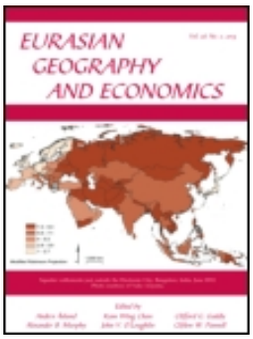

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Eurasian Geography and Economics

ISSN: 1538-7216 (Print) 1938-2863 (Online) Journal homepage: www.tandfonline.com/journals/rege20

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To cite this article: Ülle Marksoo, Luiza Białasiewicz & Ulrich Best (2010) The Global Economic Crisis and Regional Divides in the European Union: Spatial Patterns of Unemployment in Estonia and Poland, Eurasian Geography and Economics, 51:1, 52-79, DOI: 10.2747/1539-7216.51.1.52

To link to this article: https://doi.org/10.2747/1539-7216.51.1.52

The Global Economic Crisis and Regional Divides in the European Union: Spatial Patterns of Unemployment in Estonia and Poland

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Abstract: A team of European geographers examines regional disparities in unemployment rates in Estonia and Poland extending from 1989 to the onset of the global financial crisis in late 2008. A particular focus of the research is on the extent to which east–west disparities in unemployment existed within each country (and within Eastern and Central European countries more broadly) both before and after the onset of the crisis. The results of the two case studies provide a basis for questioning the validity of certain imagined economic geographies of the region based on a core–periphery logic and point to the importance of considering context-specific understandings as well as historical trajectories and underlying differentials that pre-date the years of economic transition and the current financial crisis. *Journal of Economic Literature*, Classification Numbers: E240, J600, P250. 4 tables, 5 figures, 96 references. Key words: European Union, Estonia, Poland, unemployment, underemployment, global financial crisis, core–periphery model, regional labor markets, economic transition.

DOMINO EFFECTS: IMAGINATIVE GEOGRAPHIES OF THE CURRENT FINANCIAL CRISIS

The global economic crisis that emerged in the fall of 2008, and the subsequent near–financial meltdown of several Eastern and Central European (ECE) economies, has brought to the fore persistent divides within the broader economic space between the "older" and "newer" member states of the European Union. As the Latvian economy collapsed in January of 2009 (provoking riots in the capital, Riga, and leading to the resignation of the Prime Minister Ivars Godmanis),[2] Western European analysts and ratings agencies such as Moody's and Standard & Poor's raised a cry of alarm, warning about the ripple (or "domino") effects that the crisis in the East would bring. The dire predictions only served to exacerbate the crisis: following the declarations by the ratings agencies in February, stock markets and currencies across Eastern Europe literally collapsed (Garnham, 2009; Phillips, 2009b). Moody's and other agencies warned that Western European banks with significant exposure in the East should brace for a systemic collapse. As one report suggested, "the deteriorating financial strength of East European subsidiaries [will] have a negative spillover effect on their Western parents" (cited in Phillips, 2009a).

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[2]For background, see Barry (2009) and Stern (2009).

Eurasian Geography and Economics, 2010, **51**, No. 1, pp. 52–79. DOI: 10.2747/1539-7216.51.1.52

The paternal metaphor adopted by Moody's is revealing of broader geographies of responsibility—and blame—that framed the crisis and, in particular, its differential effects. For not only were some more vulnerable and volatile economies of the ECE states hardest hit, but implicitly they were blamed for damaging European (read: Western European) banks. The "parent" countries most exposed in the ECE financial markets were Austria, Italy, and Sweden; within the Eurozone, Austrian banks were most heavily burdened, with loans and investments in Central and Eastern European economies amounting to over 70 percent of its GDP. Sweden's exposure was substantially lower, at 22 percent of its GDP—but almost entirely concentrated in the faltering Baltic states of Latvia, Lithuania and Estonia (Garnham, 2009). When the Swedish government announced a possible nationalization of banks exposed in the Baltics in June 2009, the blame was placed on the "stubbornness" of the Baltic governments, insistent on maintaining currency pegs and causing, in the words of one analyst, "monetary asphyxiation" (cited in Evans-Pritchard, 2009).[3]

What seemed to have been entirely forgotten in most analyses was the role of Western European banks in creating the conditions that led to the crisis in the first place: over-exposure,[4] yes, but also high degrees of high risk speculation in the financial markets of the "wild East." As Smith and Swain (2010, this issue) rightly observe when analyzing the current "crisis," it is crucial to keep in mind Eastern and Central Europe's distinct mode of incorporation into global geo-economic and geo-political structures following the collapse of state socialism (see Gowan, 1995). With British newspapers cynically commenting on Austrian banks such as Raiffeisen and Erste Bank "seeing their capital waltz off into oblivion" (King, 2009, p. 45), what was left aside was the extent of the influence of such banks on particular national economies: Austrian and Italian banks control, between them, most of the banking systems in the Balkan states as well as in such Central European countries as Hungary, the Czech Republic, and Poland; the same can be said of Swedish banks in the three Baltic Republics (for an analysis, see Karreman, 2009 and Smith and Swain, 2010, this issue). The "emerging economies" of the East, once the space of wild speculation and spectacular returns where everything was possible (at least in the early years of transition), were now presented as irresponsible children, too eager to obtain credit they could not pay for, unable to manage "responsibly" their own finances.[5]

Beyond the commentary in the financial press, however, the institutional response to the crisis has also been highly unequal, at least it its initial phases. In late February 2009, following the Latvian crisis but also Austrian calls for a co-ordinated EU bail-out of banks exposed in the East, the EU's Eastern member states convened a mini-summit to address the issues. Speaking to reporters, Czech Prime Minister Mirek Topolanek voiced a concern that was on the minds of many: "Central and Eastern European countries have concerns regarding certain discrimination regarding, for instance, their access to financing by means of the European Central Bank […] There is a certain fear that the old EU members and the Eurozone countries may create a situation that will somehow secondarily affect Central and Eastern Europe" (cited in Phillips, 2009c). Topolanek's comments were aimed at the fact that the European

[3]It should be noted that the Baltic currencies' pegs to the euro are matters of national pride (e.g., see Still Afloat, 2009, p. 52).

[4]In December 2009, the European Central Bank's updated loss estimates of European banks (mostly Austrian) reached $797 million for the period 2007–2010, due in large part to overexposure to Eastern European accounts (Blackstone, 2009, p. A8).

[5]For a discussion of the imagined geographies of Eastern Europe's "emerging markets," see Sidaway and Pryke (2000) and Smith (2002). For a broader consideration of the geo-economic framing of ECE countries post-transition, see Burawoy and Verdery (1999).

Central Bank appeared loath to offer re-capitalization and loan guarantees to the Eastern European states of the sort granted to the "older" EU members. Complaints also were voiced at what was seen as increasing protectionism on the part of the older member states (e.g., Jones et al., 2010), with countries such as France and Italy announcing support measures for their flailing car industries that, according to many commentators, violated the rules of the European single market.

In order to address some of these complaints, in early June, the European Commission announced that it would "liberalize" EU regional aid rules in order to ease the effects of the crisis: the proposal would allow member states to claim full reimbursement from EU structural funds for projects undertaken during 2009 and 2010, "increasing liquidity and stimulating the implementation of projects," as EU Commission spokesman Dennis Abbott described the measure (cited in Pop, 2009a). The re-working of funding rules also brought with it, however, questions regarding the focus of the structural fund programs, and in particular their ability to effectively address the crisis at hand. The total funds earmarked for regional policy in the period 2007–2013 are €347 billion, with over 80 percent earmarked for the EU's poorer regions: almost the entire territory of the new Eastern European member states falls within this category.

Poland is to receive the largest amount of the seven-year regional funding, €67.2 billion, with most of the money aimed at improving the country's infrastructure.[6] The focus on infrastructure development has long been a staple of European regional policy, with such investment seen as key in addressing differentials in the development levels of different regions but also combating the "disconnectedness" of peripheral regions from European flows. Economic geographers have produced a number of critical accounts of such understandings of the core–periphery dynamic in the European Union, in particular the ways in which EU development policies have long been driven by a "gap approach" and a rigidly linear view of the development process (e.g., see Hadjimichalis, 1994; Hadjimichalis and Sadler, 1995). More recently, others have addressed similar issues in the context of EU enlargement and changing "core–periphery" relationships between Western and Eastern Europe (Brenner, 2000; Anderson and Shuttleworth, 2007; Drahokoupil, 2008). What all of these studies note is that EU regional development policies (whether those prior to accession of the EU 10 through such programs as PHARE,[7] or in its wake) have always been shaped by a distinct "geographical imagination" (and mapping) of European "cores" and "peripheries," with funding flows driven by the guiding assumption that geographical distance from Europe's more developed regions was, inevitably, a handicap. Consequently, the easternmost regions of such ECE countries as Poland were the focus of many of the interventions.[8]

Since the re-unification of Europe following the revolutions of 1989, the European core–periphery divide, previously structured around a North–South axis, was thus re-mapped as an East–West divide. The "historical" East–West differential was not only assumed to divide Europe, however: it was also seen as marking the internal territories of the Eastern European

[6]This includes, for instance, tripling the length of highways and rail track, but also other projects, such as those aimed at boosting the share of renewable energy from 2.9 percent of the total in 2005 to 8.5 percent in 2013, as well as (presumably) creating 3.5 million jobs (Pop, 2009b).

[7]"Poland and Hungary: Assistance for Restructuring Their Economies" (PHARE) was one of three programs financed by the EU to assist applicant countries in preparations for accession. It was later expanded to cover all eight ECE countries that became members of the EU in 2004, and later to Romania and Bulgaria, which acceded in 2007.

[8]For a critical analysis of early financial assistance to ECE countries, see Haggard and Moravcsik (1993); for a different interpretation, see Niemann (1998) and Dunford and Kafkalas (1992).

member states themselves. In the case of Poland, one can cite the prevailing assumption of the existence of an "Eastern Wall" marking radically different regional economic and political cultures along the ex-Soviet border. The "Eastern Wall" is often seen as co-terminus with "Poland B"—a term popularly used after 1989 for those parts of the country that fell behind in the transition, largely ignored by foreign investors, unable to take advantage of the new opportunities opened up by free market capitalism. Such arguments draw both on *longue durée* historical arguments[9] as well as a series of typecast accounts of the influence of state socialism, ossified into stereotypes of backward "Easternness" (see Kuus, 2004, 2005), marking differential regional political (and work) cultures.

Some evidence for the existence of regional divides does exist, of course. Virtually all of the post-communist countries that have joined the EU have exhibited substantive differences in regional economic performance. In many cases, the emergence of post-accession differentials built on existing divides that emerged in the early years of the transition, such as differential levels of unemployment, foreign investment outlays, or new business start-ups.[10] Although most "institutional" studies (i.e., conducted under the auspices of the World Bank, IMF, and EBRD)[11] envisioned regional labor market disparities as the product of a myriad of factors, they also suggested that the former centrally planned economies simply lacked the experience and adequate financial resources to balance disparities. However, more critical commentators have pointed to the dominance of neoliberal attitudes in post-transition economies, impeding the development of approaches capable of moderating (if not eliminating) the rapidly growing disparities (e.g., Bockman and Eyal, 2002).[12]

At a more specific level, explanations have focused on transformations in labor markets within the regions themselves. Studies produced by the World Bank pointed to the role of path dependencies (e.g., inherited industrial structures and related labor skills) in accounting for regional differences (e.g., Huber, 2006), whereas other research—such as that of Scarpetta (1995) for the OECD, or Keune (1998) for the International Labour Organisation (ILO)—noted the importance of factors specifically related to the transition process, for the structural changes imposed on labor markets at the beginning of the transition period in many cases predetermined regions' development paths. Still other studies continued to emphasize the role of educational and other demographic differentials in explaining differences in regional economic performance (e.g., Rutkowski, 2006; Zeilstra and Elhorst, 2006).

While only a few analyses have argued explicitly for the role of "geographic" factors in determining regions' "success" in the transition,[13] most if not all of the analyses cited here have incorporated a degree of geographical (or regional) "determinism." Beyond the broader supposition of the existence of historically determined regional differences (whether linked to pre-World War II experiences or differential experiences of state socialism), one assumption has been particularly important: that of the unique condition of the easternmost peripheries, those once closest to the Soviet Union. It is a mapping that, as we note above, has informed EU development policies, but is also one that, in times of crisis, has furnished a ready-made explanation for a range of economic and political ills. The purpose of this paper is to critically evaluate such development-related assumptions by examining available data on

[9]In Poland, for example, the diverse influence of the different partition powers (Russia, Prussia, and the Austro-Hungarian Empire prior to the first years of World War I) is invoked (see Bialasiewicz, 2002, 2003).

[10]For a critical analysis, see Drahokoupil (2008).

[11]Among others, see Bornhorst and Commander (2004), Huber (2006).

[12]For a broader consideration, see Brenner et al. (2010a; 2010b).

[13]See Lauristin and Vihalemm (1997) in the Estonian case and Gorzelak (2000) for a critical review covering Poland.

one of Europe's more salient economic problems exacerbated by the current crisis—regional unemployment disparities—in two countries (Estonia and Poland) with rather different patterns of spatial inequality.

The next section of our paper critically surveys the existing literature on regional divides within the countries of Eastern and Central Europe, which features explanations based on structural change during transition, sets of cores and peripheries (often based on proximity to the former USSR), and "demographic" factors. A third section tests these various explanations by examining in greater detail the changing pattern of unemployment since 1989 in Estonia and Poland. Finally, a concluding section attempts to shed light on the complex mix of factors that may produce regional divides of the kind examined here, including differential responses to the collapse of state socialism and to economic transition, changes resulting from broader shifts in global capitalism, and/or regional particularities that pre-date the collapse of socialism (or perhaps socialism itself).

REGIONAL ECONOMIC DIVIDES: A SURVEY OF EXISTING LITERATURE ON UNEMPLOYMENT

Both Estonia and Poland are marked by significant differences in regional labor markets and in rates of unemployment.[14] In Estonia, regional disparities have increased over time, with differences in rates of unemployment between the best- and worst-off regions differing by a factor of nearly three, suggesting that the east–west regional divide that developed at the onset of the transition remains firmly in place (Raagmaa, 1996).[15] Poland has been similarly marked by sharp regional divides in unemployment since the early years of the transition, although the regional patterning of such divides has changed significantly with time, from the stark gap between Warsaw and a handful of other big urban centers and "the rest" of the country (the aforementioned "Poland B") that marked the first decade, to a much more complex regional patterning of economic "success" (see the assessment in Gorzelak, 2009). Moreover, in both countries the influence of the ex-Soviet border has been cited as a factor in determining regional economic fortunes.

Recent comparative studies of the economies of ECE countries have argued that the highest levels of unemployment can be found precisely in their easternmost regions, bordering the former Soviet Union (e.g., Huber, 2007). Nonetheless, Table 1 indicates considerable diversity in the intensity of the east–west unemployment gradient, and indeed in some cases raises questions as to whether such a gradient exists at all. The clearest east–west regional divide appears to exist in Latvia, Hungary, and Slovakia. In Latvia, for example, throughout the transition period the highest unemployment has been registered in eastern region of Latgale, whose 2008, unemployment rate (8.4 percent) was roughly a third higher than in the country's western regions. In Hungary, the difference was even more pronounced—over twofold (4.9 percent in Western Transdanubia in 2008 and 13.4 percent in Northern Hungary)—and in Slovakia, over threefold (3.6 percent in Bratislava and over 13 percent in eastern regions).

By contrast, such east–west differences, while apparent, are less pronounced in Estonia. And Poland appears, at least at this rather generalized scale, to be the exception to the generalization. Among Poland's voivodships (administrative regions) the highest rates of

[14]For Estonia, see Puur (1997) and Kulikov (1999). For Poland, see Kluve et al. (1999), Gorzelak (1998), and King (2002).

[15]Estonia began to receive financial support from European structural funds allocated to reduce regional disparities in the reforming post-communist countries of Eastern Europe already in 1998 (Ristkok and Jauhiainen, 1999), several years before it became a member of the EU (in 2004).

unemployment are found in the west, both in 2000 and 2008 (Table 1). These are the territories "recovered" from Germany following World War II and characterized by a distinct political but also economic history; this history has had marked effects on their economic fortunes after 1989. We shall return to this topic later in the paper.

As alluded to above, early assessments of such regional disparities in employment in Central and Eastern Europe were inscribed within a distinct set of understandings, where the role of pre-existing, "historical" divides was seen as, at least in part, important. For example, Scarpetta's (1995) study for the OECD, providing an overview of spatial variations in unemployment in Eastern Europe during the first few years of transition, suggested that some interregional disparities were inherited from the past, whereas others were rather byproducts of the dramatic changes introduced by the transition from central planning. Keune's (1998) analysis of regional development and employment policy carried out for the ILO emphasized the persistence of regional divides, noting that regions evidencing better performance at the outset tended to perform better in subsequent periods, while most regions that lagged in the beginning have not been able to close the gap. Huber's (2006) World Bank study a decade later confirmed this, noting that increased disparities between regions were rooted in pre-transition factors and were likely to prove persistent. In a subsequent study, Huber (2007) emphasized that starting conditions played an important role in the subsequent development trajectory of regions, and indeed that the ranks of "winners" and "losers" among Europe's post-communist regions had remained relatively unchanged throughout the nearly two decades of transition.

Other contributions have focused on the role of structural changes in determining disparities in regional unemployment during the transition. For example Rutkowski (2006) has argued that two factors are decisive in the large and persistent regional unemployment disparities in Eastern European economies: (1) region-specific labor demand shocks;[16] and (2) underlying factors, such as sectoral structure, the presence of large urban centers, labor force skills, and the development of new as well as the quality of existing infrastructure. Regions dominated by agriculture and/or heavy industry were seen to suffer from higher-than-average unemployment because of: (1) generally higher layoffs in these sectors, which unlike the service sector, create a relatively smaller number of new jobs; and (2) the prevalence of old, deteriorating industrial areas with high numbers of unemployed, which discourages new job creation in services or other sectors (for similar points see Scarpetta, 1995). Scarpetta's study also suggested that the presence of manufacturing sectors can strongly influence regional economies, especially in the case of regions and industries that had occupied privileged positions under central planning. For example, many industrial enterprises in Eastern Europe, which specialized in production of goods for the Soviet market, were severely impacted by the collapse of demand for such goods in the neighboring East, coupled with an inability to compensate by attracting new markets in the West. Relatively recent research by Ferragina and Pastore (2008) has confirmed that structural changes and related job losses in formerly important sectors of the post-communist countries were key forces driving regional unemployment during the first decade of transition. What is more, differences in the pace of restructuring and in regions' abilities to attract foreign capital served to make economic transformation successful and relatively painless in some regions, yet damaging in many others that had begun to lag behind.

[16]A labor demand shock is any event that suddenly changes the demand for labor (and hence the levels of employment) in a region or sector of the economy. The causes may range from technological improvements that render old production methods (and previous levels of labor input) obsolete, the closing or opening of borders to trade, or the closure or opening of new enterprises in specific localities.

Table 1. Unemployment Rates in Central and Eastern Countries of the European Union Bordering the Former Soviet Union, 2000–2008

Country	EU territorial units for statistics	National unemployment rate (percent)		*N* of regions	Western regions	Regional unemployment rate (percent)		Eastern regions	Regional unemployment rate (percent)	
		2000	2008			2000	2008		2000	2008
Estonia	NUTS-3	13.6	5.5	5	Western Estonia	11.8	4.5	Northeastern Estonia	21.1	10.0
					Northern Estonia	11.5	4.4	Southern Estonia	13.4	5.7
Latvia	NUTS-3	14.2	7.5	6	Kurzeme	14.6	6.4	Latgale	20.5	8.4
					Riga	13.8	7.8			
					Pieriga	11.2	5.9			
Lithuania	NUTS-3	16.4	5.8	10	Klaipeda	14.2	7.2	Panevezys	15.8	5.6
					Telšiai	13.2	6.6	Utena	15.4	5.4
					Taurage	13.6	5.7	Vilnius	17.3	6.3
Poland	NUTS-2	16.1	7.1	16	Zachodniopomorskie	19.1	9.6	Podlaskie	15.2	6.4
					Lubuskie	20.7	6.5	Lubelskie	14.1	8.8
					Dolnośląskie	21.3	9.1	Podkarpackie	15.8	8.2
Slovakia	NUTS-2	18.6	9.6	8	Bratislavký	7.2	3.3	Presovský	22.1	13.0
					Trnavský	16.4	6.2	Kosický	25.6	13.5
Hungary	NUTS-2	6.4	7.8	7	Western Transdanubia	4.2	4.9	Northern Hungary	10.1	13.4
					Central Transdanubia	4.8	5.8	Northern Great Plain	9.2	12.0
Romania	NUTS-2	7.2	6.4	8	Nord-Vest	7.3	3.8	Nord-Est	6.8	4.5
					Vest	6.6	5.7	Sud-Est	8.7	7.2
					Sud-Vest Oltenia	5.6	6.5			

Sources: Compiled by authors from Statistics Estonia (http://www.stat.ee); Latvijas Statistika (http://www.csb.gov.lv); Statistics Lithuania (http://www.stat.gov.lt); Statistical Office of the Slovak Republic (http://portal.statistics.sk); Hungarian Central Statistical Office(http://portal.ksh.hu); Główy Urzad Statystyczny (GUS, 2009a); and Eurostat Regional Statistics Database (http://epp.eurostat.ec.europa.eu).

Confirming the imagined geographies of European "cores" and "peripheries" described in the introductory section, Huber's (2007) survey of existing empirical literature surmised that it was regions that were "physically closer" to the European Union that commanded higher wages and experienced more rapid economic growth: closer access to Western markets presumably led to higher GDPs and population growth rates, fewer job losses, and lower unemployment. What complicated such gross generalisations, however, was an even deeper divide between the capital cities and the remainder of the country—all across Eastern Europe. On the whole, large cities (capital cities especially) and their metropolitan areas experienced substantially higher growth rates and lower unemployment than other regions (Tammaru, 2005; also Ferragina and Pastore, 2008). Nonetheless, studies such as Ferragina and Pastore (2008) and Huber (2007), while recognizing the importance of the urban–rural divide, similarly suggested that it was also regions located close to the borders with the West that had the lowest registered unemployment rates, while unemployment in rural areas bordering on Russia, Belarus, or the Ukraine continued to be distinctly high.

Other studies have examined more specific aspects of the urban–rural unemployment divide. Yet these, too, have been marked by distinct understandings of national "cores" and "peripheries." Huber's (2006) study argued that peripheral agricultural regions were most negatively affected by the transition, whereas others (e.g., Rutkowski and Scarpetta, 2005) suggested that the problem in agricultural regions is of underemployment, rather than typical unemployment, because surplus rural labor could, in times of crisis, be absorbed into subsistence agriculture (and more or less simultaneously into temporary or seasonal occupations).

The demographic composition of regional populations was also cited as an explanatory variable in accounting for regional disparities. Zeilstra and Elhorst (2006) pointed to age, education, and ethnic composition as important factors in regional unemployment, arguing that the rate of unemployment tends to increase in East European regions with a higher share of young people, and secondarily when older people (40 to 64 years of age) are over-represented in the labor force. For example, youth unemployment is about twice as high as the overall rate in many post-communist countries (Rutkowski, 2006), and unemployment rates are particularly high among the less educated (Rutkowski and Scarpetta, 2005; Rutkowski, 2006) and in regions where such workers are over-represented (Jurajda and Terrell, 2007). According to Elhorst's (2003) study, the educated fare better than the relatively uneducated in transition economies, for they tend to possess skills more often demanded in rapidly changing job markets, and therefore are less likely to lose jobs and more likely to find new ones.

Such "demographic" explanations for regional economic differentials trace, indeed, a further set of core–periphery divides: ones that cut across the population itself. In such readings, very often the presence of ethnic minorities is evoked as an explanatory variable in accounting for certain regions' economic backwardness or lack of entrepreneurial culture.[17] In the Polish case, areas that lay in the Russian partition sphere and those that were incorporated into the Polish state relatively late have been described as characterized by radically different political and economic cultures by a variety of commentators (for a critique, see Bialasiewicz, 2002). In Estonia, similar arguments have been made about areas with a high Russian presence (for a critique, see Berg, 2002).

In the following sections of the paper, we assess such claims by looking more deeply at the changing pattern of regional divides in unemployment since 1989 in Estonia and Poland. In particular, we try to unpack—and unpick—the claims of "geographic" influences in shaping regional inequalities.

[17]Such assumptions, however, have been dismissed by recent studies (e.g., Zimmermann et al., 2007).

REGIONAL GEOGRAPHIES OF UNEMPLOYMENT

In our comparison of the Polish and Estonian contexts, we utilize statistical data collected at the NUTS-3 level in the Estonian case, and at the NUTS-2 and NUTS-3 level in the Polish case. The EU Nomenclature of Territorial Units for Statistics (NUTS) consists of a three-level hierarchy of regions (with two additional levels of local administrative units, NUTS-4 and 5) created for the purposes of regional development planning and the disbursement of EU development and "structural adjustment" funds.[18] Estonia is not large enough to be divided into NUTS-2 regions, and contains, rather, five NUTS-3 regions, each amalgamating counties (NUTS-4 regions, of which there are 15). Conversely, Poland is divided into 6 NUTS-1 macroregions, 16 NUTS-2 regions (voivodships), and 66 NUTS-3 regions (counties or powiats).

The analysis of the Estonian data is based on Estonian Labor Force Survey (ELFS) data, and focuses on recent changes in unemployment in 2006 (peak of economic growth) and 2008 (the first year of the slowdown). The analysis of the Polish data is based on data collected by the Polish Central Statistical Office (GUS, 2009a, 2009b), combining data from the Polish Labor Force Survey (PLFS) and the European Commission's Directorate-General for statistics (Eurostat, 2009a, 2009b) for the period 2006–2008. For both Poland and Estonia, we adopt the definitions of employment and unemployment utilized by the ILO.[19]

Estonia

Statistical Regions. As noted above, although normally the analysis of regional labor markets is carried out at the NUTS-2 level, Estonia's small size (being itself a NUTS-2 region), dictates that the scale of analysis be focused at the level of its five NUTS-3 regions (Northern, Western, Central, Northeastern, and Southern). The five statistical regions of Estonia examined here exhibit wide variations in population size and composition, as well as labor market characteristics (Table 2).

Northern Estonia, with the country's capital city,[20] is the most important economic center, accounting for 39 percent of Estonia's population and 60 percent of its GDP (Statistics Estonia, n.d.). It is predominantly urban (84 percent), with a relatively large ethnic minority population (40 percent of the total). Northern Estonia's population has a considerably above-average share of highly skilled and educated workers, and thus the wage level is considerably higher as well. The employment rate in 2008 was 76 percent,[21] six percentage points higher than the Estonian average, with most workers being employed in the service sector. This region's unemployment rate was low until the effects of the global economic downturn began to be felt.

Northeastern Estonia (Ida-Viru county) differs clearly from the country's other regions. It is the main industrial area, where the Russian-speaking population living mainly in urban areas is dominant; nearly one-half of the workforce is employed in the secondary sector,

[18]The NUTS-2 level consists of 271 regions in the EU-27, averaging over 15,000 km^2 in area and ranging from 0.8 to 3 million in population. The NUTS-3 level consists of 1,303 smaller regions, slightly larger than 3,000 km^2 in area and ranging from 150,000 to 800,000 in population (see Eurostat, 2008).

[19]According to the ILO, the unemployed are those within the working-age population who had no employment during the reference week, had actively sought employment during the previous four weeks, and were available to start work within the following two weeks.

[20]More specifically, it consists of Harju County and Tallinn, which attracts a considerable share of investment, and is a destination for young and well-educated in-migrants from all regions of Estonia (Kontuly and Tammaru, 2006).

[21]I.e., the percentage of the population aged 15–64 who are gainfully employed.

Table 2. Selected Indices of Estonia's NUTS-3 Regions, 2008

Indicator	Total	Northern	Western	Central	Northeastern	Southern
Population						
Total, thous.	1,340.9	523.3	161.1	140.3	170.7	345.6
Men, pct.	46.0	46.0	46.6	46.7	44.6	46.4
Women, pct.	54.0	54.0	53.4	53.3	55.4	53.6
Age group, pct.						
0–14	14.8	14.6	14.8	15.7	13.2	15.7
15–64	68.0	69.2	67.1	67.5	68.4	66.6
>65	17.2	16.3	18.1	16.8	18.4	17.7
Ethnicity, pct.						
Estonians	68.7	59.6	90.6	89.5	19.7	87.9
Ethnic minorities	31.3	40.4	9.4	10.5	80.3	12.1
Place of residence, pct.						
Urban	69.4	84.1	54.1	41.7	88.7	56.0
Rural	30.6	15.9	45.9	58.3	11.3	44.0
Education of labor force, pct.						
I (primary and basic)	11.0	8.3	13.8	18.6	6.9	13.5
II (upper secondary)	55.2	50.6	61.1	57.2	64.1	55.5
III (tertiary)	33.8	41.1	25.1	24.2	29.0	31.0
Employment status						
Employed, thous.	656.5	285.5	77.3	65.8	73.1	154.9
Unemployed, thous.	38.4	13.2	3.5	4.0	8.1	9.4
Inactive, thous.	347.9	113.3	43.8	38.1	53.5	99.3
Labor market indicators						
Activity rate, pct.[a]	73.6	79.3	71.4	70.9	68.2	69.7
Employment rate, pct.	69.5	75.7	68.2	66.7	61.4	65.6
Unemployment rate, pct.	5.5	4.4	4.5	5.7	10.0	5.7
Long-term unemployment rate, pct.[b]	1.7	1.2	1.1	1.8	4.1	1.8
Share in total employment, pct.	100.0	43.5	11.8	10.0	11.1	23.6
Change in employment, 1989–2000, pct.	–31.7	–27.2	–29.4	–34.4	–44.4	–31.1
Change in employment, 2000–2008, pct.	14.7	15.0	16.0	20.3	5.3	15.9
Employment by sector of economy, pct.						
Primary	3.9	0.9	7.2	8.5	2.1	6.1
Secondary	35.4	31.3	35.7	40.7	49.6	34.0
Tertiary	60.7	67.8	57.1	50.8	48.3	59.9
Average wage (kroons per month)[c]	12,818	14,347	10,664	10,637	10,265	11,433
Contribution of region to GDP, pct. (2007)	100.0	59.7	8.4	6.7	7.7	17.5

[a]The share, within the entire labor force, of workers between the ages of 15 and 64 inclusive.
[b]Share of those unemployed who have been looking for work for 12 months or more.
[c]Preliminary, quarterly average.
Source: Compiled and calculated by authors from Estonian Labor Force Survey (ILO, annual) and Statistics Estonia database.

services are relatively underdeveloped, and the share of ethnic minorities in the overall population is 80 percent. Wages are low, and the unemployment rate two to three times higher than elsewhere in the country.

Central Estonia is the most agrarian region, with almost nine percent of the employed population engaged in the primary sector. It is the least populous of the five regions, but the age structure is relatively favorable due to high in-migration in the late Soviet period (Marksoo, 2005).[22] There are no large cities, Estonians comprise nearly 90 percent of the population, and the share with higher education is the lowest among the regions.

Western Estonia has the lowest unemployment rate in Estonia. It is rural in character, with 46 percent of the people, mostly older, living in the countryside. As in Central Estonia, the percentage of ethnic Estonians is high and those with higher education low.

Southern Estonia is the largest region by area, and second in terms of population. This region includes the country's second-largest city (Tartu) and many rural counties. Employment rates (especially in the agrarian counties) are relatively low, whereas the share of ethnic Estonians and those with higher education is relatively high.

General Unemployment Trends. The most important economic and labor market adjustments occurred in Estonia in 1993, the year of the most intense restructuring (Vodopivec, 2000), after which unemployment began to increase rather rapidly. The total number of employed people decreased by ca. 32 percent between 1989 and 2000. In most of the NUTS-3 regions, employment fell by a similar magnitude, except for industrial Northeastern Estonia which experienced a steeper decline of 44 percent (Table 2). Increasing unemployment was first observed in eastern regions of Estonia bordering Russia, and subsequently spread across the central and western parts of the country. The gap between the highest and lowest regional unemployment rates generally widened, before narrowing somewhat since 2005.

The overall employment rate, after increasing rapidly between 1991 and 1995, leveled off at around 10 percent until the 1998–1999 Russian economic crisis affected Estonia. In 2000, unemployment peaked at ca. 14 percent, but subsequently declined between 2001 and 2007, a period of steady post-crisis economic growth. Nonetheless regional disparities remained high (Table 2), as some regions gained more than others from the recovery in growth.[23]

The country's industrial Northeastern and the formerly agricultural Southern regions sustained rapid increases in unemployment during the economic restructuring in the early 1990s. In particular, Southern Estonia experienced major layoffs when its agricultural sector, earmarked for the production and exporting of foodstuffs to the large Russian market, sustained a massive demand shock prompted by cessation of Russian food imports (Marksoo, 2002). Unemployment disparities between Southern Estonia and the country as a whole began to moderate somewhat after the mid-1990s, but high unemployment in Northeastern Estonia persisted through the past decade (21.1 percent in 2000 and 10.0 percent in 2008).[24]

The east–west polarization of regional unemployment in 2008 can be visualized quite effectively in Figure 1. It is readily apparent that a gradient exists with its peak in the Northeast

[22]I.e., the share of the total population under 25 years of age (32 percent) in January 2009 was the highest among the regions, and the share of the working-age population approximates the national average.

[23]The minimum regional unemployment rate (for Northern Estonia) decreased from 11.5 percent in 2000 to 3.3 percent in 2007—i.e., by 71 percent. At the same time the maximum regional unemployment rate (for Northeastern Estonia) fell by only 57 percent, from 21 percent to 9 percent.

[24]The Northeastern region's industrial enterprises, established within the framework of the Soviet command economy and oriented to the eastern (FSU) market, either went bankrupt or had to be restructured during the transition.

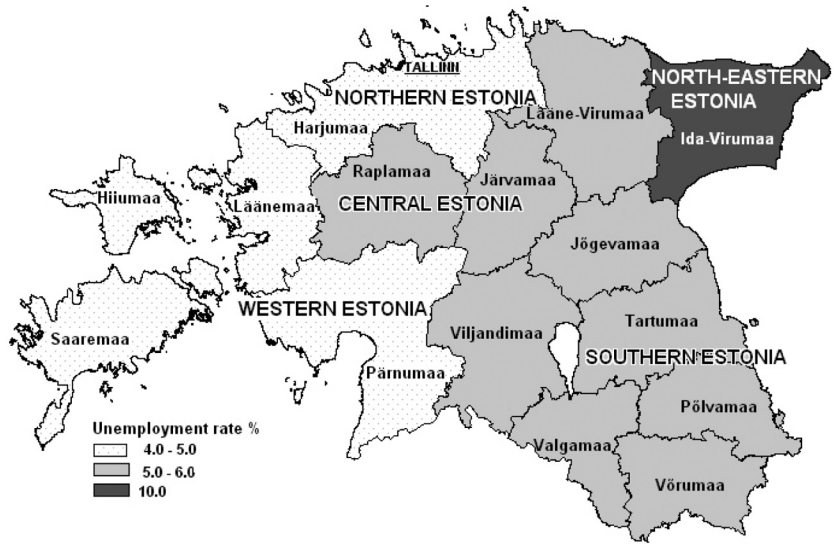

Fig. 1. Regional (NUTS-3) unemployment rates in Estonia, 2008. *Source*: Compiled by authors from Estonian Labor Force Survey and Statistics Estonia. The regions include the following counties: Northern Estonia—Harjumaa; Western Estonia—Hiiumaa, Läänemaa, Saaremaa, Pärnumaa; Central Estonia—Raplamaa, Järvamaa, Lääne-Virumaa; Northeastern Estonia—Ida-Virumaa; Southern Estonia—Jõgevamaa, Viljandimaa, Tartumaa, Valgamaa, Põlvamaa, Võrumaa.

region bordering Russia, where the unemployment rate is more than twice as high as that in Western and Northern Estonia.

Since the onset of the global financial crisis in the fall of 2008, unemployment has increased in all five regions. Northern Estonia (11 percent unemployment in the first quarter of 2009) and Western Estonia (7 percent) continued to experience lower rates than Central (12 percent), Northeastern (14 percent), and Southern Estonia (14 percent). Inasmuch as Northeastern Estonia's unemployment rate in relative terms grew more slowly than the other regions in this most recent period, a reduction of regional unemployment disparities was apparent by early 2009 (Statistics Estonia, n.d.).

Overall, the data suggests that the incidence of unemployment is now rather uniformly distributed across regions. Aside from the structural factors connected to the regional economies, analyses also highlight the impact of regional population heterogeneity. Previous studies have already noted that unemployment among ethnic minorities is persistently larger than among ethnic Estonians (see Tammaru and Kulu, 2003; Kasearu and Trumm, 2008). In 2008, the unemployment rate of ethnic minorities was 8 percent, about twice as high as that for ethnic Estonians. Unlike the minority populations, ethnic Estonians are overrepresented in the agricultural and service sectors. Although job losses in agriculture have tended to hit them harder, the Estonians fared better during the transition period because they were more successful in finding new employment in the service sector (see Tammaru and Kulu, 2003). Other demographic variables also show clear effects on unemployment rates: (1) the unemployed were over-represented among young people and under-represented among the older; (2) people with lower levels of education exhibited significantly above-average unemployment rates; and (3) men tended to have a higher level of unemployment than women.

Regression Analysis. We now turn to the part of our analysis that is based on a multivariate research design. We applied a logistic regression to unweighted 2006 and 2008 Estonian Labor Force data to determine whether east–west regional differences in unemployment increased as a result of the global financial crisis that deepened and broadened in the fall of 2008. We first studied the dispersion of regional unemployment rates by calculating the coefficient of variation—the square root of the weighted variance of regional (NUTS-3 level) unemployment rates, divided by the national unemployment. The weighted variance of unemployment rates was defined as:

$$Var\left(\frac{x_i}{y_i}\right) = \sum_i \left(\left[\frac{x_i}{y_i} - \frac{\bar{x}}{\bar{y}} \right]^2 \cdot \frac{y_i}{\sum_i y_i} \right),$$

where x_i represents unemployed persons in region i, y_i is the economically active population in region i, $\bar{x}$ and $\bar{y}$ represent the averages of x_i and y_i, and $\bar{x}/\bar{y}$ is the unemployment rate at the national level, i.e. $\Sigma x_i / \Sigma y_i$.

As the next step, we applied binary logistic regression to clarify whether the region of residence still impacted unemployment after allowing for differences in the personal characteristics of the population in each region. Our research population, derived from ELFS data, consisted of 16,786 working-age individuals in 2006 and 18,370 in 2008, among whom 605 were unemployed in 2006 and 666 in 2008. The full regression model may be written as follows:

$$\log \frac{p(Y_i = 1)}{1 - p(Y_i = 1)} = \alpha + \sum_{k=1}^{k} \beta_k X_{ik},$$

where $p(Y_i = 1)$ is an individual's ($i = 1, \ldots I$) probability of being unemployed, $1 - p(Y_i = 1)$ is an individual's ($i = 1, \ldots I$) probability of being employed, X_{ik} is the value of the variable for an individual, and β_k is the parameter that describes the effect of this variable, with K variables. We ran two sets of models using both 2006 and 2008 data (Table 3). Models 1 and 3 included NUTS-3–level regions only (for 2006 and 2008, respectively), and we expected that the individuals residing in Northeastern and Southern Estonia (i.e., the eastern parts of the country) would have the highest probabilities of being unemployed, whereas those living in Western and Northern Estonia (the latter region including the capital city of Tallinn) would have the highest probabilities of being employed. In models 2 and 4, control variables were introduced for the population characteristics of age, education, and ethnicity that were believed to influence regional unemployment levels.

To measure age, we used the categories 15–24, 25–49, and 50–74 years, with the expectation that the probability of unemployment would decrease with advancing age (consistent with the literature reviewed above). The three educational levels employed were those of the International Standard Classification of Education (ISCED). The first level (*below upper secondary*) included people with primary and basic education; the second (*upper secondary*) those with general secondary education, vocational, and/or vocational secondary education after basic education; and the third (*tertiary*) those with vocational secondary education after general secondary education or with higher (including graduate) education. Here the

Table 3. Logistic Regression Models Estimates for the Employed and Unemployed[a]

Independent variables		2006		2008	
		Model 1	Model 2	Model 3	Model 4
Region	Western Estonia	0.375***	0.573***	0.373***	0.610***
	Central Estonia	0.439***	0.625***	0.580***	0.862
	Northern Estonia	0.401***	0.533***	0.433***	0.537***
	Southern Estonia	0.588***	0.883	0.616***	1.061
Gender	Female		1.209**		1.073
Age	15–24		3.179***		3.324***
	25–49		1.366***		1.177
Ethnicity	Ethnic minority		2.685***		2.600***
Education	Primary (I level)		3.516***		3.267***
	Secondary (II level)		1.639***		1.750***
Place of residence	Rural		1.389***		1.223**
–2 log likelihood		4560.397	4278.894	5058.852	4729.565
Cox and Snell R^2		0.006	0.032	0.005	0.032
Nagelkerke R^2		0.016	0.09	0.013	0.091

[a]Dependent variable: employed = 0; unemployed = 1. In the regression, the comparison groups for the independent predictors are Northeastern Estonia (for regions), male (for gender), ages 50–74 (for age groups), Estonians (for ethnic groups), and urban (for place of residence). Interpreting the coefficients in the table is straightforward so that, for example, the unemployment ratio for ethnic minorities is more than two and one-half times higher than for ethnic Estonians in 2006 model 2. *** = significant on 0.01 level; ** = significant on 0.05 level; * = significant on 0.1 level.

expectation was of an inverse linear relationship between unemployment and increasing educational level.

The third population composition variable included in our calculations is ethnicity. Nontitular ethnic populations tend to be small minorities in most Central and Eastern European countries, although we find sizable Russian-speaking minorities in EU member states that were once part of the Soviet Union, including Estonia (see Tammaru and Kulu, 2003). Ethnic minorities suffered more from the shift away from the Soviet-era heavy industrial economy because they were less successful in finding service-sector jobs due to linguistic and other factors (Kaiser, 1995; Pavelson and Luuk, 2002). Consequently, whereas ethnic minorities form a third of the population of Estonia, they account for almost half of the unemployed (Statistics Estonia, n.d.). Therefore, the expectation was that the probability of unemployment would be much higher among ethnic minorities than among ethnic Estonians.

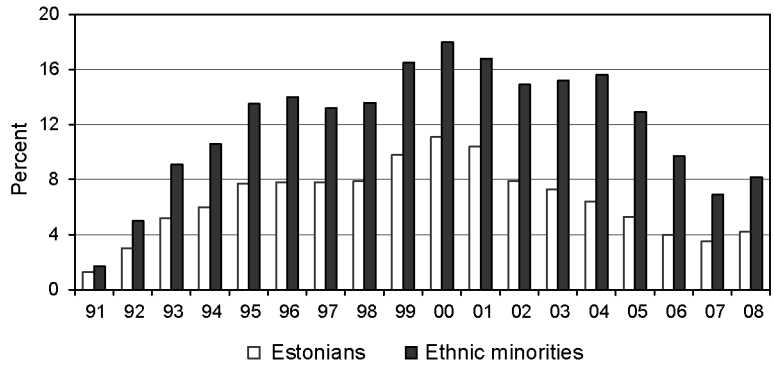

Fig. 2. Dynamics of unemployment rates by ethnicity. *Source*: Compiled by authors from Estonian Labor Force Survey and Statistics Estonia.

The last control variable introduced into models 2 and 4 is place of residence (urban versus rural), inasmuch as previous studies have demonstrated that this also factored into the level of unemployment (Huber, 2007; Ferragina and Pastore, 2008). Although urban–rural unemployment differences were not particularly large in Estonia, levels of unemployment did decrease more rapidly in urban than in rural areas in recent years. Thus we expected that the probability of being unemployed is higher in rural areas.

The results of the regression analysis highlight that the probability of being unemployed is considerably higher for residents of Northeastern Estonia than of all other regions. Unemployment is also significantly higher in Southern Estonia. However, two important indicators of change emerged when other demographic and area characteristics were factored in:[25] (1) regional unemployment disparities between Northeastern and Western Estonia are reduced; and (2) differences between Northeastern and Southern Estonia disappear. Thus, the initial differences among the regions were related in part to demographic differences. Nonetheless, region-specific disadvantages in Northeastern and Southern Estonia persist, inasmuch as residents of these two eastern regions face a (statistically significant) higher probability of being unemployed than people living in the other regions of the country (even of the same age, gender, and educational level). More importantly, Estonia's east–west regional divide has persisted into the current global economic recession, even though the regional disparities in unemployment have narrowed and unemployment differences between the two eastern regions and Central Estonia have become statistically insignificant.

Finally, a factor quite distinct in the Estonian context is the persistence of ethnic differences in unemployment (i.e. ethnic minorities are more likely to be unemployed; see Fig. 2). Beyond the sectoral differences in employment noted above (the fact that ethnic Estonians are overrepresented in the agricultural and service sectors), other factors must be taken into account in explaining these differentials. Since independence, the Estonian political landscape was marked by struggles over definition of the country's body politic: in particular, the awarding of citizenship to those who subsequently became "minority populations" within the new Estonian state, most prominently the large Russian population. In 1992, only 68 percent of the population were identified as citizens and as many as 32 percent had "undetermined citizenship."

[25]Models 2 and 4 of the regression analysis controlled for age, level of education, ethnicity, gender, and urban/rural residence of the population.

When the Estonian language was declared the official language of the state, about 35 percent of the population identified themselves as Russian-speakers, of which only 9 to 15 percent could speak Estonian. The lack of adequate language ability among the Russian-speaking population and the difficulties of acquiring Estonian language competence were widely regarded as the main obstacles to obtaining citizenship. They also strongly influence these populations' integration into the emerging market economy (e.g., see Kaiser, 1995; Berg, 2002; Pavelson and Luuk, 2002; Budryte, 2005; Feakins and Bialasiewicz, 2006). When interpreting contemporary economic data, it is therefore important to keep such divides in mind.

In summary, significant unemployment disparities in Estonia emerged early in the transition period, at the beginning of the 1990s. Although the overall unemployment rate decreased between 2001 and 2007, regional disparities remained and even increased. By 2008, the rates of unemployment ranged from 4 percent to 10 percent among regions and began to increase rapidly in the second half of the year as a result of the crisis, with Estonia being one of the first countries to enter recession in 2008 (OECD, 2009). At the beginning of 2009, unemployment had increased in all regions, although regional disparities had narrowed somewhat. Nonetheless, even under conditions of general economic recession, the east–west divide still persists, with lower unemployment rates in the country's western regions.

Unemployment remains highest in the eastern parts of the country, Northeastern and Southern Estonia. These were the regions most closely bound by Soviet-era economic relations; industry in Northeastern Estonia and agriculture in Southern Estonia were oriented to a large extent toward producing for the Russian market during the Soviet period. Conversely, Northern and Western Estonia have built close economic ties with neighboring countries such as Finland and Sweden during the transition period, which has had a positive impact on their employment growth. Some studies (e.g., OECD, 2005) have observed that the labor market performance of individual regions tends to be closely linked to outcomes in their surrounding regions. It is likely, then, that Central Estonia capitalizes from proximity to the more successfully developing Western parts of the country; according to Raagmaa (1996) this region, together with Northern Estonia, forms a common functional area, the so-called Greater Tallinn Area. The proximity of the capital enables many people, especially in Rapla County, to work in Tallinn or in its vicinity (Tammaru, 2005), resulting in higher employment levels compared to Northeastern and Southern Estonia.

Poland

General Unemployment Trends. Poland is often represented as a success story of the transition and, more recently, one of the "winners" in the context of the global economic crisis, relative to most of its neighbors, which have experienced much greater decreases in incomes and production. Indeed, in a recent assessment of the economic woes of ECE countries, *The Economist* (Down, 2009, p. 49) opined that Poland "will be the only economy in the EU to grow this year." Polish growth is largely bolstered by strong domestic demand and spending; at the same time, however, the country's rising public debt is a concern and wage levels remain significantly lower than in neighboring Germany and even the Czech Republic (ibid.).

Poland was the initial testing ground for the "shock therapy" put in place by Harvard economists in the early 1990s, triggering mass unemployment and plummeting wage levels.[26]

[26]For a summary of the "regional dimension," of the early years of the transition, see Slay (1993), Wecławowicz (1996), and Zarycki (1997).

During the late 1990s, the unemployment rate diminished to just above 10 percent, before rising again to over 20 percent in the early 2000s—the highest in the EU and EU candidate countries at the time. Before the current crisis, unemployment had fallen again, to 7.1 percent in 2008, only to rise to 8.2 percent in May 2009 (GUS, 2009a, 2009b).

The effects of economic transition in Poland have been strongly differentiated, tracing regional divides as well as (and especially) a marked divide between rural and urban areas. Studies by Gorzelak (1998) and Gorzelak and Jalowiecki (1998) after the first decade of economic transformation noted a pronounced differentiation in the ways in which certain Polish cities and regions were able to take advantage of the new opportunities offered by free-market capitalism. Although educational levels were important in determining success in obtaining (or maintaining) employment in the early years of the transition, the above studies noted the relevance also of other "local" factors that mediated the effects of educational/skill differentials: those who lived in (or close to) the principal urban centres (Warsaw, Kraków)—where most of the new investment and jobs had been concentrated—were much more likely to be employed. Conversely, those living in the eastern and western peripheries of the country, and in the former industrial districts in the north and south (Gdańsk and Katowice, respectively) had been hardest hit. Ten years on, the geographies of regional economic fortunes are more complicated still.

Statistical Regions.[27] The *Central* region (Fig. 3), comprising Mazowieckie and Lodzkie voivodships, is the most affluent Polish region by far. The capital city, Warsaw, is the economic heart of the country; Mazowieckie voivodship (at whose center it lies) alone accounts for almost 22 percent of Poland's GDP (Table 4) and of total investment outlays.[28] Mazowieckie voivodship has the highest average monthly wages/salaries, and the highest share of highly skilled and educated workers, whereas Łódzkie has the highest expenditures for innovation and research and development. The bulk of the region's population is concentrated in the prinicipal cities (Warsaw and Łódz, respectively). There is a relatively broad base of industries (including automotive and electronics) and services, although agriculture remains important: 69 percent of land in Mazowieckie and almost 72 percent in Łódzkie voivodship is considered "agricultural." The Central region consistently registers the lowest unemployment rates in Poland: 6.2 percent in 2008.

The *Southern* region, consisting of Małopolskie and Śląskie voivodships, is the second most populous Polish region. It is also the second most important center of economic activity, accounting for over 20 percent of Poland's GDP and 21 percent of all investment. The two voivodships comprising this region are quite distinct in many ways, however. Śląskie is still strongly marked by its past as the center of the country's heavy and extractive industries, and although the employment structure is slowly changing, the principal employers remain coal mining and industry (the automotive industry in particular). The corresponding statistics are not particularly revealing, for although 40 percent were employed in the secondary sector and 57 percent in the tertiary in 2008 (Table 4), a great percentage of the employment in "services" was linked to some of the older industries. Śląskie voivodship is the most highly urbanized in Poland, with 78 percent of the population living in urban areas (the Katowice conurbation). And although its economy was heavily affected by the early years of the transition, it is currently characterized by below-average unemployment: 6.6 percent in 2008.

Małopolskie voivodship, with Poland's historical capital Kraków at its heart, has a somewhat different employment structure: although employment in industry remains important

[27]In this section, data on all regions are derived and recalculated from GUS (including GUS, 2009a, 2009b).

[28]The Central region as a whole accounts for almost 28 percent of Poland's GDP.

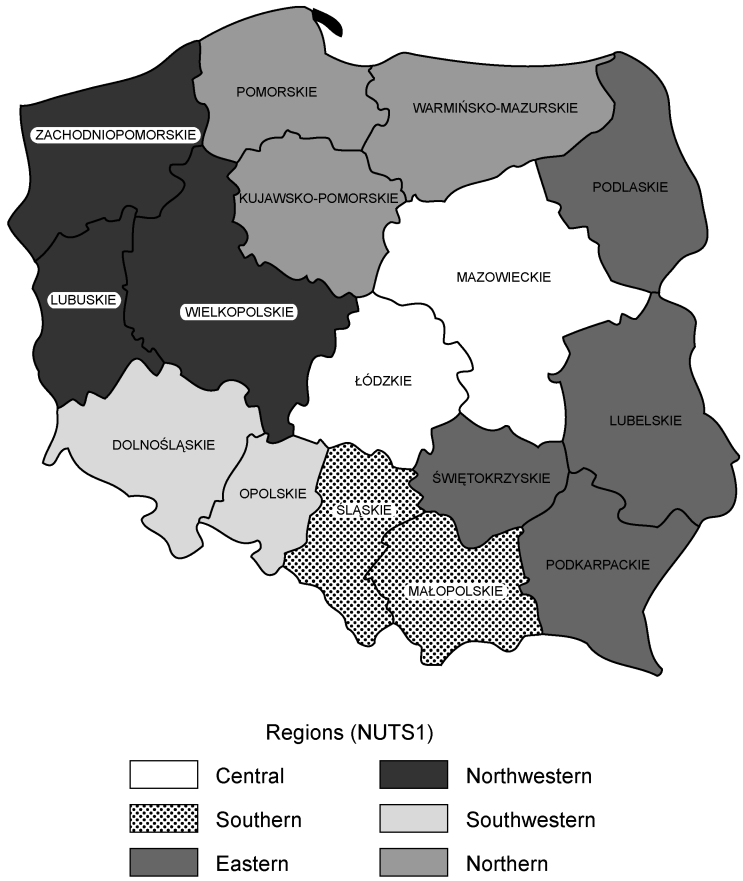

Fig. 3. Polish regions (NUTS-1) and voivodships (NUTS-2).

(over 30 percent of total employment), a large (and highly internationalized) service sector acts as the motor of the local economy. Unlike in Śląsk, agriculture remains important, with over 15 percent of the population employed in the primary sector; consequently, Małopolskie voivodship is much more rural in character, with only 49 percent of the population living in cities (Table 4). As in the case of Warsaw in Mazowieckie voivodship, Kraków receives the bulk of the employment and investment outlays for the whole voivodship. The unemployment rate in 2008 for the voivodship as a whole was 6.2 percent, almost one percentage point below the national average.

The *Eastern* region, comprising Lubelskie, Podkarpackie, Podlaskie, and Świętokrzyskie voivodships, lies along Poland's eastern frontier. It is much more sparsely populated than other Polish regions, with a predominantly rural economy. It is here that we find the highest percentage of the population employed in agriculture, and reaching nearly 30 percent in Lubelskie. The region's unemployment rate in 2008 (8.2 percent) is higher than the national average, and ranges from 8.8 percent in Lubelskie to 6.4 percent in the Podlaskie, just to the north (Table 4). It is also important to note that this is a region characterized by the highest outmigration.

Table 4. Selected Indices of Poland's NUTS-2 Regions (voivodships), 2008[a]

Indicator	Poland	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Population																	
Total, thous.	38,136	2,549	5,204	3,287	4,646	2,162	2,099	1,191	1,273	1,009	3,398	1,693	2,877	1,033	2,068	2,220	1,427
Men, thous.	18,415	1,212	2,490	1,593	2,240	1,047	1,026	580	620	489	1,648	821	1,378	499	997	1,078	695
Women, thous.	19,721	1,337	2,714	1,694	2,406	1,115	1,073	611	653	520	1,750	872	1,499	534	1,071	1,141	732
Age group, pct.																	
0–14	19.3	17.8	18.8	20.4	17.6	20.0	21.0	19.7	19.0	19.7	20.3	19.1	17.8	17.7	20.0	20.6	20.8
15–64	64.5	63.9	63.8	63.5	65.5	62.9	63.5	63.1	63.4	65.9	65.0	65.9	65.9	65.6	64.7	64.6	65.0
>65	16.2	18.3	17.4	16.1	16.9	17.1	15.5	17.2	17.6	14.4	14.7	15.0	16.3	16.7	15.3	14.8	14.2
Place of residence, pct.																	
Urban	61.1	64.3	64.6	49.2	78.2	46.5	40.9	59.6	45.3	63.7	56.4	68.8	70.5	52.4	60.9	66.5	59.9
Rural	38.9	35.7	35.4	50.8	21.8	53.5	59.1	40.4	54.7	36.3	43.6	31.2	29.5	47.6	39.1	33.5	40.1
Education of labor force[b]																	
Primary/lower secondary	19.6	20.7	17.0	18.5	15.4	21.2	21.1	24.3	22.0	21.0	19.2	22.3	18.3	19.5	23.2	20.5	26.4
Secondary/vocational	63.9	62.9	59.7	64.6	69.5	62.3	63.9	59.0	61.8	66.0	66.4	61.1	66.0	65.7	63.8	63.5	60.2
Tertiary	16.5	16.4	23.3	16.9	15.1	16.5	15.0	16.7	16.2	13.0	14.4	16.6	15.7	14.8	13.0	16.0	13.4
Employment status																	
Employed, thous.	15,800	1,332	2,479	1,322	1,821	985	873	497	590	416	1,298	566	1,148	385	733	795	559
Unemployed, thous.	1,474	99	178	98	123	102	116	46	78	46	91	83	114	36	110	68	87
Inactive, thous.	3,479	1,133	438	381	535	993											
Labor market indicators																	
Activity rate, pct.[c]	69.9	71.9	75.0	71.2	65.8	71.1	69.8	72.7	73.2	67.1	70.2	65.8	68.3	67.3	67.6	68.3	66.1
Unemployment rate, pct.	7.1	6.7	6.0	6.2	6.6	8.8	8.2	6.4	8.8	6.5	6.1	9.6	9.1	6.6	9.1	5.5	7.5
Long-term unemployed, thous.[d]	351	36.0	30.0	30.0	35.0	26.0	20.0	11.0	18.0	7.0	37.0	18.0	29.0	6.0	23.0	10.0	15.0
Employment by sector of economy, pct.																	
Primary	14.0	16.1	12.4	15.4	2.5	29.6	22.8	27.2	25.1	8.7	15.6	6.2	6.7	12.2	17.6	7.7	12.7
Secondary	31.9	32.6	25.2	30.6	40.0	22.3	28.6	22.5	30.8	36.3	36.4	31.3	38.9	36.4	33.4	33.0	33.5
Tertiary	54.1	51.1	62.3	53.9	57.4	47.9	48.6	50.1	44.1	55.0	48.0	62.4	54.3	51.4	49.1	59.4	53.8
Average wage[e]	3,158	2,741	4,036	2,904	3,239	2,772	2,614	2,781	2,745	2,654	2,869	2,881	3,136	2,873	2,692	3,168	2615
Contribution of region to GDP, pct. (2007)	100.0	6.2	21.7	7.4	13.0	3.9	3.7	2.3	2.6	2.3	9.3	4.0	8.2	2.3	4.7	5.7	2.8

[a]Key to voivodships: A = Łódzkie; B = Mazowieckie; C = Małopolskie; D = Śląskie; E = Lubelskie; F = Podkarpackie; G = Podlaskie; H = Świętokrzyskie; I = Lubuskie; J = Wielkopolskie; K = Zachodniopomorskie; L = Dolnośląskie; M = Opolskie; N = Kujawsko-Pomorskie; O = Pomorskie; P = Warmińsko-Mazurskie.
[b]ISCED level, pct.
[c]The share, within the entire labor force, of workers between the ages of 15 and 64 inclusive.
[d]Those unemployed who have been looking for work for 12 months or more.
[e]In PLN per month.
Source: Compiled and calculated by authors from 2009 data of the Polish Statistical Office (Główny Urząd Statystyczny [GUS]).

The *Northwestern* region includes Lubuskie, Wielkopolskie, and Zachodniopomorskie voivodships, and extends to the German border. Zachodniopomorskie voivodship has the highest unemployment in Poland (9.6 percent in 2008), with unemployment in rural areas exceeding 12 percent. The bulk of the Northwestern region's population is currently employed in the tertiary sector, ranging from 48 percent in Wielkopolskie (in particular in the Poznan metropolitan area) to 62 percent in Zachodniopomorskie (Table 4).

The *Southwestern* region, to the immediate south, comprises Dolnośląskie and Opolskie voivodships. Although both are predominantly rural in character, a significant proportion of employment is in the secondary and tertiary sectors.[29] The level of unemployment in Opolskie voivodship (6.6 percent) is less than the national average, although this figure masks a significant amount of rural underemployment. Dolnośląskie voivodship, on the other hand, has the second-highest unemployment in Poland, 9.1 percent (Table 4).

Finally, the *Northern* region encompassing Kujawsko-Pomorskie, Pomorskie, and Warmińsko-Mazurskie voivodships and extending along Poland's Baltic coast is quite diverse in terms of its employment profile. The Gdańsk/Gdynia/Sopot metropolitan area in Pomorskie voivodship was once the heart of Poland's shipbuilding industry and has undergone heavy restructuring (and heavy job losses) since the onset of the transition. Two decades later, unemployment in some sectors (and age groups) remains high, but new investment and new jobs in the tertiary sector have brought Pomorskie's unemployment (5.5 percent in 2008) far below the national average. Kujawsko-Pomorskie voivodship to the south, however, has one of the highest rates of unemployment in Poland—9.1 percent—and outside of the eastern region, one of the highest rates of employment in the primary sector (17.6 percent; Table 4).

Powiat-Level Analysis. The above data can be further examined at a finer scale, the powiat level (NUTS-3 regional classification). Figure 4, compiled on the basis of Polish Labor Force Survey data by GUS (2009a), clearly illustrates some of the differentials described above. What is also evident, unlike in Estonia, is the absence of a clear east–west divide in unemployment levels. Rather, if one particular trend is visible, it is that the eastern regions are doing relatively better than those "closer" to the West.

The map also reveals a pronounced divide in employment between the metropolitan regions (Warsaw, Poznań, Wrocław, Kraków) and the remainder of the country.[30] Figure 5, which shows the percentage-point change in unemployment between June 2008 and June 2009, further confirms that the western Polish regions have been more affected by the crisis than those in the East.[31]

On this basis, can one presuppose a different (but more or less equally simplistic) regional dimension, whereby the east-west divide is supplanted by a west–east divide? Recent studies by Wojnicka et al. (2005) and especially Gorzelak (2009) have argued that the apparent "regional"' divides in reality mask *other* differences that sometimes (although not always) correspond to the regional administrative "container." Gorzelak's (2009) study points, for instance, to the importance of sectoral differences in unemployment. Export-dependent industries and industries with high levels of foreign investment, he argues, have been hardest hit by the latest crisis.[32] On the other hand, food production, domestic mining, and energy

[29]However, almost 15 percent of employment in the Opolskie remains in agriculture.

[30]As noted above, this trend has been evident since the early years of the transition.

[31]The crisis is assumed to have hit Poland after November 2008, so the period of change captured here should presumably highlight its effects (unemployment in general rose from 7.2 percent to 8.1 percent between June 2008 and June 2009).

[32]The automotive sector is the most important of these; others include electrical appliances, electronics, and the furniture industry (Gorzelak, 2009, p. 27f).

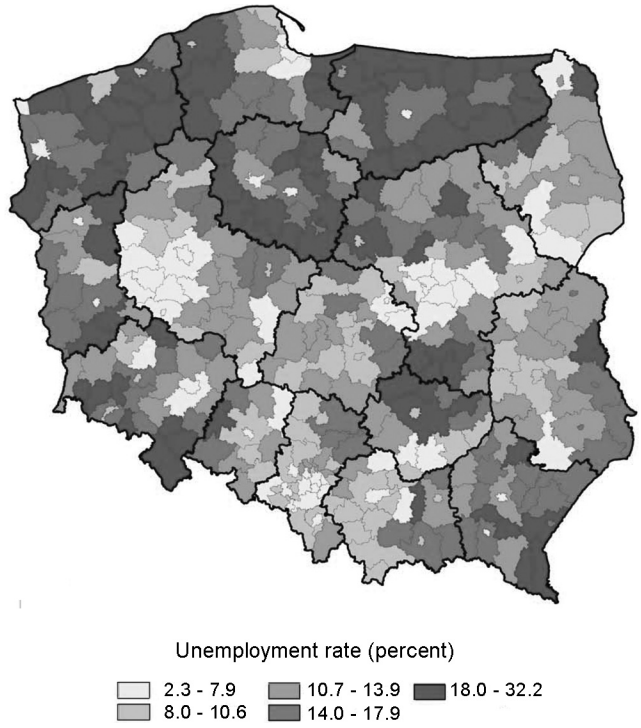

Fig. 4. Map of unemployment (rate in percent) in Poland in 2008, by powiats. *Source*: Compiled on the basis of the Polish Labor Force Survey by the Central Statistical Office of Poland.

production are only loosely tied to the global economy, and tend to be less affected. The observed "regional effects" are thus very much a product of the different sectoral profiles of the regions and their differential exposure to global political-economic shifts (ibid.).

Analyses conducted by the Polish Central Statistical Office for the period 2008–2009 (GUS 2009a, 2009b; see also Ministerstwo Gospodarki, 2009) also suggest that the "territorial" effects of the current crisis have been dependent in great measure on the specific sectoral composition of the industries in the various Polish regions—a differentiation that becomes evident when examining the Figures 4 and 5. Nonetheless, GUS analyses (2009a, 2009b) of the Labor Force Survey data also note that the seeming "regional" patterns of unemployment are not associated *solely* with differences in industrial/sectoral makeup. At the same time, the studies note that neither can such patterns be neatly mapped by differences in demographic variables such as age or educational level. Indeed, as the GUS analyses show, the influence of demographic composition variables is highly differentiated across Poland.

The assumption of a core–periphery logic that would dictate higher chances of economic success for the western regions of Poland simply does not hold. And yet, as we have observed, "regional" differences are visible, but they are not easily mappable along an east–west axis (the assumption made by many of the comparative studies we outline in the opening sections of the paper) and cannot be reduced to sectoral differences alone. To understand regional economic differences in the Polish context, it is necessary, rather, to (also) look beyond the years of the transition, keeping in mind much longer political-economic histories. The notion

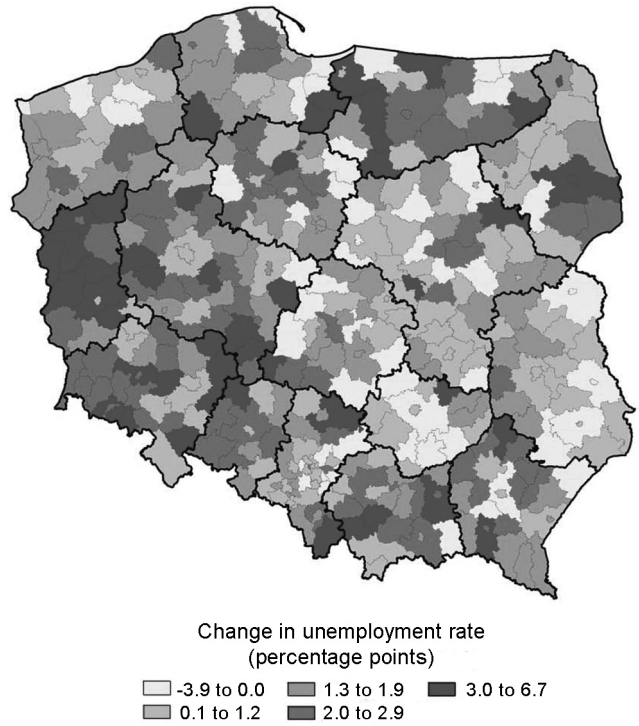

Fig. 5. Map of change in unemployment rate (in percentage points) in Poland from June 2008 to June 2009, by powiats. *Source*: Compiled by authors from GUS (2009a, 2009b).

of a Poland neatly divided between "East" and "West" is, indeed, complicated by a distinct post-war history within which, in a sense, the "East" was brought "West" and the "West" fundamentally re-arranged. The ex-German territories in the west and north of the country (termed the *Ziemie Odzyskane* in Polish, the "Recovered Lands," corresponding roughly to territories in the Zachodniopomorskie, Lubuskie, Dolnośląskie, Opolskie, and Warmińsko-Mazurskie voivodships) were the focus of a fundamental re-territorialization in the early post-war years.[33] The primary tool in this enterprise was the mass expatriation of the remaining German populations: in the immediate years after the war, over 3.5 million Germans were expelled from the western regions (including Polish Silesia), as well as the territories of what once was East Prussia.[34] Their place was taken by the 1.5 million Poles forcibly "re-patriated" from territories to the east, now lying within Ukraine and Belarus (Magocsi, 1993). It was also in the Western regions that the communist state concentrated its early policies of industrialization and infrastructure development, including the creation of state-run farming collectives. These policies aimed, above all, at making these lands an integral part of the new industrial as well as socio-political order (see the discussion in Węcławowicz, 1996).

In considering the differential "modes of insertion" of the various Polish regions into the political economies of free-market capitalism after 1989, many commentators have pointed

[33]See Zierhoffer (1947) and, for a full discussion, Babicz (1994).

[34]A subsequent series of inter-governmental agreements for "family re-unification" allowed the remainder of those choosing to declare German nationality to emigrate in large numbers: between 1955 and 1989, it is estimated that almost 1.2 million people left for the Federal Republic of Germany (see Blasiak, 1990).

to the importance of keeping in mind such distinct historical trajectories.[35] As in the Estonian case, where different geographies of minority rights and opportunity structures as well as differential economic ties to the ex-Soviet space have been important in shaping regional "success," so too in Poland regional divides in unemployment cannot be abstracted from much broader and long-lasting political and economic geographies—that which Brenner et al. (2010a, p. 21) refer to as "the context of context."

CONCLUSIONS

As many scholars of the "long transition" in Eastern and Central Europe were arguing already almost a decade ago, explaining all political and economic change in Eastern and Central Europe in terms of the collapse of state socialism not only obscures the place of these shifts within broader transformations (and thus prevents their full understanding) but practices what Szelenyi (1993) has termed an "academic Orientalism." As Bodnar (2001, p. 185) has insisted, post-socialist transformations "should be seen as a dynamic process that mixes elements [from the socialist past] together with those familiar to non-postsocialist contemporary advanced and less-advanced [contexts] as well."[36] Ignoring the distinct location of ECE countries in the broader political economy of global capitalism, as Bodnar stressed (ibid., p. 3), brings a clear danger that we may attribute certain "peculiarities" of the Eastern and Central European countries' economic fortunes "entirely to the [effects] of the withdrawal of state socialism, instead of seeing some more broadly contextual, in fact, outright global, dimensions." A similar danger, we would argue, holds for the assumption of "regional particularities" within these countries.

Regional (and local) specificity does, of course, matter, as our discussion of geographies of the current crisis highlights in the Estonian and Polish cases. In Estonia, for example, higher rates of unemployment persist in eastern regions of the country despite almost two decades of transition, although disparities have lessened during the current economic crisis. Just as it is dangerous to remove understandings of the transition in ECE countries from understandings of the changing global context within which they occur (and of which they are but one expression), it is equally important to recognize the highly localized and contextualized nature of these transformations. The economic transition—in the early days, but also currently—has been inscribed upon and within existing political economic structures. In some cases, the transformations of the past two decades have simply re-established and reinforced underlying differentials already present under state socialism; in others, what may appear to be "regional effects" are rather the effect of "path-dependent collisions between inherited institutional landscapes and emergent, path-(re)shaping programmes of regulatory reorganization at both the micro- and macro- scales" (Brenner et al., 2010a, p. 21).

Polish geographer Grzegorz Gorzelak (2009) stresses the need for such context-specific understandings of the effects of the current crisis in Poland, but the points he makes can be applied to Estonia and other post-transition economies. Gorzelak's analysis locates the current crisis as one of a long series of crises affecting Poland (1978–1982, 1989–1992, and 1999–2002), making it the fourth such "crisis" since the 1980s. In fact, Gorzelak's (2009) study is his fourth on the "geography of the Polish crisis," and he insists on placing it firmly within a much longer time frame than that of the post-1989 "transition"—and within a broader,

[35]For analyses of the first decade of the transition, see Hausner et al. (1997), Bokajlo (2000), Hryniewicz (2000), and Petrakos et al. (2000).

[36]See also Smith (1998) and Begg et al. (2003).

global-structural analysis. Gorzelak (2009, p. 42) makes explicit reference to Poland's role as a perpetual periphery—"as a peripheral and 'backwarded' country." This position, he argues, brings with it a particular "imagination" of its economic geographies—of Poland as "a peripheral country" with "practically no influence on controlling the processes caused by the crisis" (ibid., p. 20) and, similar to other peripheral countries (e.g., Estonia in this study), experiencing its full effects only after a delay of as much as a year. This delay notwithstanding, the scale of these effects is imagined to be the same if not worse than more developed countries given the perception that Poland's financial and institutional capacity are much weaker (ibid.)

The diversity of patterns evident from our study of unemployment in Estonia and Poland urges us to move beyond particular imaginative geographies of ECE economies, beyond a core–periphery logic that places Eastern and Central European countries on the EU's periphery, and their "eastern" regions as more peripheral still, and to look rather at the *actually existing* economic geographies emerging during this latest round of restructuring of the global economy. Yes, some eastern regions of the European Union have fared much worse than others, both in the early years of the transition (prior to accession) and during the current financial crisis. Nonetheless, such differentials in economic fortunes are underpinned by a complex mix of factors— some historical, some geopolitical, some political-economic—that cannot be captured within a simplistic core–periphery mapping.

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