How did EU Eastern enlargement affect migrant labor supply in Austria?

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In this paper, we study the employment of workers from Central, Eastern and Southeastern European (CESEE) EU Member States in Austria after the Eastern enlargement of the European Union. To prevent a sudden rush of immigrants into the labor market, Austria opted for a transition period during which immigration remained restricted. We will show that these restrictions had the anticipated effect; while the stock of workers from the new CESEE Member States increased slowly in Austria during the transition period, the trend became markedly steeper after the introduction of free labor market access. Between 2003 and 2016, the stock of workers from CESEE EU Member States in Austria increased fourfold by about 185,000 individuals. The largest immigrant groups are from Hungary, Romania and Poland. A large share of migrant workers are employed in seasonal industries and in border regions closest to their home countries.

JEL classification: J61, O52
Keywords: EU Eastern enlargement, free movement of labor, Austria

The impact of the Eastern enlargement of the European Union on the Austrian labor market was already widely discussed before the first Central, Eastern and (later) Southeastern European (CESEE) countries joined the EU in 2004.[2] Substantial wage differentials between East and West and the geographic proximity to the new Member States raised concerns that opening the labor markets could lead to a sudden labor supply shock. To alleviate the shock, Austria and Germany introduced a seven-year transition period with controlled immigration rules. The aim was to divert the anticipated migration flow to other countries that do not share a common border with CESEE EU Member States and to benefit from an economic adjustment process that should reduce the income differential over time. But nevertheless, common estimates predicted that, over a ten-year period, about 200,000 additional workers from new member countries would enter the Austrian labor market (Prettner and Stiglbauer, 2007). In recent years, rising numbers of immigrants from Eastern European countries have returned to public attention.

In particular, their role in explaining historically high unemployment rates has been widely discussed and the topic was debated during the Austrian legislative elections in 2017 (Schnauder, 2017).

In this paper, we study the development of labor supply from CESEE EU Member States in the Austrian labor market, defining labor supply as the stock of employed workers from these countries. Our analysis focuses on two waves of immigration. The first wave consisted of workers from eight countries – the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia (CESEE-8) – that joined the EU in 2004 and gained free access to the Austrian labor market in 2011. In a second wave, Bulgaria and Romania (CESEE-2) joined the EU in 2007 and gained free labor market access in Austria in 2014. Workers from Croatia, which joined the EU in 2013, still have restricted labor market access and can serve as an untreated counterfactual.

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[2] *See e.g. Walterskirchen and Dietz (1998), Huber and Brücker (2003).*

We are interested in the effect that CESEE countries' EU entry and their citizens' free labor market access has had on the change in the stock of migrant workers in Austria. The ex ante prediction was that the number of immigrant workers would gradually increase in the years after EU enlargement due to the controlled entry of mostly high-skilled workers. With full access, workers who had formerly been subject to restrictions might rush into the labor market. To verify these predictions ex post, we first examine changes in time trends of immigrant stocks broken down by new member country groups. Second, we explore how the composition of immigrant workers changed following the date of full labor market access.

Austria's geographic proximity to the CESEE EU member countries implies that, in addition to permanent relocation, temporary and circular forms of migration as well as cross-border commuting are attractive options of participating in the Austrian labor market. As a consequence, migrant stocks, representing net measures of mobility, may hide large gross flows. To examine the dynamics of migration behavior, we analyze the duration of employment periods of migrant workers from CESEE EU member countries in Austria.

Our results show, that the early forecasts were relatively precise. Over the period from 2003 to 2016, the stock of employed workers from CESEE EU member countries increased by roughly 185,000, which means it grew by a factor of 4. The patterns of migration over time reveal that the transition period was effective in restricting labor market access. The growth in migrant workers from CESEE member countries accelerated persistently after the labor market opened completely. With free access, we also see a shift in the composition of migrant workers toward lower-qualified and younger groups. Further, we provide evidence that temporary migration is an important phenomenon. A large share of migrant workers are employed in seasonal industries and in border regions closest to their home countries.

This paper is structured as follows: Section 1 introduces the institutional framework and legal regulations governing the mobility of workers before and after the EU's Eastern enlargement. In section 2, we describe the data used for our analysis. Sections 3 to 5 present our empirical results, and section 6 discusses our findings and conclusions.

1 EU enlargement and labor market access

In May 2004, eight Central and Eastern European countries (CESEE-8) – the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia – joined the EU. Bulgaria and Romania (CESEE-2) followed in January 2007, and Croatia in July 2013. By entering the EU, the new member countries obtained the right of free movement of goods, capital, workers, establishment and services. However, the national governments of the earlier Member States had the option to restrict labor market access for workers from new member countries during a transition period of up to seven years. The Austrian and German governments opted for this restriction and the maximum transition period. In addition, the free movement of services involving the posting of workers was restricted for a limited number of sectors.[3] The right to establish a business and thus to work in a self-employed capacity was not affected by these restrictions.

[3] *http://europa.eu/rapid/press-release_MEMO-11-259_en.htm (last access: April 2018).*

Before EU accession, citizens from the CESEE EU Member States could take up employment in Austria if they obtained a work permit for which the prospective employer had to apply. Permits were granted if the Public Employment Service confirmed that no equally qualified Austrian worker was available. Simplified application procedures were in place for highly qualified workers ("key workers"), skilled workers in certain occupations, qualified health care personnel, individuals graduating from Austrian institutions of higher education, and seasonal workers in tourism and agriculture.[4] During the transition period, the Austrian labor market was gradually opened for highly qualified workers.[5] Work permits were still required for low-skilled workers, but individuals from new member countries were given priority over workers from non-EU countries.[6]

With the end of the transition periods in May 2011 and January 2014, individuals from the CESEE-8 and CESEE-2 countries, respectively, gained unrestricted access to the Austrian labor market in line with the fundamental principle of free movement of workers in the EU. Based on this principle, any EU citizen is entitled to look for a job in Austria (or any other EU country), work and reside there without a work permit, stay there after employment has finished, and enjoy equal treatment with nationals in access to employment, working conditions and all other social and tax advantages.[7]

2 Data

Our empirical analysis is based on Austrian social security data, which covers private sector employment, that is workers who pay contributions to the social security system in Austria (Zweimüller et al., 2009). Self-employed persons and workers posted in Austria on a temporary basis by an employer from another EU Member State are not included in the data. The data provide information on employment periods, earnings and various characteristics of the workers and their jobs. We have information on employers (industry affiliation, location and workforce composition) and on individual demographic characteristics such as date of birth, gender and citizenship.

From the raw data, we construct a quarterly panel at the individual worker level that spans the period from January 2003 to July 2017. We define a worker as employed in a specific quarter if the individual holds a blue- or white-collar job for more than 20 days in this period.

Our measure of the stock of workers from CESEE EU Member States is thus the sum of employed workers per quarter. Note that our measure does not allow us to distinguish between workers who reside in Austria and cross-country commuters, as we only observe the place of work but not the place of residence. Furthermore, we can only consider migrants from CESEE EU Member States who are employed in Austria with a regular private sector contract. We do not observe migrants who reside in Austria and do not work, are self-employed or work in the black market. We argue that from a labor market perspective, this is the most relevant population.

[4] *https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=10008365 (last access: April 2018).*

[5] *http://www.ams.at/_docs/001_Fachkraefte-Zulassungen_08.pdf (last access: April 2018), https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20005577 (last access: April 2018).*

[6] *http://ec.europa.eu/social/main.jsp?catId=466&langId=en (last access: April 2018).*

[7] *http://ec.europa.eu/social/main.jsp?catId=457&langId=en (last access: April 2018).*

3 Employees from CESEE EU Member States over time

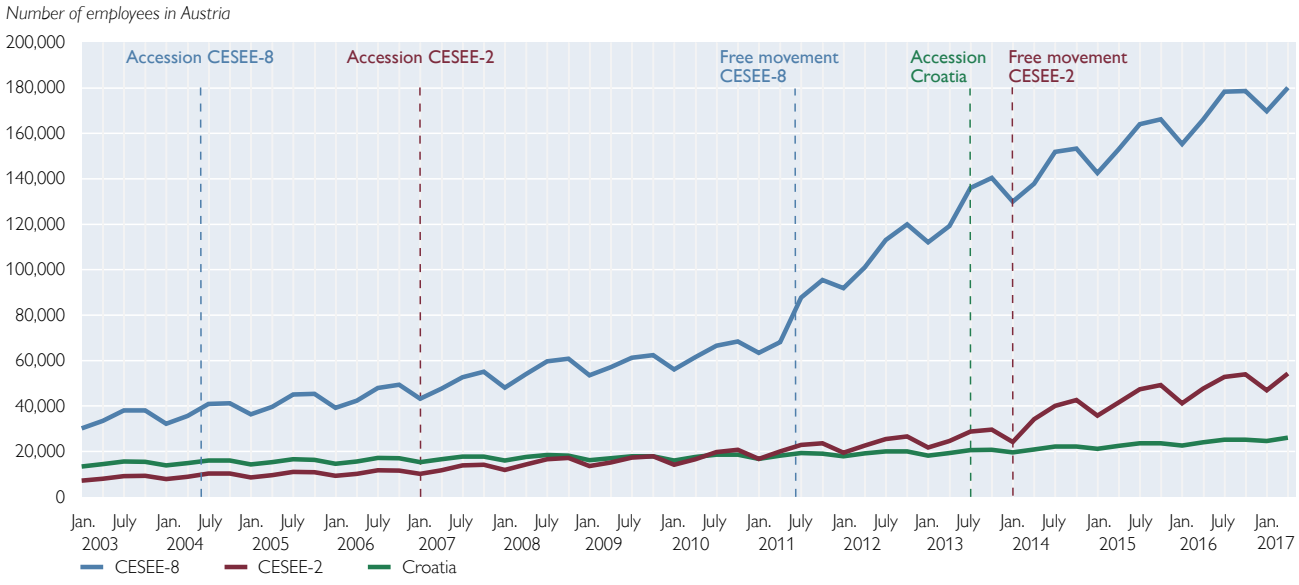
Chart 1 shows the quarterly stock of migrants from CESEE-8 and CESEE-2 countries as well as Croatia over time: before these countries' EU accession, during the transition period set by Austria, and after free labor market access was established.

The stock of migrant workers from CESEE-8 countries grew moderately before these countries' EU accession and during the Austrian transition period, but with free labor market access the trend changed markedly. Still, contrary to some predictions, we do not see a sudden rush in immigration that would have resulted in an upward jump in stocks. But growth in the stock of migrants picked up persistently, and has only been flattening out, if at all, in the most recent years. The end of the transition period for the CESEE-8 countries occurred close to the end of the Great Recession; thus, the patterns we observe might also reflect the post-recession recovery of the Austrian labor market. It is therefore interesting to compare the CESEE-8 with the CESEE-2 countries, for which free labor market access was delayed until 2014. Interestingly, the pattern is very similar. Growth in the stock of migrant workers in Austria from Bulgaria and Romania does not change much between the pre- and post-accession period, but it strongly increases with free labor market access. Croatia, on the other hand, shows stable growth throughout the whole period. It should be borne in mind, however, that labor market access is still restricted for Croatian workers. The average annual employment of workers from all CESEE EU Member States increased fourfold from 61,610 in 2003 to 246,789 in 2016. By 2016, this figure represented 8% of employment in Austria and 34% of employment among non-Austrian citizens. By then, Hungarians were the largest immigration group from the CESEE EU Member States, followed by Romanians and Poles.

We thus conclude that the transition period achieved the goal of controlling the arrival of workers from CESEE EU Member States. Furthermore, we find that

Chart 1

Number of employees in Austria from CESEE-8 and CESEE-2 countries and Croatia, 2003–2017



Source: Austrian social security data. Authors' own illustration.

the later free labor market access had a significant impact on their inflow into the regular labor market of workers registered with the social security system.

4 How did free labor market access change the composition of the migrant workforce?

During the transition period, labor market access was not equally restrictive for all workers from the CESEE EU Member States. In the phase of controlled entry, authorities granting work permits gave priority to workers with high qualifications. This implies that the composition of migrant workers should have changed with free labor market access, as more low-qualified workers were allowed to enter the Austrian labor market.

Table 1

Descriptive characteristics of CESEE-8 and Austrian employees, before and after free movement of labor

	CESEE-8 employees			Austrian employees		
	2008–2011	2011-2014	Difference	2008–2011	2011–2014	Difference
I Demographics & job characteristics	*%; age in years*					
Women	38.3	38.1	–0.2	47.0	47.5	0.6
Age in years	39.16	38.14	–1.03	39.33	40.15	0.83
Blue-collar workers	73.8	77.6	3.8	36.7	35.0	–1.7
Employment during three-year time period	72.3	67.6	–4.7	87.5	88.0	0.5
II Real daily earnings	*EUR (year 2000 prices)*					
Mean	56.64	52.88	–3.76	71.19	71.32	0.13
10th percentile	27.58	24.95	–2.63	30.92	30.80	–0.12
50th percentile	54.02	50.57	–3.45	67.23	67.43	0.20
90th percentile	87.69	80.13	–7.55	124.67	124.77	0.10
III Industry	*Share of employees in %*					
Agriculture & mining	7.4	4.9	–2.5	0.6	0.6	–0.0
Manufacturing	15.3	13.9	–1.4	19.7	19.6	–0.1
Construction	13.3	13.5	0.2	7.1	6.8	–0.3
Trade	12.5	12.2	–0.3	16.9	16.8	–0.1
Hotels & restaurants	18.8	21.4	2.6	4.5	4.3	–0.2
Transport	5.1	5.5	0.3	4.9	4.7	–0.2
Services	27.6	28.7	1.1	46.3	47.2	0.8
IV Average firm characteristics						
Firm age in years	16.37	16.01	–0.35	20.93	22.43	1.50
Firm younger than three years, %	16.8	17.7	0.9	10.1	8.2	–1.9
Number of blue- and white-collar workers at firm	583	472	–111	1,047	1,104	57
Non-Austrian workers at firm, %	45.0	51.2	6.1	13.9	15.0	1.2
Workers with same nationality at firm, %	24.2	26.9	2.6	84.3	83.7	–0.7
Non-Austrian workers with same nationality at firm, %	42.8	43.6	0.8	.	.	.
Mean monthly real earnings at firm (EUR, year 2000 prices)	1,532.10	1,464.39	–67.71	1,811.71	1,809.12	–2.59
Median monthly real earnings at firm (EUR, year 2000 prices)	1,490.38	1,420.36	–70.03	1,776.77	1,775.25	–1.52
V Location	*Share of employees in %*					
Vienna	28.7	29.3	0.6	27.7	28.2	0.5
Eastern Austria	32.9	30.1	–2.8	18.7	18.4	–0.4
Southern Austria	18.1	18.0	–0.2	20.2	20.2	–0.0
Western Austria	20.3	22.6	2.3	33.3	33.3	–0.0
Mean number of workers	61,556	115,403	53,847	2,264,319	2,326,263	61,944

Source: Authors' compilation. The statistics refer to the mean of the corresponding variable over all quarters in the three years before/after May 1, 2011. Manufacturing comprises the NACE 08 rev. 2 sections D-E; services comprise sections J-U.

To provide a more detailed picture of compositional shifts among migrant workers and to compare them with the Austrian workforce, table 1 reports average worker characteristics in the three years before and after May 2011 for CESEE-8 workers in the left columns and Austrian workers on the right. Comparing CESEE-8 workers in the period before and after they obtained free labor market access, panels I and II confirm that their composition changed toward lower qualified workers with free access to the Austrian labor market. After May 2011, the average CESEE-8 worker was one year younger, four percentage points more likely to work in a blue-collar occupation and earned EUR 4 less per day than before. This drop in labor earnings is especially pronounced in the upper part of the wage distribution.

In contrast, the composition of Austrian blue- and white-collar workers remained stable over the same time period. Compared to CESEE-8 workers, there are more women in the native Austrian workforce and the proportion of blue-collar employees is only half as large. Wages are higher both on average and at different points of the wage distributions.

In panel I of table 1, we also report the average share of days each worker was employed during the three-year periods before and after May 1, 2011. This measure gives us an indication about how permanently CESEE-8 migrant workers are employed in the Austrian labor market as compared to Austrian citizens. We can see that native workers are more strongly connected to the labor market. On average, they are employed on about 88% of the days in each three-year period, which is about one-fifth more than CESEE-8 migrants. This suggests that a substantial part of migrants come to Austria on a temporary basis. In addition, we observe that, for CESEE-8 migrants, the average share of days employed during the total three-year-period drops from roughly 72% to 68% between the pre- and the post-2011 period, which suggests that temporary migration becomes more prevalent with free labor market access.

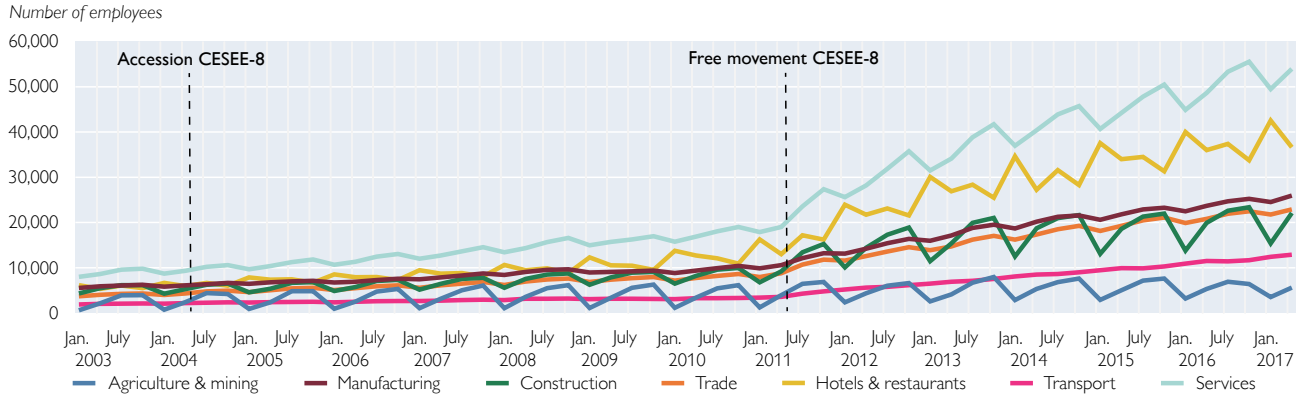
5 Distribution of CESEE EU employees across industries, firms and locations

The distribution of workers across industries, reported in panel III of table 1, also differs between workers with Austrian citizenship and CESEE-8 workers. Migrants are far more likely to be employed in seasonal sectors, such as agriculture, construction and particularly tourism (hotels and restaurants) than Austrian nationals. On the other hand, they are underrepresented in manufacturing, trade and services. The largest share of both the Austrian and the CESEE-8 migrant population work in the service sector. But note that roughly 25% of the CESEE-8 migrants in the service sector are employed either by temporary employment agencies or in janitorial services. Table 1 also shows that the sectoral concentration among CESEE-8 immigrant workers in Austria slightly increased with free labor market access as the shares of those working in tourism and services have increased, while the shares of those working in manufacturing and agriculture have declined.

Chart 2 presents the quarterly time profiles of CESEE-8 employment broken down by industry groups. We see that with free labor market access, the employment of CESEE-8 migrants in Austria accelerated in all industries except agriculture. Chart 2 further illustrates how employment levels vary substantially over the course of the calendar year, for all industries except for manufacturing, trade and

Chart 2

Number of employees in Austria from CESEE-8 countries by industry, 2003–2017



Source: Austrian social security data for January 2003 to July 2017. Authors' own illustration. Manufacturing: NACE 08 rev. 2 sections D-E; services: sections J-U.

transport. This is driven by seasonal demand fluctuations for labor in different sectors: employment in hotels and restaurants peaks in the first quarter of each year and shows a second, smaller peak in the third quarter, reflecting winter and summer seasons in tourism. In contrast, labor demand in agriculture, construction and services is relatively low in the first quarter of each year and then increases over the course of the year. The high share of CESEE-8 migrants employed in seasonal industries again suggests the importance of temporary or seasonal migration patterns, where immigrants work in Austria during the season and return to their home countries during the off-season.

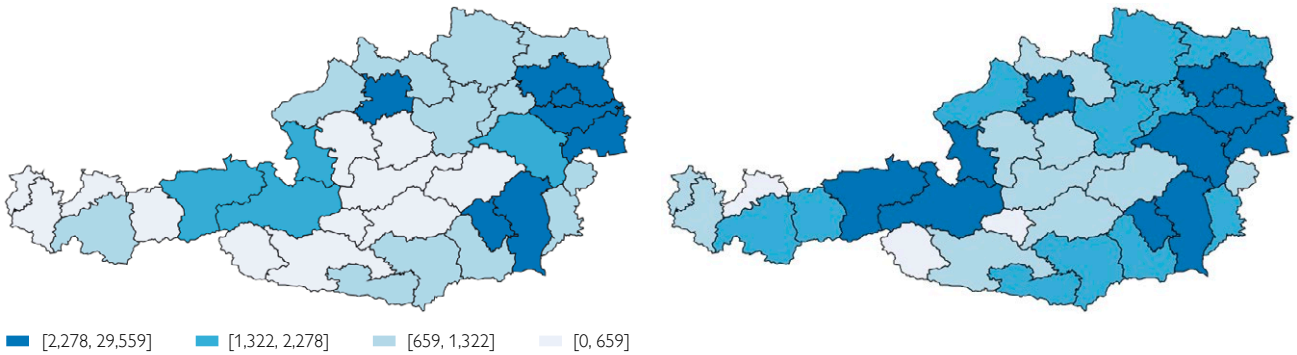
The employment patterns of Austrian and CESEE-8 workers not only differ in terms of industries but also in terms of firm types. This is shown in panel IV of table 1. Migrant workers are employed in smaller and younger firms, which pay lower wages to their average workers. There is also evidence of concentration of CESEE-8 migrants in certain firms. While Austrian employees worked at establishments that had, on average, 14% non-Austrian employees, the establishments where CESEE-8 were employed, had a share of 45% foreign workers before May 2011 and an even higher share of 51% thereafter. Likewise, the percentage of coworkers that share the same migrant nationality has increased over time. This indicates strong firm-level clustering of immigrant workers by nationality.

Last, we examine the regional distribution of migrant workers from CESEE EU member countries in Austria. Panel V of table 1 shows that CESEE-8 migrants are more likely to work in Vienna or the east of the country than in other parts. This makes sense given geographic proximity. However, we also see that, with free labor market access, a shift of CESEE-8 workers from east to west occurred, which is consistent with the rising share of workers in the tourism sector. Chart 3 plots the regional distribution of CESEE-8 migrants before and after May 2011 at the finer level of NUTS 3 regions. Darker areas on the Austrian map indicate a higher concentration of migrants. The chart shows how the concentration of CESEE-8 immigrants has increased along Austria's border with CESEE EU Member States. In addition, the number of immigrants has increased in the western tourism regions of the country. Throughout the entire period under review, the concentration of CESEE-8 workers was highest in the economically successful urban regions around Vienna, Linz and Graz.

Chart 3

Number of employees in Austria from CESEE-8 countries by NUTS 3 region

Before May 2011 **After May 2011**



Source: Austrian social security data. Authors' own illustration.

Note: These maps illustrate the mean number of employees from CESEE-8 countries in the five years before and after May 1, 2011, the date at which free movement of workers was established, across NUTS 3 regions. The cutoffs for the categories are the 25th (659), 50th (1,322) and 75th percentile (2,278) of the mean number of employees across NUTS 3 regions and time periods

A more detailed analysis of the regional distribution of workers by their country of origin indicates that workers from the four CESEE-8 neighbor countries – the Czech Republic in the northeast, Slovakia and Hungary in the east and Slovenia in the south – are concentrated in the regions in Austria with which these countries share a border. This suggests that many workers commute from these countries to work in Austria. Huber and Böhs (2012) support this assumption and show that a large share of CESEE-8 workers who entered new jobs in Austrian districts close to the border in the year following free labor market access were commuters.[8]

6 Conclusions

In this article, we examine how the accession of Central, Eastern and Southeastern European Member States to the European Union changed the labor supply of immigrant workers from these countries in Austria. The Austrian labor market was not fully opened directly after these countries' accession; the government decided on a seven-year transition period during which immigration was controlled. We show that free labor market access significantly changed the trends in the stock of migrant workers from CESEE EU member countries in Austria. With the end of the transition period, the growth in migrant stocks accelerated persistently. This phenomenon is consistently observed for two rounds of EU enlargement, during which eight new Member States were admitted in 2004 and two in 2007. We also observe that, with the increased inflow of immigrants, the composition of workers from CESEE EU Member States changed toward lower-qualified and younger individuals, who have less stable employment careers.

Workers from CESEE EU Member States are highly concentrated in seasonal industries and many of them work in the border regions closest to their home countries. This suggests that a high share of these workers are cross-country commuters or stay in Austria only temporarily.

[8] *The share of commuters among CESEE-8 migrants who came to work in Austria for the first time in the period from May 2011 to May 2012 was 91% in Burgenland, 65% in Styria, 43% in Upper Austria, 38% in Vienna, 12% in Lower Austria and 9% in Carinthia (Huber and Böhs, 2012).*

While our study only documents the development of migrant labor supply in Austria, further interesting questions would be (1) the impact of opening access to the Austrian labor market for the CESEE EU Member States on Austrian workers' wages and employment, (2) the impact of immigrants on the social security system, and (3) the effect of immigration induced by the EU's Eastern enlargement on macro-aggregates, as measured by economic growth and the unemployment rate.

Up to now, there is no consensus among economists on the impact of immigrants on domestic populations' labor market outcomes. For Austria, Huber and Böhs (2012) review studies of immigration during the 1990s, finding moderate effects on Austrian citizens' employment and wages. Huber and Böhs (2012) also descriptively show that CESEE-8 workers who entered the labor market soon after May 2011 had a small impact on Austrians' labor market prospects. Regarding the fiscal impact, Dustmann et al. (2010) and Dustmann and Frattini (2014) show that, after 2004, CESEE-8 immigrants in the U.K. were less likely to receive state benefits and to live in social housing than comparable U.K. citizens. Regardless, these immigrants made a strong, positive contribution to the public finances thanks to higher labor force participation.

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