



The Emerging Economic Geography in EU Accession Countries

a
ASHGATE

Edited by
**Iulia Traistaru,
Peter Nijkamp
and Laura Resmini**

e c o n o m i c

The Emerging Economic Geography in EU Accession Countries

Edited by

IULIA TRAISTARU

Center for European Integration Studies (ZEI), University of Bonn

PETER NIJKAMP

Department of Spatial Economics, Free University of Amsterdam

LAURA RESMINI

*Institute of Latin American Studies and Transition Countries (ISLA),
University 'Luigi Bocconi', Milan*

ASHGATE

© Iulia Traistaru, Peter Nijkamp and Laura Resmini 2003

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.

Iulia Traistaru, Peter Nijkamp and Laura Resmini have asserted their right under the Copyright, Designs and Patents Act, 1988, to be identified as editors of this work.

Published by
Ashgate Publishing Limited
Gower House
Croft Road
Aldershot
Hampshire GU11 3HR
England

Ashgate Publishing Company
Suite 420
101 Cherry Street
Burlington, VT 05401-4405
USA

Ashgate website: http://www.ashgate.com
--

British Library Cataloguing in Publication Data

The emerging economic geography in EU accession countries.

- (Ashgate economic geography series)

1. Industrial location - European Union countries 2. European Union countries - Economic conditions 3. Europe - Economic integration

I. Traistaru, Iulia II. Nijkamp, Peter, 1946- III. Resmini, Laura
338.6'042'094

Library of Congress Control Number: 2003100751

ISBN 0 7546 3318 7

Printed and bound in Great Britain by MPG Books Ltd, Bodmin, Cornwall

Editors

Iulia Traistaru is a Senior Researcher at the Center for European Integration Studies (ZEI) of the University of Bonn. Her key areas of expertise include the economics of European integration, international trade, transition economics, economic geography and the economics of international security. She is currently scientific coordinator of the research program at ZEI on 'European integration, regional development and policy', which includes the undertaking of research projects, policy advising and the coordination of a European network of researchers and policy makers. She has studied Economics, International Economics and International Relations at the Academy of Economic Studies, Bucharest, University 'Luigi Bocconi', Milan and the University of Warwick, and received her doctoral degree in Economics from the Academy of Economic Studies, Bucharest. Her previous appointments include research fellowships at the Centre for Transition Economics, Catholic University of Leuven, Erasmus University Rotterdam, Conservatoire National des Arts et Metiers, Paris, and positions as Assistant and Associate Professor of Economics at the University 'Politehnica' of Bucharest. She has been a Consultant to the World Bank, European Commission, Inter-American Development Bank, and World Economic Forum.

Peter Nijkamp is Professor of regional and urban economics and economic geography at the Free University, Amsterdam. His main research interests include plan evaluation, multicriteria analysis, regional and urban planning, transport systems analysis, mathematical modeling, technological innovation, and resource management. In the past years he has focused his research, in particular, on quantitative methods for policy analysis, as well as on behavioural analysis of economic agents. He has broad expertise in the areas of public policy, services planning, infrastructure management and environmental protection. In all of these fields he has published many books and numerous articles. He is a member of the editorial boards of more than 20 journals. He has been a visiting professor at many universities all over the world. He is also a past president of the European Regional Science Association and of the Regional Science Association International. He is also a fellow of the Royal Netherlands Academy of Sciences, and is the immediate past vice-president of this organization. Since June 2002 he has been serving as president of the governing board of the Netherlands Research Council (NWO).

Laura Resmini is Assistant Professor at the Institute of Economics, 'L. Bocconi' University, Milan, and Senior Researcher at ISLA, Institute of Latin American and Transition Countries Studies, 'L. Bocconi' University. She holds a doctoral degree in Economics from the University of Venice (Italy) and a Certificate of International Studies with a specialization in International Economics from the Graduate Institute of International Studies, Geneva. Her main research interests include the economics of foreign direct investments, international trade and economic geography, with particular emphasis on Central and Eastern Europe.

Contributors

Jože P. Damijan

University of Ljubljana
Faculty of Economics
Kardeljeva pl. 17
1000 Ljubljana
Slovenia

Grigory Fainshtein

Estonian Institute of Economics
7 Estonia Avenue
10143, Tallinn
Estonia

Anna Iara

University of Bonn
Center for European Integration
Studies (ZEI)
Walter-Flex-Straße, 3
53113 Bonn
Germany

Črt Kostevc

University of Ljubljana
Faculty of Economics
Kardeljeva pl. 17
1000 Ljubljana
Slovenia

Simonetta Longhi

Tinbergen Institute Amsterdam
Keizersgracht 482
1017 EG Amsterdam
The Netherlands

Natalie Lubenets

Tallinn Technical University
Department of Economics
101, Kopli str.
11712, Tallinn
Estonia

Alessandro Maffioli

University of Insubria (Varese) and
University 'Luigi Bocconi'
Institute of Latin American Studies
and Transition Countries (ISLA)
Via Sarfatti 25
20136 Milan
Italy

Peter Nijkamp

Free University Amsterdam
Department of Spatial Economics
De Boelelaan 1105
1081 HV Amsterdam
The Netherlands

Carmen Pauna

Institute for Economic Forecasting
Regional Development Department
Calea 13 Septembrie 13
Casa Academiei, Sector 5
76117 Bucharest
Romania

Laura Resmini

University 'Luigi Bocconi'
Institute of Latin American Studies
and Transition Countries (ISLA)
Via Sarfatti 25
20136 Milan
Italy

Iulia Traistaru

University of Bonn
Center for European Integration
Studies (ZEI)
Walter-Flex-Straße, 3
53113 Bonn
Germany

Julia Spiridonova

National Center for Regional
Development
50, Levski Blvd.
1142 Sofia
Bulgaria

Preface

Over the last two decades, academic and policy interest in the spatial implications of economic integration has grown. This interest has been stimulated, on the one hand, by the challenges posed by the widening and deepening of economic integration, particularly in Europe and North America. On the other hand, recently-developed location and trade theories have provided scientists with new ways to analyze these spatial implications which has heightened their interest. These theories permit the modeling of convergence and divergences forces in a common analytical framework and have helped us to understand the uneven spatial distribution of the benefits and costs associated with economic integration. According to these new economic theories, the structural change that accompanies economic integration is likely to increase the degree of regional specialization and geographic concentration of industrial activity, which may make regions vulnerable to asymmetric shocks. Industry demand shocks may become region-specific shocks and the short-run adjustment costs may be high in the case of the relocation of firms. Offsetting benefits may occur however, because higher specialization and greater concentration of industrial activity are expected to increase productivity via economies of scale.

Since 1990, Central and East European countries (CEECs) have experienced increased economic integration with the European Union (EU), which has led to a reallocation of resources across sectors and space. While sectoral shifts in CEECs have frequently been analysed, the spatial implications of increasing economic integration in the EU accession countries have not been investigated in-depth so far. Where is industrial activity located? Have patterns of regional specialization and industrial concentration changed during the 1990s? How does regional specialization relate to economic performance? What are the determinants of industrial location patterns? How has increased trade liberalization affected regional relative wages? What types of regions are winners and what types of regions are losers?

This book is the first to provide answers to these policy relevant questions by bringing together the results of a research project entitled 'European Integration, Regional Specialization and Location of Industrial Activity in Accession Countries', which was undertaken during the period 1 October 2000–30 March 2002. We would like to acknowledge the financial support of the European Community's PHARE ACE Programme 1998, which allowed

us to conduct this research in a European comparative context and to include researchers on our team from Germany, the Netherlands, Italy, Bulgaria, Estonia, Hungary, Romania and Slovenia.

We have benefited from excellent cooperation among the team members in fulfilling our demanding research objectives. We wish to thank the contributing authors for their efforts in following our research agenda and editorial guidelines. We have also benefited from stimulating discussions with Donat Magyari from the Ministry of Economic Affairs in Hungary, Narciza-Adela Nica from the Ministry for Development and Forecasting in Romania, and Andrej Horvath, from the Ministry for Economics in Slovenia. We wish to acknowledge the support we have received from the Center for European Integration Studies at the University of Bonn, the Department of Spatial Economics at Free University of Amsterdam and the Institute of Latin American Studies and Transition Countries (ISLA) at the University 'Luigi Bocconi' Milan. In particular, we thank Jürgen von Hagen, Director of the Center for European Integration Studies at the University of Bonn, and Carlo Secchi, Director of the Institute of Latin American Studies and Transition Countries at the University 'Luigi Bocconi' Milan, for their constant encouragement to conduct this research and for inspiring discussions on European integration and the accession of Central and Eastern European countries to the European Union. Special thanks go to Manfred Fischer, Ronald Moomaw, and George Petrakos, for their sound and constructive comments and suggestions. There are also many friends and colleagues we would like to thank for very stimulating discussions we have had on the occasion of seminars, workshops and conferences and informal meetings. Our gratitude goes to all of them. Finally, we wish to thank Dawn Blizzard for her excellent editorial assistance. Her careful and dedicated linguistic editing has contributed to the quality of this book.

*Iulia Traistaru, Center for European Integration Studies,
University of Bonn*

*Peter Nijkamp, Department of Spatial Economics,
Free University of Amsterdam*

*Laura Resmini, Institute of Latin American Studies and Transition
Countries (ISLA), University 'Luigi Bocconi' Milan*

Contents

<i>List of Figures and Boxes</i>	vii
<i>List of Tables</i>	ix
<i>Editors</i>	xviii
<i>Contributors</i>	xx
<i>Preface</i>	xxii

PART I: ANALYTICAL FRAMEWORK

1	Spatial Implications of Economic Integration in EU Accession Countries	3
	<i>Laura Resmini and Iulia Traistaru</i>	
2	European Integration, Regional Specialization and Location of Industrial Activity: a Survey of Theoretical and Empirical Literature	28
	<i>Peter Nijkamp, Laura Resmini and Iulia Traistaru</i>	
3	Data and Measurement	46
	<i>Iulia Traistaru and Anna Iara</i>	

PART II: COUNTRY STUDIES

4	The Emerging Economic Geography in Bulgaria	69
	<i>Iulia Spiridonova</i>	
5	The Emerging Economic Geography in Estonia	140
	<i>Grigory Fainshtein and Natalie Lubenets</i>	
6	The Emerging Economic Geography in Hungary	197
	<i>Alessandro Maffioli</i>	
7	The Emerging Economic Geography in Romania	242
	<i>Iulia Traistaru and Carmen Pauna</i>	

vi	<i>The Emerging Economic Geography in EU Accession Countries</i>	
8	The Emerging Economic Geography in Slovenia <i>Jože P. Damijan and Črt Kostevc</i>	285
PART III: COMPARATIVE ANALYSIS AND LESSONS		
9	Specialization of Regions and Concentration of Industries in EU Accession Countries <i>Iulia Traistaru, Peter Nijkamp and Simonetta Longhi</i>	331
10	The Impact of European Integration on the Adjustment Pattern of Regional Wages in Accession Countries <i>Jože P. Damijan and Črt Kostevc</i>	372
11	The Implications of European Integration and Adjustment for Border Regions in Accession Countries <i>Laura Resmini</i>	405
12	The Emerging Economic Geography in EU Accession Countries: Concluding Remarks and Policy Implications <i>Iulia Traistaru, Peter Nijkamp and Laura Resmini</i>	442
	<i>Index</i>	450

List of Figures and Boxes

Figure 1.1	CEECs' trade with the EU and its share in extra-EU trade	5
Figure 1.2a	Imports from the EU, 1993–99	10
Figure 1.2b	Exports to the EU, 1993–99	10
Figure 1.3	FDI inflows from the EU and their share in total extra-EU FDI flows	12
Figure 1.4	FDI flows over stocks, 1997–99	14
Figure 1.5	EU FDI in CEECs: FDI per capita, FDI over GDP and total values, 1995 and 1999	15
Box 3.1	Indicators of regional specialization and geographic concentration of industries	50
Figure 4.1	Foreign direct investment inflows by years in US\$m	79
Figure 6.1	Relocation of manufacturing activity between regions (1992–98)	220
Figure 6.2	Evolution of concentration of manufacturing activity at a county level (1992–98)	222
Box 7.1	Indicators of regional specialization and geographic concentration of industries	244
Figure 7.1	Spatial separation index, NUTS 3, Romania, 1991–99	257
Figure 8.1	Relocation of manufacturing activity between regions in Slovenia from 1994–2000 (index output/population share)	295
Figure 8.2	The Lorenz curve of regional concentration of manufacturing employment in Slovenia from 1994–2000	300
Figure 8.3	Lorenz curve of regional concentration of manufacturing employment, output and exports in Slovenia in 1994	302
Figure 8.4	Lorenz curve of regional concentration of manufacturing employment, output and exports in Slovenia in 2000	302
Figure 8.5	Variation of value added per capita across regions in Slovenia from 1994–98 (per cent)	308
Figure 8.6	Value added per capita and unemployment rates from 1994–98 (per cent)	308
Figure 8.7	Relative regional manufacturing output in Slovenia	313

Figure 8.8	Regional distribution of FDI in Slovenia	318
Figure 8.9	Relative regional wages in the western/northern border regions in Slovenia	322
Box 9.1	Indicators of regional specialization and geographic concentration of industries	338
Figure 9.1	Average regional specialization in accession countries, 1990–99	339
Figure 9.2	Average concentration of manufacturing in accession countries, 1990–99	343
Figure 10.1	Response of home relative regional wages to a reduction in foreign trade costs with different home transport costs	378
Figure 10.2	Evolution of relative regional wages in transition countries	389
Figure 11.1	Transition matrix (GDP per capita)	414
Figure 11.2	Transition matrix (unemployment)	415

List of Tables

Table 1.1	CEECs' exports to and imports from the EU (shares in total CEECs exports and imports)	7
Table 1.2	Annual changes in CEECs' total exports and imports, 1990–99	8
Table 1.3	EU FDI Outflows to CEECs (mil. ECU/EUR)	13
Table 3.1	NUTS 2 and NUTS 3 units in Bulgaria, Estonia, Hungary, Romania and Slovenia	47
Table 3.A1	REGSTAT: Employment	57
Table 3.A2	REGSTAT: Average earnings	58
Table 3.A3	REGSTAT: GDP	59
Table 3.A4	REGSTAT: Distance between pairs of county capitals	59
Table 3.A5	REGSTAT: Number of domestic firms	60
Table 3.A6	REGSTAT: Number of firms with foreign participation	60
Table 3.A7	REGSTAT: Number of self-employed	61
Table 3.A8	REGSTAT: Density of national public roads	61
Table 3.A9	REGSTAT: Number of personal cars	62
Table 3.A10	REGSTAT: Number of students	62
Table 3.A11	REGSTAT: Number of telephone lines	63
Table 3.A12	REGSTAT: Population by age groups	63
Table 3.A13	REGSTAT: Public expenditure	64
Table 3.A14	REGSTAT: Research and development activity	64
Table 3.A15	REGSTAT: Unemployment	65
Table 4.1	Main indicators of trade with the EU (per cent)	72
Table 4.2	Trade coverage indices (TCI) in trade relations with the EU	75
Table 4.3	Specialization indices (RCA) in trade relations with the EU	76
Table 4.4	Intra-industry trade indices in trade relations with the EU	77
Table 4.5	Planning regions – NUTS 2, 1999	82
Table 4.6	Regional differences at the NUTS 2 level, measured by coefficient of variation and ratio between the maximum and minimum value	83
Table 4.7	Regional differences at the NUTS 3 level, measured by coefficient of variation and ratio between the maximum and minimum value	84

Table 4.8	Herfindahl index for regional specialization, NUTS 2	86
Table 4.9	Herfindahl index for regional specialization, NUTS 3 level	86
Table 4.10	Dissimilarity index for regional specialization, NUTS 2	88
Table 4.11	Dissimilarity index for regional specialization, NUTS 3	90
Table 4.12	Gini coefficients for regional specialization, NUTS 2	91
Table 4.13	Gini coefficients for regional specialization, NUTS 3	92
Table 4.14	Regression results on changes in regional specialization	95
Table 4.15	Ratio of industrial employment shares to population shares, NUTS 2	97
Table 4.16	Ratio of industrial employment shares to population shares, NUTS 3	97
Table 4.17	Geographical concentration of manufacturing in Bulgaria, 1990–99	100
Table 4.18	Results of the estimates for Model 3	103
Table 4.19	Results of the estimates for Model 4	105
Table 4.20	Results of the estimates for Model 5	106
Table 4.21	Results of the test, based on estimates of Model 6	107
Table 4.22	Estimation of the growth model	109
Table 4.23	Results of the regression of GDP per capita on the rate of unemployment	112
Table 4.A1	Exports and imports by EU countries, 1990–99 (US\$m)	122
Table 4.A2	Structure of imports and exports in trade relations with the EU	123
Table 4.A3	Composition of Bulgarian exports to the EU in terms of factor intensities and their share in EU external imports, 1989–98 (in per cent)	126
Table 4.A4	Changes in manufacturing employment structure, 1990–99, NUTS 2	127
Table 4.A5	Geographic concentration measures on the NUTS 2 level, 1990–99	130
Table 4.A6	Geographic concentration measures on the NUTS 3 level, 1990–99	135
Table 5.1	Development of the geographical structure of foreign trade, per cent	145
Table 5.2	Finger-Kreining coefficients of similarity between Estonian foreign trade with EC+EFTA and CIS	146

Table 5.3	Commodity groups with highest trade coverage ratio in Estonian foreign trade with the EU, 1995–99, ranked by ratio values in 1999	147
Table 5.4	Commodity groups with the highest specialization index in Estonian foreign trade with the EU	149
Table 5.5	Commodity groups with the highest Grubel-Lloyd indexes of intra-industry trade with the EU in 1993–99, ranked by index values in 1999	151
Table 5.6	Shares of vertical intra-industry trade with the EU (as a percentage of total intra-industry trade) for commodity groups with the largest GL values	152
Table 5.7	Foreign direct investments into Estonia (US\$ million)	153
Table 5.8	Foreign direct investment stock by fields of activity (as of 31 December 2000)	153
Table 5.9	Direct investment stock by countries (as of 31 December 2000)	154
Table 5.10	Regional structure of Estonia	155
Table 5.11	The dynamics of specialization indices at the regional level (1990 = 100)	159
Table 5.12	The dynamics of specialization indices at the country level (1990 = 100)	160
Table 5.13	Indicators of general structural change in Estonian industry	162
Table 5.14	Cumulative output indices for Estonian industry (in constant 1991 prices)	163
Table 5.15	The dynamics of the Herfindahl geographic concentration index (1990 = 100)	165
Table 5.16	The dynamics of the geographic dissimilarity index (1990 = 100)	169
Table 5.17	The dynamics of the Gini concentration index (1990 = 100)	170
Table 5.18	Estimation of the relationship between regional relative wages and distance (proxy of transportation cost; values of standard errors are given in parentheses)	176
Table 5.19	Fixed effects estimation of county regression	177
Table 5.20	Composition and dynamics of the index of regional GDP growth	179

Table 5.21	Estimation results of the model of mutual dependence of regional specialization and growth (model is estimated in first differences, values of standard errors are given in parentheses)	181
Table 5.22	Evolution of the regional shares of manufacturing employment by regions	182
Table 5.23	Ratio of manufacturing share to overall population share	182
Table 5.24	Estimation of the relationship between real wages and specialization and growth rates (model is estimated in first differences, values of t-statistics are given in parentheses)	184
Table 5.25	Estimation of the relationship between real wages and specialization and growth rates (model is estimated in first differences, values of t-statistics are given in parentheses)	185
Table 5.A1	Herfindahl regional specialization index	192
Table 5.A2	Regional dissimilarity index	192
Table 5.A3	Specialization GINI	193
Table 5.A4	Herfindahl geographic concentration index	194
Table 5.A5	Geographic dissimilarity index	195
Table 5.A6	GINI coefficients	196
Table 6.1	The role of the EU in Hungary's foreign trade, 1990–2001 (€ and percentages)	199
Table 6.2	Exports to the EU by country (percentages)	201
Table 6.3	Composition of exports to the EU over 1988–99 (percentages)	202
Table 6.4	Revealed Comparative Advantages and Intra-industry trade, 1988–99	204
Table 6.5	FDI inflows in Central and Eastern Europe, 1997–2000 (US\$m)	205
Table 6.6	Ratio between FDI stocks and exports in Central and Eastern Europe, 1990–2000	207
Table 6.7	FDI inflows by home countries (% of net value)	209
Table 6.8	Geographical distribution of foreign-owned firms (1992–99)	210
Table 6.9	Distribution of NUTS 3 regions by population share, 1992–99 (million)	212
Table 6.10	Distribution of NUTS 3 regions by GDP per capita, 1975 and 1994–99 (percentages)	214