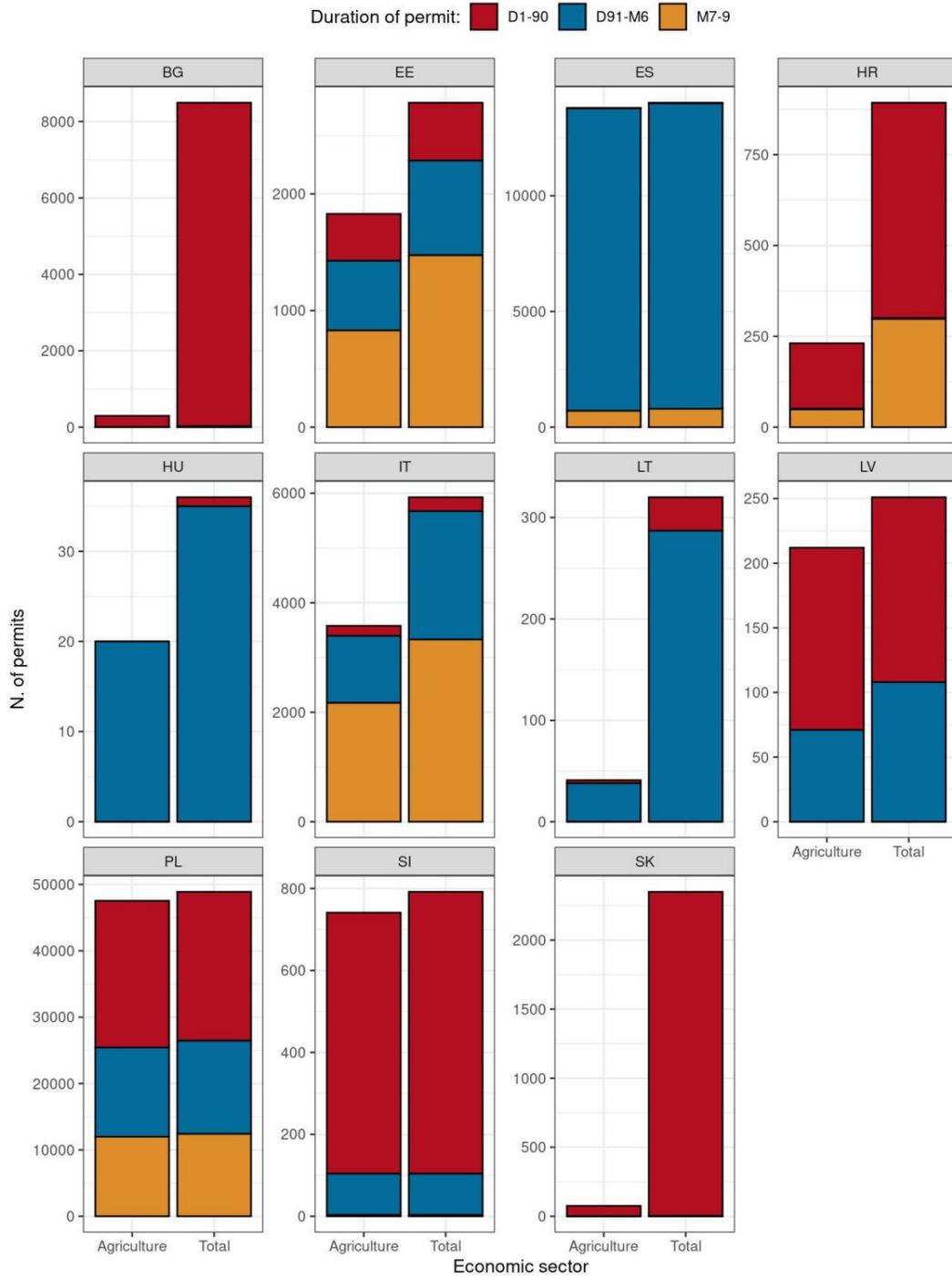
Plotting the distribution of permits by country, economic sector, and duration, only for 2018 (as 2017 has even less data) (Figure 7), we can observe several things:

¹⁹ SWD (2019) 1055. Authorisations for the purpose of seasonal work by status, length of validity, economic sector and citizenship (migr_ressw1_1); Please note that Ireland and Denmark are not bound by this Directive.

https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_ressw1_1&lang=en.

- There are only 12 Member States with non-missing data. We also exclude Romania, as only 2 permits were issued in 2018.
- Most seasonal permits are issued by Poland (48,895). This represents a massive drop from the previous trend in seasonal permits as shown in Figure 6. By comparing the two side bars in Figure 7 (namely, Agriculture and Total), we can notice that the agricultural sector seems to issue the entirety of these permits (47,534 out of 48,895, more precisely). Also, nearly a half of these permits would, by definition, be excluded from the general statistics on residence permits as exposed above (again, Figure 6), as they last less than 3 months (22,433 of total seasonal permits are for less than 3 months, and in the agricultural sector this is 22,103). Finally, most of these permits are issued to Ukrainian citizens.
- Spain is the second country by volume of seasonal permits issuance (14,017 in total in 2018). Again, most of them are granted to agricultural workers (13,794). In the case of Spain, most of the permits have 3-6 months' duration.
- In decreasing order of seasonal permits issuance, we find Bulgaria and Italy. In Bulgaria, almost the entirety of the 8,492 seasonal permits issued were not related to agriculture (only 298 of those were agricultural sector, whereas 8,192 were related to 'Accommodation and food service activities'). In Italy, on the contrary, about 60% of the 5,927 (3,578) seasonal permits issued in 2018 were connected to agriculture.

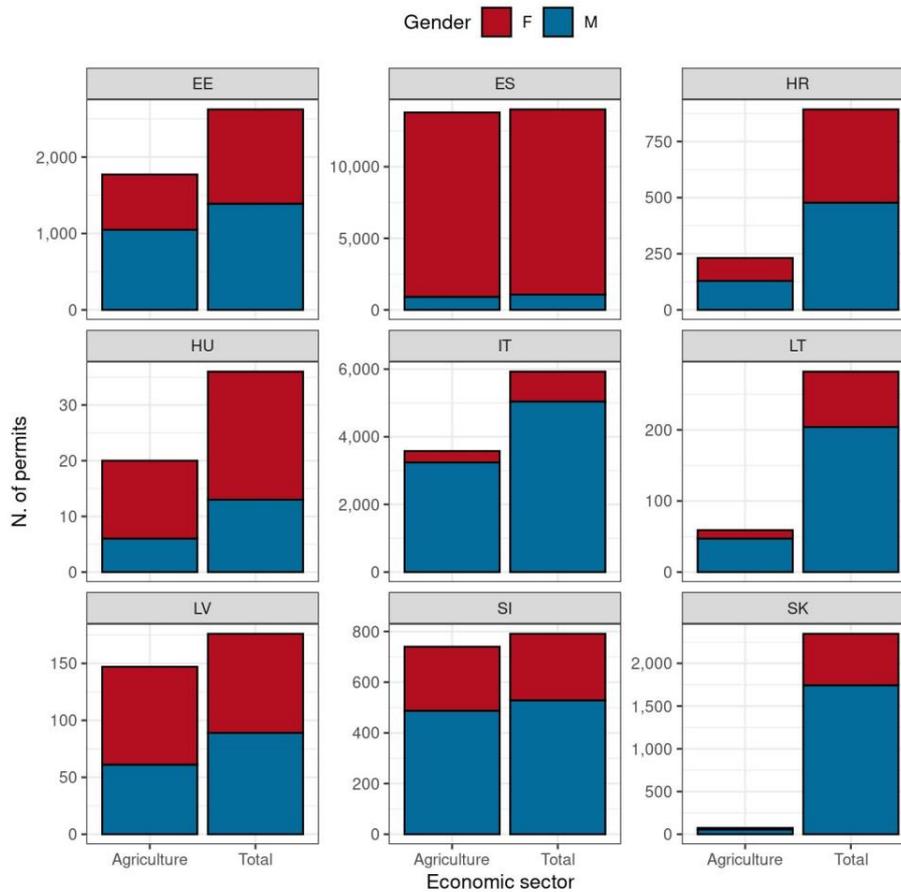
Figure 7. Authorisations for the purpose of seasonal work by length of validity, economic sector, and member state, 2018



Source: own elaboration of Eurostat data

The gender composition among those countries that released a breakdown of their seasonal permits²⁰ (Figure 8) reveals that in some countries the inflows are evenly split between men and women (EE, HR, LV), in other men are largest category (IT, LT, SI, SK), whereas especially in Spain, but also in Hungary²¹ and LV women prevail. These patterns are the same for both total issuance and for the agricultural sector alone.

Figure 8. Authorisations for the purpose of seasonal work by length of validity, economic sector, and member state, 2018



Notes: Bulgaria not included as figures are not provided with a gender breakdown; Romania dropped as only 2 permits have been reportedly issued. Source: own elaboration of Eurostat data

Before moving to the Section 4, it is helpful to sum up the main points of this analysis so far. Based on LFS data, we noticed that the agricultural workforce is

²⁰ Authorisations issued for the purpose of seasonal work by economic sector, sex and citizenship (migr_ressw2); https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_ressw2&lang=en.

²¹ But see the very low numbers of the latter.

overall shrinking, and this mainly because of an ever-decreasing presence of native-born population. Indeed, digging deeper into the newly employed in this sector, it is possible to notice that in most Member States, native-born are entering this sector in ever lower numbers, and this is not compensated by the parallel increase in the share of foreign workers in agriculture. In this context, a few Member States such as Denmark, Italy, and Spain have witnessed a steady and significant rise of this latter group, which now makes up for a substantial share of the workforce in this sector. To overcome some of the data gaps in the LFS (e.g. no representation of seasonal workers), we also consider Eurostat datasets on non-EU born seasonal workers. We know that, in total for 2018 and only for a subset of Member States, about 68.3 thousand non-EU born seasonal workers entered the agricultural sector, out of approximately 84.7 thousand authorisations for non-EU born seasonal workers. We have currently no way to know whether these figures were roughly replicated for 2019, and even less whether they correspond to what will happen in 2020. While all these figures are far lower than what is currently reported in newspapers (see Section 1), it is important to restate that these are best interpreted as lower thresholds for actual inflows of non-EU born seasonal workers (let alone all foreign seasonal workers), both overall and in agriculture in particular. In any case, it is likely that all foreign seasonal migrants would face steep barriers to access Member States' territories in the current context of mobility restrictions. Therefore, we now turn to estimating the pool of those who are already residing on the territory and may be likely to enter the agricultural sector.

4. Estimating the pool of those willing to join the agriculture sector

Shelter-in-place orders and fear of contagion have severe repercussions for the flows of temporary workers in agriculture on which this sector has increasingly relied upon in the last decade. As migrant workers from outside the EU cannot or will not move to the Union during lockdown, policy makers could consider to favour the redeployment of some of the local idle workforce, at least in the short run, to substitute for the missing seasonal workers. It is reasonable to assume that workers who will lose their jobs due to COVID lockdown and who were employed in cognate sectors are those that could be more willing to switch sectors.

The economic downturn is likely to have heterogeneous impacts across sectors. For instance, sectors related to tourism (e.g. Accommodation and Food Service Activities where many migrants are employed) will be affected at least in the short-term due to current mobility restrictions, but may also face a more lasting negative effect due to the fear of future outbreaks. Thus, employees in this sector could look for jobs in the open sections of the economy such as agriculture.

In this Section we look at past patterns of inter-sectoral mobility, specifically at mobility into agriculture. The EU LFS provides retrospective information on the sector of activity the year before the survey year. We are thus able to reconstruct, for the period 2009-2018, those who entered into agriculture, and from which other sectors they were coming.

Table 2 in Section 7 below shows the distribution of those that moved into the agriculture sector across sectors of their employment one year ago. Many individuals were either previously employed in Manufacturing (40% for all and 12% for ISCO 9 occupation), or belonged to the category Unemployed (20% for all and 48% for ISCO 9 occupations), and Inactive (18% for all and 21% for ISCO 9 occupations). This indicates that the last two categories constitute a large part of individuals who entered the agriculture sector over the considered period. The prevalence of those with previous employment listed as Unemployed is reinforced for EU mobile citizens (44% for all and 55% for ISCO 9 occupations) and TC migrants (60% for all and 72% for ISCO 9 occupations)²². Finally, about 4% were employed in Construction and Wholesale and retail trade, repair of motor vehicles and motorcycles.

Among those who moved to the agriculture sector, 78.1% resided in rural areas, 15.9% in towns, and 6% in cities. The lack of geographical mobility is important in

²² The International Standard Classification of Occupations (ISCO) is a tool developed by the International Labour Organisation for organizing jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. The ISCO-08 divides jobs into ten major groups: Managers (ISCO 1); Professional (ISCO 2); Technicians and associate professionals (ISCO 3); Clerical support workers (ISCO 4); Service and sales workers (ISCO 5); Skilled agricultural, forestry and fishery workers (ISCO 6); Craft and related trades workers (ISCO 7); Plant and machine operators, and assemblers (ISCO 8); Elementary occupations (ISCO 9); and Armed forces occupations (ISCO 10 - excluded). More information is available at: <https://www.ilo.org/public/english/bureau/stat/isco/index.htm> (Last accessed 7 May 2020)

the context of lockdown since during the current pandemic movements between neighbouring municipalities or small towns are forbidden. Among those residing in rural areas, 48.8 % were previously employed in Manufacturing, 15 % were unemployed the year before and 17% were inactive.

Those who moved to the agricultural sector are mainly native-born individuals (89.0%), who reside in rural areas (67.3%) or towns (23.6), are more often men (63.8%), have education levels below ISCED 4 (82.7%), and are employed either in Skilled agricultural, forestry and fishery workers (50,7% in ISCO 6), or in Elementary occupations (33.4% in ISCO 9).

Another sector where foreign workers are frequently employed is the construction sector. Unlike the 2011 economic downturn, the coming one is not driven by a residential real estate bubble, however, it will affect this sector too. Unless the governments decide to have large scale investments in the transport infrastructures (expansion policies) it is likely that migrants employed in this sector will lose their job.

To gain some insight of what is the potential local workforce that could seek for alternative employment in agriculture, we estimate a simple logit model based on the past mobility pattern into agriculture that we can observe in the EU LFS for the decade 2009-2018.

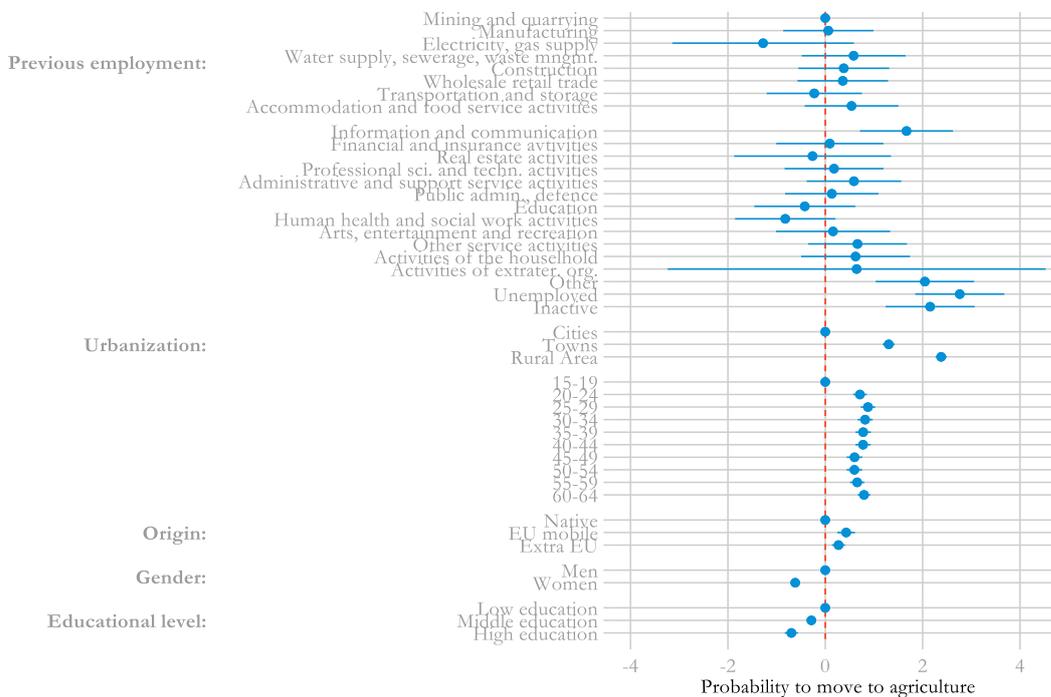
In this simple model we estimate the individual probability of joining the sector based on some observable characteristics. The characteristics that we believe to be relevant for this choice and that we include in the model are: sector of employment, degree of urbanization of the area of residence, the age, country of birth of the individual (native, EU- born migrant, non-EU born migrant), gender, and level of education²³.

In Figure 9. Estimated probabilities to move to agriculture, by personal characteristics we present the estimated probabilities for individuals with each of these personal characteristics to move to agriculture. In interpreting these probabilities, it is important to keep in mind that the observed movement to agriculture in our sample is small. As documented in the previous sections, few individuals are now moving into the sector and this emerges in the estimated individual probabilities. By far, in our estimates, the unemployed are those for whom we estimate the higher probability of moving into agriculture, but also for this group the estimated probability is only just above 1%. People rarely move from being employed in other sectors into agriculture²⁴, as the estimated probabilities around 0 for all other sectors suggest, while we estimate a positive probability for the inactive. As expected, the personal characteristics that are related to a higher chance of moving to agriculture are: living in a rural area, being older than 19, being a migrant, being a man, and having low education.

²³ Level of education is defined as low if ISCED is equal to 2 or below; middle between ISCED 3 and 5 and high above that level

²⁴ Movements from one sector to another are rare events in general. In our sample only about 3% of workers are observed switching sectors year on year.

Figure 9. Estimated probabilities to move to agriculture, by personal characteristics

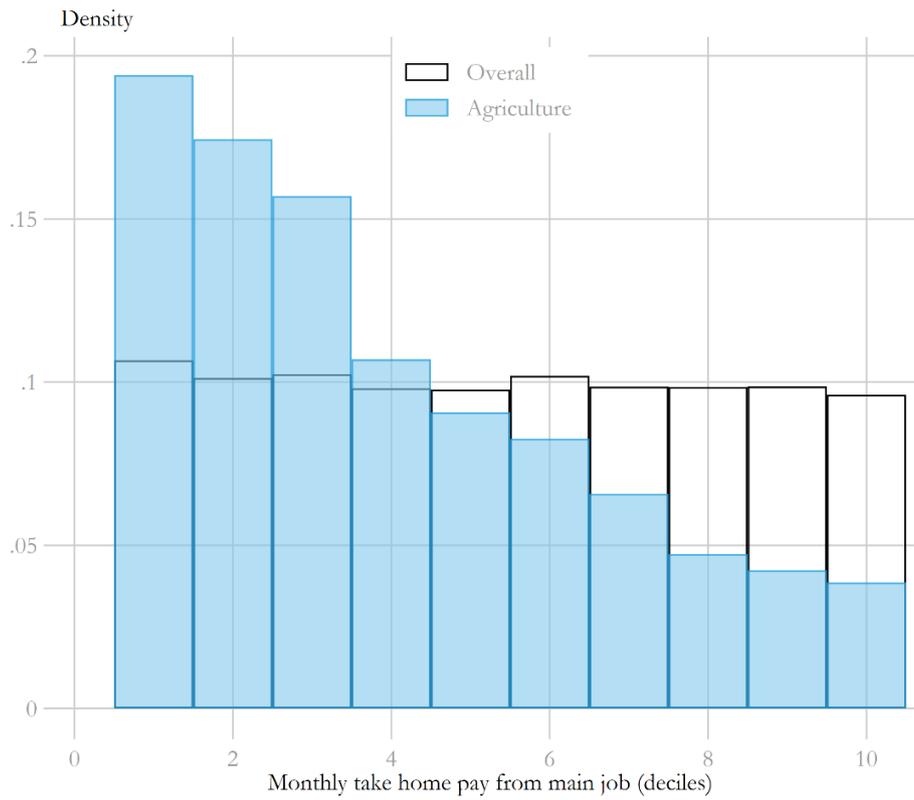


Source: own elaboration of EU LFS microdata. 2009-2018

To be sure, the transition probabilities that we estimate are based on observations in “normal times”. The period that we have taken into consideration was characterized by a severe downturn at the beginning and a quite sustained expansion in the most recent years. It is far from obvious that the past labour market dynamics - even those during the Great Recession - can offer a reliable indication to how economic conditions and people decisions will play out in the current situation, which is unprecedented for a number of factors. For example, early unemployment numbers coming from the US indicate that the number of new unemployed that the shutdown has caused is a multiple of those, already very high, during the Great Recession. Also, early research on the labour market consequences of COVID-19 based on real time survey evidence from the UK, US and Germany (Adams-Prassl et al. 2020) indicates that the professions that are going to be hurt are primarily the low skilled ones. This conjunct evidence could offer some favourable prospects for the occupation of essential positions in agriculture. The pool of unemployed is bound to grow especially if shelter-in-place orders will be prolonged and/or repeated. The unemployed and the specifically low skilled unemployed living in rural areas are exactly those individuals for whom we estimate a relatively higher availability to join the agriculture sector, it is hard to predict though whether these possible natural movements will be sufficient to compensate for the missing foreign seasonal workers.

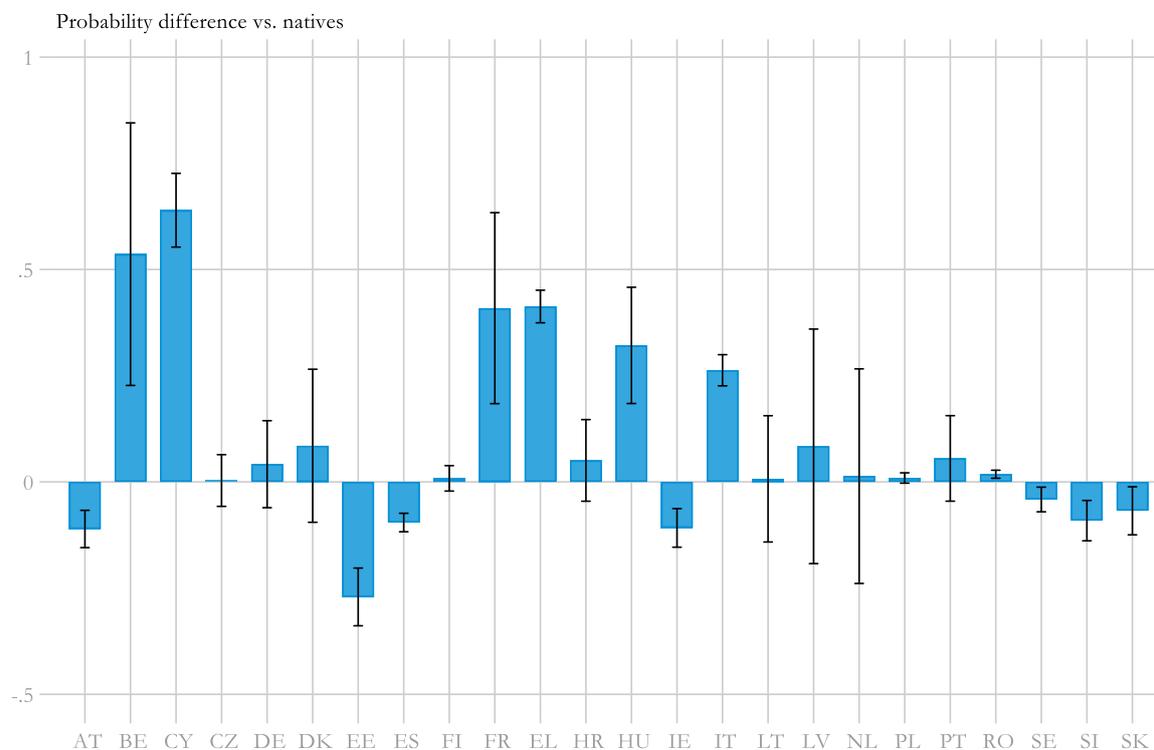
An additional aspect to be considered to assess potential labour flows in the sector, is the role of wages. As we show in Figure 10, wages in agriculture are low. In the Figure we report the wage distribution of workers in agriculture across the EU compared to the overall wage distribution. More than half of the wages paid in this sector belong to the bottom three deciles of the wage distribution.

Figure 10. Wage distribution in agriculture in 2018



Source: own elaboration of EU LFS microdata.

Figure 11. Probability of being a low earner, TCNs vs. Natives.



Notes: Coefficients estimated with OLS regression in a model controlling for occupation, gender, educational level, age, country of residence and migration status. The thick blue bars represent the coefficient for the interaction between a migration status dummy and host country dummies. The thin black bars represent the 95% confidence intervals. Bulgaria and Luxembourg are missing since they do not have any non EU born agriculture worker in the 2018 EU-LFS sample. Source: own elaboration of EU LFS microdata.

In Figure 11, we plot the difference in the probabilities of being in the bottom three deciles of the income distribution between agriculture workers who are non EU born and natives conditional on occupation, gender, age, and educational level. A positive bar indicates that non EU born are more likely to be low earners than, while a negative bar indicates the opposite. Non EU born earn lower wages than native agriculture workers in Belgium, Cyprus, France, Greece, Hungary and Italy. And higher wages in Austria, Estonia, Spain, Ireland, Romania, Slovenia and Slovakia. It should be noted though, that when non EU born are those earning lower wages, the difference with natives tend to be large, while when natives are the lower earners, differences are smaller.

The combined evidence on salaries in the agriculture sector and the non EU born/native wage gaps, suggests two things when assessing the possibilities for native workers in replacing the missing foreign ones. First, low pays can certainly help explaining the outflow of native workers from the sector in the past decade, second, wages in the sector were, in some Member States at least, kept low by the

presence of a non EU but migrant workforce. As this workforce will be dwindling or disappearing altogether, it is probable that wages in the sector will have to increase if employers want to attract native workers.

5. Conclusions

In this report we have considered the possible repercussions in terms of labour migration for the agricultural sector during the COVID-19 pandemic. Differently from other sectors that have been forced to shut down, agriculture is an essential sector that needs to keep producing at normal or even increased pace even during shelter-in-place orders. As this sector needs to be kept functioning, both media and policy circles have raised concerns regarding the availability of foreign seasonal workers in the context of the current mobility restrictions. Foreign seasonal workers are reported to be a central component of the agricultural workforce, thus putting these concerns at the top of political debates. While Eurostat data indicate that the seasonal foreign workers in the agricultural sector numbered in the tens of thousands in 2018, it is difficult to extrapolate from that figure the current need for the agricultural sector. The analysis has nonetheless shown that both the inflows of foreign labour in general, and of seasonal foreign workers in particular, in the agricultural sector, has steadily increased for a subset of Member States such as Italy and Spain. It is unlikely that the agricultural sectors in those countries will be able to work at normal capacity without that essential part of the workforce. In that regard, for those countries, it becomes essential to take swift policy action to secure exceptions for seasonal workers in the agriculture from current mobility barriers, or to redeploy already resident unemployed workers or inactives towards agricultural needs. Despite the urgency of the situation, it should be ensured that the rights and social protection of seasonal workers are not overlooked. More than ever, Member States must ensure the strict application of national provisions transposing EU rules on the occupational safety and health of workers, which require that occupational risks are assessed and adequate preventive and protective measures are in place.

Whether the local, displaced, labour force will be enough to meet the labour demand left vacant by the missing seasonal workers is hard to assess. Even if our incomplete estimates offer some indications that the pool of interested local workers might grow if shelter-in-place orders will be prolonged and repeated, it is hard to believe that the agriculture sector will be able to fill all its vacancies relying only on them.

6. References

- Adams-Prassl, Abi, Teodora Boneva, Marta Golin, and Christopher Rauh. 2020. "Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys." IZA Discussion paper series. <https://www.iza.org/publications/dp/13183/inequality-in-the-impact-of-the-coronavirus-shock-evidence-from-real-time-surveys>.
- Corrado, Alessandra, Carlos de Castro, and Domenico Perrotta. 2016. *Migration and Agriculture: Mobility and Change in the Mediterranean Area*. Routledge.
- European Commission. 2020. "Communication from the Commission. Guidelines Concerning the Exercise of the Free Movement of Workers during COVID-19 Outbreak. 2020/C 102 I/03. C/2020/2051." [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020XC0330\(03\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020XC0330(03)).
- Górny, Agata, and Paweł Kaczmarczyk. 2018. "A Known but Uncertain Path: The Role of Foreign Labour in Polish Agriculture." *Journal of Rural Studies* 64 (November): 177–88. <https://doi.org/10.1016/j.jrurstud.2017.12.015>.
- Natale, Fabrizio, Sona Kalantaryan, Marco Scipioni, Alfredo Alessandrini, and Arianna Pasa. 2019. "Migration in EU Rural Areas." European Commission Joint Research Centre. http://publications.europa.eu/publication/manifestation_identifier/PUB_KJNA29779ENN.
- Rye, Johan Fredrik, and Sam Scott. 2018. "International Labour Migration and Food Production in Rural Europe: A Review of the Evidence." *Sociologia Ruralis* 58 (4): 928–52. <https://doi.org/10.1111/soru.12208>.

7. Additional tables

Table 1. Number of authorisations issued for seasonal works across selected EU Member States (Total, Agriculture, % of Agriculture, Person month in agriculture), 2017 and 2018

TIME	All sectors		Agriculture		% in Agriculture		Person Month in Agriculture	
	2017	2018	2017	2018	2017	2018	2017	2018
Bulgaria		8492		298		4%		918
Estonia	1,037	2,624	759	1772	73%	68%	4,608	11940
Spain	5,864	14,002	5752	13789	98%	98%	35,823	84,810
Croatia	13	893	13	231	100%	26%	78	993
Italy	3603	5,641	2308	3376	64%	60%		26,271
Latvia	123	176	121	147	98%	84%	363	603
Lithuania	61	282	26	40	43%	14%	147	231
Hungary	34	36	34	20	100%	56%	192	120
Poland		45,664		44,533		98%		240,399
Romania		2		0		0%		
Slovenia	107	792	107	741	100%	94%	615	2,544
Slovakia	949	2,348	2	75	0%	3%	6	225
TOTAL	11,791	80,952	9,122	65,022	77%	80%	41,832	369,054

Source: own elaboration of dataset on Authorisations for the purpose of seasonal work by status, length of validity, economic sector and citizenship [migr_ressw1_1]. Eurostat

Table 2. Transition from other sectors to Agriculture sector by origin (2009-2018). ISCO 1 to 9

Sector of employment (other than agriculture) or labour market status one year ago.	ISCO 1 to 9			
	Total	Native-born	EU Mobile	TC migrants
2. Mining and quarrying	0.1%	0.1%	0.0%	0.0%
3. Manufacturing	39.5%	42.2%	1.7%	2.3%
4. Electricity, gas, steam and air conditioning supply	0.0%	0.0%	0.1%	0.0%
5. Water supply, sewerage, waste management and remediation activities	0.1%	0.1%		0.1%
6. Construction	1.9%	1.9%	1.9%	2.6%
7. Wholesale and retail trade, repair of motor vehicles and motorcycles	1.9%	1.8%	3.2%	2.2%
8. Transportation and storage	0.5%	0.5%	0.4%	0.6%
9. Accommodation and food service activities	0.5%	0.5%	0.9%	1.1%
10. Information and communication	0.7%	0.7%	0.1%	0.1%
11. Financial and insurance activities	0.1%	0.1%	0.9%	0.0%
12. Real estate activities	0.0%	0.0%	0.0%	
13. Professional, scientific and technical activities	0.3%	0.3%	0.3%	0.3%
14. Administrative and support service activities	0.5%	0.5%	0.5%	1.0%
15. Public administration and defence, compulsory social security	0.8%	0.8%	0.4%	0.6%
16. Education	0.3%	0.2%	0.3%	0.3%
17. Human health and social work activities	0.3%	0.3%	0.2%	0.2%
18. Arts, entertainment and recreation	0.1%	0.1%	0.2%	0.3%
19. Other service activities	0.3%	0.2%	0.1%	1.1%
20. Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	0.2%	0.2%	0.3%	1.2%
21. Activities of extraterritorial organisations and bodies	0.0%	0.0%		0.0%
Unemployed	19.8%	17.5%	44.1%	60.1%
Inactive	18.6%	19.0%	11.5%	13.7%
Other employed	2.4%	2.4%	1.4%	3.7%
.a. No answer	0.2%	0.2%	0.2%	0.5%
.b. Not applicable	5.4%	5.1%	9.4%	6.0%
.c. Not available	5.4%	5.1%	21.9%	2.1%

Source: own elaboration of EU LFS microdata. 2009 to 2018.

Table 3. Transition from other sectors to Agriculture by origin (2009-2018). ISCO 9

Sector of employment (other than agriculture) or labour market status one year ago.	ISCO 9			
	Total	Native	EU Mobile	TC migrants
2. Mining and quarrying	0.1%	0.1%	0.0%	
3. Manufacturing	12.4%	15.4%	1.2%	1.3%
4. Electricity, gas, steam and air conditioning supply	0.0%	0.0%	0.1%	
5. Water supply, sewerage, waste management and remediation activities	0.1%	0.2%		0.1%
6. Construction	2.1%	2.1%	1.4%	2.9%
7. Wholesale and retail trade, repair of motor vehicles and motorcycles	1.9%	1.9%	2.2%	1.7%
8. Transportation and storage	0.3%	0.3%	0.1%	0.3%
9. Accommodation and food service activities	0.8%	0.8%	0.7%	1.1%
10. Information and communication	0.1%	0.1%		0.2%
11. Financial and insurance activities	0.1%	0.1%	0.1%	
12. Real estate activities	0.0%	0.0%		
13. Professional, scientific and technical activities	0.2%	0.2%	0.1%	0.0%
14. Administrative and support service activities	0.5%	0.6%	0.2%	0.5%
15. Public administration and defence, compulsory social security	1.2%	1.2%	0.5%	1.0%
16. Education	0.2%	0.2%		0.0%
17. Human health and social work activities	0.3%	0.3%	0.1%	0.2%
18. Arts, entertainment and recreation	0.2%	0.1%	0.2%	0.5%
19. Other service activities	0.3%	0.2%	0.1%	0.8%
20. Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	0.4%	0.3%	0.4%	0.9%
21. Activities of extraterritorial organisations and bodies	0.0%	0.0%		
Unemployed	48.8%	45.1%	55.0%	71.6%
Inactive	20.7%	23.1%	11.5%	11.1%
Other employed	0.1%	0.1%		0.1%
.a. No answer	0.1%	0.2%	0.2%	0.1%
.b. Not applicable	5.5%	4.6%	6.7%	4.7%
.c. Not available	3.7%	2.8%	19.2%	1.0%

Source: own elaboration of EU LFS microdata. 2009 to 2018.

Table 4. Transition from other sectors to Agriculture by settlement type (2009-2018). ISCO 1 to 9

Sector of employment (other than agriculture) or labour market status one year ago.	ISCO ALL		
	Cities	Town	Rural
2. Mining and quarrying	0.0%	0.1%	0.1%
3. Manufacturing	13.0%	3.9%	48.8%
4. Electricity, gas, steam and air conditioning supply	0.1%	0.0%	0.0%
5. Water supply, sewerage, waste management and remediation activities	0.2%	0.2%	0.1%
6. Construction	2.7%	2.5%	1.7%
7. Wholesale and retail trade, repair of motor vehicles and motorcycles	3.4%	3.5%	1.4%
8. Transportation and storage	1.0%	0.8%	0.4%
9. Accommodation and food service activities	1.1%	0.8%	0.4%
10. Information and communication	0.5%	0.7%	0.7%
11. Financial and insurance activities	0.3%	0.3%	0.1%
12. Real estate activities	0.2%	0.1%	0.0%
13. Professional, scientific and technical activities	1.2%	0.5%	0.2%
14. Administrative and support service activities	1.5%	1.0%	0.4%
15. Public administration and defence, compulsory social security	1.6%	1.0%	0.7%
16. Education	0.8%	0.3%	0.2%
17. Human health and social work activities	0.4%	0.6%	0.2%
18. Arts, entertainment and recreation	0.3%	0.2%	0.1%
19. Other service activities	0.4%	0.7%	0.2%
20. Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	0.2%	0.4%	0.2%
21. Activities of extraterritorial organisations and bodies	0.1%	0.0%	0.0%
Unemployed	32.4%	34.6%	15.8%
Inactive	20.9%	22.7%	17.6%
Other employed	4.2%	12.2%	0.3%
.a. No answer	0.8%	0.4%	0.1%
.b. Not applicable	10.2%	10.6%	4.0%
.c. Not available	2.7%	1.8%	6.3%

Source: own elaboration of EU LFS microdata. 2009 to 2018.

GETTING IN TOUCH WITH THE EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696, or
- by electronic mail via: https://europa.eu/european-union/contact_en

FINDING INFORMATION ABOUT THE EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at:

https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications from EU Bookshop at: <https://publications.europa.eu/en/publications>.

Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

The European Commission's science and knowledge service

Joint Research Centre

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



EU Science Hub
ec.europa.eu/jrc



@EU_ScienceHub



EU Science Hub - Joint Research Centre



EU Science, Research and Innovation



EU Science Hub

